

**Saluda Hydro Relicensing
Quarterly Public Meeting**

Meeting Agenda

July 31, 2008

9:00 AM & 6:00 PM

Saluda Shoals Park – Rivers Conference Center

- **9:00 to 9:10**
(6:00 to 6:10) **Welcome and Introduction - *Alan Stuart***
- **9:10 to 10:30**
(6:10 to 7:30) **Presentation by SCE&G on the Land Rebalancing Proposal -
Tommy Boozer & David Hancock, SCE&G**
- **10:30 to 11:00**
(7:30 to 8:00) **Questions Regarding Presentation**
- **11:00 to 11:30**
(8:00 to 8:30) **Public Comments – Open Floor**

Adjourn



Saluda Hydro Relicensing Quarterly Public Meeting

Meeting Agenda

April 3, 2008

10:00 AM & 7:00 PM

Saluda Shoals Park – Environmental Education Center

- **10:00 to 10:20**
(7:00 to 7:20) **Welcome and Update on the Relicensing - *Alan Stuart/Alison Guth***
- **10:20 to 10:45**
(7:20 to 7:45) **Discussion on the Effects of Parasitic Copepods on Striped Bass -
Ron Ahle, SCDNR**
- **10:45 to 11:45**
(7:45 to 8:45) **Discussion and PowerPoint Presentation by Vicki Taylor and Gerrit
Jobsis on “Integrating Ecologically Sustainable Water Management
into the Saluda Relicensing”**
- **11:45 to 12:00**
(8:45 to 9:00) **Public Comments – Open Floor**

Adjourn



SALUDA HYDROELECTRIC PROJECT RELICENSING
FERC PROJECT No. 516
Quarterly Public Meeting
January 17, 2008
10:00 o'clock A.M.

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PUBLIC MEETING:

MR. ALAN STUART: Jim ought to be with us in a minute.

What I can do is go ahead and give an update on the relicensing. We issued the draft application on December 13th; we do have copies here for those that did not get a copy of it. I think comments are due March 14th. We are still working within the Resource Conservation Groups. We have a second workshop next week to try to establish some minimum flows to the Lower Saluda River, based on the ISIM study that was done. That's one of the last major components that we need to put into the operations model that has been calibrated. And we do have some recreational flow recommendations that have been presented by American Whitewater; those will also be put in as input to the model.

I have heard a little talk about that we are not evaluating Lake levels as part of this; that is absolutely incorrect. There have been Lake levels of, I believe, 354; and if you will help me out, 356 were what we were requested to be evaluated as part of the Operations Model. So, I want to get that out on the table and everybody to understand. Jim's back, Jim a limnologist, and he is going to give you a presentation on the assessment of water quality and reservoir leakage within Lake Murray. So, Jim.

MR. JIM RUANE: Good morning. With that weather out there I thought it would be empty in here. My name is Jim Ruane, and I have a company called Regional Environmental Maintenance; and we do a lot of work like you have been doing on Lake Murray for the last ten years. And I do limnologist work, but I am actually in environmental engineering with a focus on water resources. I think a lot of schools nowadays have engineering limnology or limnological engineers, and that kind of stuff. When I went to school they had that combined at that time. That was back in the '60s. I will give you a little bit of background on our company. It is a very small company, in fact I am the only official employee, but we have about 15 other people like me that work together and team up; and sometimes I'm working for somebody else's project leader on it, and sometimes I'm the project leader and bring the other guys in. So, it's a niche business; about 3/4s of it is PDA, and work on large reservoirs. And there is only roughly about 500 large reservoirs in the United States, so that tends to be a niche business because we learn so much having so many reservoirs at PDA. And in fact, for a long time we thought, "Man, we are way ahead of a lot of the other people on water quality assessments and all that." And we found out we had more water quality problems than anybody. That was the reason more than anything. But we focus on large reservoirs and rivers, and do a large range of water quality modeling, aeration systems, temperature enhancement systems, evaluation testing of turbine aeration, we have done a lot of those, roughly 60 projects. Predictions of operational effects on water quality, just a wide range of things, interaction between reservoirs, reservoir operations, the design of them, and the water quality in the lake. One thing that's interesting about these projects is everyone of them are different, there are so many factors that affect water quality in a reservoir. We've worked on over 115 projects nationwide, and 65 of those, roughly half of them, involved actual improving the water

quality usually through aerations or similar means. I won't go into detail on this, it will be in the presentation and will be available to everybody; but this is just sort of an overview of a number of our projects, and you can see we work for Federal Agencies. I'm just trying to point the pointer --- like Bureau of Reclamation, Corp of Engineers; they own about half of the large reservoirs in the United States and the other half are owned by private utilities. So, we do work for those guys, and state agencies, and a large number of utilities like Duke, Consumers Energy up in Michigan, Osage Hydro - that's a large hydro power project in Missouri, Wallenpaupack, Shrapug in Connecticut, Brownlee out in Idaho - one of the biggest hydro power projects in the country, and then of course Lake Murray. And we have worked on a large range of things on Lake Murray - site specific DO standards back in 2003, turbine venting tests over the recent years, W2 model that I am going to present today, and minimum flow, operations for 10% enhancements - we did some of that with the W2 model, and assessment of sediment and water interactions. We are going to talk about that today, too. This is just a list of our clients.

Okay, now we are going to go to Lake Murray. And one other thing, I have been working with the Technical Working Committee on water quality in Lake Murray, but what I am going to show you today are my opinions. And we have got the supports out there now that are being used right now, but everything that I am going to tell is my opinion. And I think our groups have heard all of my opinions, I know I might have another one today; so, it's not like this is brand new stuff, that I didn't want to blame them, that I was speaking for them.

This is the Lake Murray watershed. Most of you are probably familiar with this, the Dam, and here's the Lake, and all the gray area here is the water near watershed. Upstream is Lake Greenwood, and there is the watershed goes on upstream, of course. But this is the local drainage; and then, of course, a big source of water coming into Lake Murray comes from Lake Greenwood. These are the characteristics of the Lake and Saluda Dam, some of the pertinent ones, maximum depth is about 125 feet deep. Lake volume, 2.3 million acres --- feet. Average annual flow 2800 cfs. Normal residence time over 400 days. There is roughly about ten projects like that in the United States that has the same characteristics as roughly 400 residence time, that date. Depth of outlets, there is two levels of outlets; one through four units, four units, and they discharge through pretty much the bottom of the lake, 175 feet deep. Unit 5 draws water about mid-depth. And flow capacity Units 1 through 4 is 3000 cfs; and Unit 5 is 6000 cfs roughly.

This is the map of Lake Murray again with the watershed, mainly just wanted to show this slide to illustrate all these are sampling stations, by either SCE&G or DHEC. And so, there is quite a bit of data available, which is extremely helpful when you are doing modeling. The more data you have got, the better model you are going to have. And it's also screen gages, plugged in there information on flows and things like that. That's important when you want to construct a model or water quality model. These were the issues that were developed after a few meetings with the Technical

Working Committee, for water quality. And so this is what we mainly focused on. Causes of striped bass fish kills, the effects of Unit 5 operations on striped bass habitat and blue-back herring. Determination of operational changes that might increase habitat for striped bass. Assessment of pool level management alternatives. And track any impacts that could occur that might impact the tailwater. Primarily there, temperature is a concern. Dissolved oxygen is also a concern, but not quite as critical because the aeration that takes place as water passes through the unit.

Okay, what we decided to do was to use a W2 model, a CE-Qual W2 Model. I am going to give you some information about that model, an overview of it. It's used a lot, particularly on hydro power reservoirs - over 400 reservoirs, something on that order. And then it's used on about another 400 or 500 lakes, and then a number of rivers, and things like that. So, it's a very robust model, it's been around since the '70s. And version 3 is currently out, and that is what we are using is version 3. And we have had on the order of, I think, 21 --- maybe 24 counting modeling projects; and the plans right now over the last three or four years we have used version 3 and applied it, and calibrated it, in various projects, 23 or 24 projects. So, on the plan for using the W2 Model to address the relicensing issue, analyze water quality, meteorological data, flow operations data, that's the first step. Calibrate the model for a few years, '96, '92, '97 were the years that were picked. Set up the W2 for the years when major fish kills occurred. So we ended up setting the model up actually for like nine or ten years. Use the models to develop the temperature and DO criteria for tolerable striped bass habitat. We use that in conjunction with the literature and input from the Working Committee. So, that is something that we do with the model, but works interactively. All models are is summation of the literature. Some of it dates back twenty, thirty, forty, fifty years; some of it is very recent. But it's the way to organize, you know, understanding right out of the literature research projects. And of course the model is going to quantify a lot of these relationships. And so, then we combine all of those, and then get the summation of everything that affects water quality that is included in the model. So, run the models to identify the causes that apparently contribute to fish kills. And then use the models to explore ways to minimize fish kills; evaluate effects of proposed pool level operations and unit operations protocol. So that's how the model is used.

I am not going to go into any equations or anything like that, but I just want to go through some illustrations that give you some idea about why W2 is involved. Mainly, if you will look down here, this is the inflow to the project of any reservoir, and then this would be your dam. And this is what we call the grid. And you can see there is a lot of cells there. One meter depth cell, so a hundred same size, horizontal layers, and roughly one kilometer throughout the whole lake. So, it's pretty intense. And then in addition to that every one of these cells is where a lot of the model calculations is going on. So, this is a blowup here of the cell and it

is calculating all the water going into it, and all the water leaving it, vertically and horizontally. So, there is a lot of calculations and these are all done roughly about every minute. So, it's very intense and very robust. It includes things like physical processes, meteorological information, evaporation, heating-cooling of the wind. The wind effects on the evaporation. Mixing in the lake, the effects of light and penetration. Outflows, inflows, density of the water as it goes into the lake, goes to the bottom or the top, or some inner flow, those kinds of things. So, it involves quite a bit. These are biochemical processes. W2 is essentially what we would call an ecological or eco system model, ecological model. What that means is in the inflow, we come in with things like nitrogen and phosphorous, and carbon, and with sunlight and so forth it is going to grow algae. And that's what starts going on, algae photosynthesis, respiration; they die and then they settle. So, all of those are captured in the W2 Model. In fact, in Model 3 assemblages of algae. So, I don't know if you have ever heard of different kinds of algae, but it is like diatoms, and blue-greens, and greens, and those kinds of things. So, we can simulate all of those different types of algae. It's capturing all the nutrient uptakes and so forth; the oxygen depletion in the bottom of the lake; sediments, oxygen demand; and then releases some of the sediment where things like ammonia are released from the sediment and all that. And then it is calculating all the outflow water quality. So, you will see a lot of this as we show the next few slides. I want to show you this one because this happens to be oxygen; that's one of the main things people are interested in is oxygen. So, in every one of those little cells I was showing you awhile ago, this is what is going on to calculate oxygen. These are all the relationships that oxygen is affected by: all these factors, inflow, aeration at the surface, respiration, photosynthesis, by algae, BOD, sediment oxygen demand, decay, nitrification. All of those are affecting oxygen, and all of those relationships are affected by the "T", the temperature. So, every one of those cells, that calculation is going on all the time. So, it is highly intense. Used to take a trace, computers run these back in the '80s, and so they were really not a very practical model. But the programs got ahold of it and became more efficient, and our little desk tops are so much more power now and we can do all kinds of stuff, even on our laptop that we have here. So, those are the kind of calculations going on.

Okay, what I want to do is go on and just show you the results; and then I will show you how we got there. But there are so many questions and so many directions you can go, I think it helps just to know where this thing is going to end up. It's not that we started here, but it just helps to get things in perspective. So, the key thing is nutrient loads are the primary cause for impacts to striped bass habitat, and low DO in the turbine releases. Now, the reason I want to put that up here in front is because that is one of our early findings, but we decided not to focus on that because SCE&G doesn't have any control over pollutant loads coming into the lake. So, we wanted to acknowledge this; it's sort of like the elephant in

the room kind of thing. But we have got to realize that that's the real problem, but what can we do in operations to improve what we have now? And of course, consider what might happen in the future. But, that's a big factor, and I will show you a graph that illustrates that vividly.

High flow, especially during March through June, is the primary cause for fish kills considering the current nutrient loads. And I will show you some graphs illustrating that. Meteorological conditions can affect striped habitats; so it is not only how much flow you have each year, but if you have a certain year like 1992 it will be that way. And it was favorable meteorology where we didn't have any impacts; or, we didn't have as much impact, didn't have any fish kills in '92. Just because it was more favorable meteorological conditions.

MR. STUART: Bullet number two.

MR. RUANE: Yes, bullet number two. I'm sorry. Alan was asking is that high inflow. That's pretty much inflow and outflow. They are sort of connected once you get up to the high pool levels because the pool levels don't vary that much on Lake Murray. I know some people think it varies a lot if it's going up four or five, six feet or something like this. But, overall that volume sort of almost sits, are limited. So, when the pool level gets up once flow comes in it's pretty much got to go out kind of thing. Good question. What we found was that the model indicates that the range for habitats, and this is what we call tolerable habitat, it's not the preferred habitat. In the Southeast it is often difficult to find a reservoir that has preferred habitats throughout the whole year. So, especially for fish kills, you are looking at the tolerable habitat. And it's a temperature less than 27, and DO is greater than 2.5. And that's not an unusual number, it's consistent with the literature. But this is one of those things where you have to combine the literature and the models, and see if you can't get close to the same; and then also see how it matches up with those years you have fish kills. So, we went through and actually came up with graphs that showed fish kills when there were reported fish kills. And in our report we have a list of the fish kills, when they occurred, what years, and how many fish died, and stuff like that. And then that matches up with the years where we didn't have any habitat in the model. High summer pool levels and preferential use of Unit 5 helps preserve colder water in the bottom of the lake, and was predicted to improve DO and striped bass habitat, and enhance temperature in the tailwater. And that is where we are going to end up going. And you will see in the end that's going to be something that would be preferred from a water quality perspective, is high summer pool levels. And Unit 5 being operated preferentially, such as for generations to preserve cool water in the bottom.

Okay, this slide just illustrates quickly, this is a flow frequency curve. I don't know if you have ever seen anything like this, but this is the flow and this is the percent that it has exceeded. And so, like 20% of the time this flow in that particular year exceeded roughly 7000 cfs. These are all individual years; but

the blue and the red, that's to try to see if we can't pick up pattern. These are below Lake Murray. Saluda. The gage is downstream from Saluda. So, the red is when we had fish kills, that's when DNR and the Striped Bass Club reported fish kills. And so we colored all of those red just to see what the pattern was, and it was pretty evident. We did this with a lot of other factors and didn't see know conflicting patterns; but this is the most dominant one. Connected with that flow there is something else that is going on, it's water quality. And these are actually data. This is not model predictions, these are actual, it's actually data. And this is the temperature in August. And these are all the different years we had data for. And you see the red lines, when the fish kills occur the water tended to be warmer. And then when we didn't have fish kills, it tended to be cooler. So, we have some pretty dominant consistent patterns here. And that's because more water was going through the Lake, and a lot of cool water was being released down the River instead of held in the reservoir. So, that is why it warmed up. This is dissolved oxygen, and so this shows the red over here it's lower. You know, like 1 or 2 milligrams per liter in the years of fish kills, and it's more like 3 to 5, or something like that, in this area right here where habitat often occurs. And so you see the DO, in non-fish kills years it's quite a bit higher. Now, this is August. I am going to show you September, and it's pretty much in the fish kill years, the DO is zero. Whereas, we still had DO in the other years where we didn't have fish kills. So that shows you the pattern there. And again, a lot of that is just how much water passed through the projects and drained out quicker.

Okay, I am going to go through three of these just to show it illustrates difference between a wet year and a low flow year.

2002 was a low flow year, and 2005 was a fairly high flow year. And this is temperature on the top. These are surface plots of the actual data. And this is July, and for DO. So again, this is a low flow year for DO, and this is a high flow year for DO. So these are sort of consistent with what you just saw, the profiles down in the Lake near the Dam, but this sort of shows you what is going on in the whole Lake. So, this is for July, and you are going to see this here, and this is going to hang around longer, so you will see this these next couple of slides. So you can see the DO in August is gone in 2005, we have still got some in 2002; and then September we have still got a little bit left; and then September it was pretty much all gone. So, it is primarily a DO issue. The water warms up a bit, but it's mainly a DO issue; that's part of the criteria that we can't attain is the DO portion. And that is what leads you, and that's the main reason, that is like phosphorus and nutrients are our main driver.

Okay, I am going to take you here, just a couple of slides where we calibrated the model. I am going to show you how well the model fits the data. This is for temperature for 1996, you can see the lines through the model, they are pretty much temperature. The model output-ed the lines and then the little data points you see there, those are actual data from profiling. And so you can see that the model matches the data very nicely, and there aren't any what we

call systematic errors where it's always high or always low at one layer, or something like that. That's temperature, this is dissolved oxygen. The mean error is roughly a half a milligram per liter, and roughly a half of the degree centigrade. So, pretty good.

Okay, this is release data. Right downstream 2500 feet down below the Dam, there is a USCS gage where the DO and temperature is monitored. And what we are doing here is we are seeing how well the model and the releases matches that data. That is not going to match it perfectly because of a couple of reasons. The monitor downstream, when there is very little flow, sometimes it gets driven by dominant processes in the River rather than in the Lake. So, that's why you see a little bit of scatter in some of these, like the blue line is the model output, and the green are the data. And this is caused by like maybe a low flow period where the temperature warmed up down at the monitor, but the model stayed the same. The model is only predicting what's leaving Lake Murray, not what's going on at the gate downstream. So, it fits very well at temperature; and then here's dissolved oxygen. I was hoping I would give you some results on the aeration stage that's been done the last couple years, but we are not going to have time. Just take this opportunity here to show how well, and how much DO's changed over the last few years. You can see, the green data is the USGS monitor, so you can see some of these years DO used to get down quite low, like one milligram per liter. In these later years like 2005, you can see how much more the DO's come up. There is still more work being done to bring up some of these periodic low DO periods. But, a lot of progress. Lower Saluda? Right, that's the Lower Saluda River, right below the Dam.

Okay, the model, it's an eco system model, so we want to make sure it matches the nutrient levels, and the algae levels, and things like this. So we take whatever data we get. And usually for algae, it's chlorophyll "a" data, which is an indicator measurement of the algae. And so here, you will see the model is matching the data that has been collected on chlorophyll "a"; this is the inflow region. Chlorophyll "a" is a little higher there. And then Rocky Creek, it's decreasing some. And down near Dreher Island, it's dropping some more. And then when you get down to the Forebay, it's quite a bit lower. And so you can see the model is matching all that pretty well. This is phosphorus. So, you can see we might match phosphorus pretty well, as well. Very low down in the Forebay, but you can see the inflow, it's elevated.

Okay, these are where we are trying to summarize what's going on with striped bass habitat. So, this is a model output. And what we are showing here is, this is the volume in the Lake and this is the date. And these are different years of model output for the volume. Now, what we mean by that is this is the volume, the curve here, that's the volume in the Lake, that meets this criteria. So, if it was less than 27 degrees and greater than 2.5, that's what we are summarizing essentially hourly throughout the whole year, through all these different years. So you see some years the habitat goes to zero, and stays there for about a month. And then other years, it doesn't drop as much, pretty favorable habitat. So, that's what we

started tracking. And we are going to track this for like water can change a pool level; how did this change these curves? Whether you release the water from Unit 5 or the lower units, how did this change this curve? If you reduce the phosphorus coming into the lake, how did it change its curve? So you are going to see curves like this as we go forward. This is what we are tracking for performance of improvement.

Okay, these are issues addressed by predicting the effects of reduced phosphorus using W2 Water Quality Model. Okay, I am just going to show a few slides just to show how significant phosphorus is. We are not going to dwell on it, we haven't dwelled on it. But it's just to show dramatics that you need to keep in mind. But this is what phosphorus affects for Lake Murray. Low DO in the releases from Saluda Hydro. Restrictions for using Unit 5. Or, it has in the past. Eutrophication in the upper reaches of Lake Murray; that's been documented. In fact, some of the areas upper part of Lake Murray have been listed in the past by DHEC.

MR. STUART: What is eutrophication?

MR. RUANE: Okay, eutrophication. Thank you, Alan. Alan usually asks good questions here. Keep me straight. Eutrophication, for our application here, we are primarily talking about algae growth as a function of like phosphorous, and nitrogen, and other nutrients that algae needs. Light, turbidity - if you have a lot of turbidity, you won't have as much algae growth, things like this. So, eutrophication in that sense is for the Lake, out in the main body of the Lake, that's what we consider to be eutrophication. It gets complicated because a lot of these algae then die and they go to the bottom, and then they release more phosphorus. I will show you some of that in a little while. So, it's a cycle. And the model is capturing all of that to a large extent. So, eutrophication in the upper regions of Lake Murray, USGS has a monitor up at Blacks Bridge, and at the other bridge over there on the Little Saluda River. And I think it's 2002 the DO level in the Lake, it's near the surface where roughly 2 milligrams per liter. So, DO could get real low even at the surface if you have enough algae growing, and periodically is dying possibly. Or, maybe they grow so thick they can cause shading of the algae below them; and so those algae start dying. Those kinds of things. So, it's a lot of factors involved in it. DO is less than the State standard inflow regions, that's what I was just talking about. Reduced habitat in the lake due to low DO; and then low pH in the Saluda River. Periodically the pH in the releases from the Saluda is low compared to the State standards. But those releases come right out of the Lake. And what that is is low pH just to the simple carbon dioxide that forms when the algae die, and things like that. So, that drops the pH because of the DO being so low. All of that is driven by the phosphorus upstream. So, if phosphorus comes in and grows a bunch of algae, causes carbone dioxide, and then that drops the pH. So all of these things are related to phosphorus in the inflow.

Okay, here is striped bass habitat and how it is affected by phosphorus. This illustrates 1998 and 2005. You can see in both of those years the predicted actual current condition.

Striped habitat went to zero each year. And you can see with phosphorus that increases dramatically. And most of the other things we are going to show you from here on, we are not seeing this much improvement in habitat. We are just going to see very marginal kinds of improvement. They are nice to have, Ron loves any kind of improvement we can give; but this is the sum, we have got to keep in mind.

Okay, this spot is going back to what I identified earlier about why we are doing this work, and what the Technical Working Committee decided to focus on. And so, that's back to the causes of striped bass fish kills; effects of Unit 5 operations on habitat; determination of operational changes that might increase habitat; assessment of pool level management alternatives; and track any impact that could occur to the tailwater. We are trying to do all kinds of things in the Lake, but we have got to keep our eye on the tailwater because they have a cold-water fishery downstream. And so, we want to try to keep all of that balanced. Like everything else on the reservoir, there is a lot of cause and effect things, you have got to keep them all in balance. It's a challenge.

Okay, giving an example, this is 1998, and I am going to show you some more graphs like these. But just to keep it simple, this is one year. This is where we held up the pool level. On the one instance scenario the actual '98 pool level dropped like this, and then we raised the pool level in the model to see what would happen to habitat and other things. And see what happened here, the original condition is here, that's what we have been showing for '98. The striped bass habitat probably goes out here right after the first of August. By turning on Unit 5 first instead of the lower unit, we got a nice increase in duration before the fish kill occurred, or before the habitat disappeared. And then by raising the pool level, holding more pool water in the lake for a longer period of time, it gets some additional improvement. And see, it still goes to zero right here. This duration of exposure under the undesirable criteria is significant. And in the literature you would like to maintain these criteria if you can. But the biologists and studies that have been done pretty much show that, "Well, maybe if that only happens for a few days it will be okay, they will get through it," that kind of thing. If we have time at the end, I will show you some animations; they are sort of interesting; they show a lot of dynamics and how things really look out on the lake. And they are really interesting, but I didn't know if we would have time.

Okay, these are the summary results for fish kill years, and just sort of gives results for like '91 and '98, '92, '96, 2000, and 2005. So it sort of gives you an overview of the responses. Like, here is '96, you can see we got quite an improvement in habitat in '96. You can see where it went to zero for a brief period of time.

By raising the pool level, we increased it quite a bit in '96. '96 did have a special draw down in September that played into that some. '98 again, you see some years you don't get any improvement. 2005, no matter what we did we still got the same low volume of habitat.

Same thing in '91.

Okay, I am going to show you the release temperatures. That's one thing we need to keep in mind is what's going on with the temperatures in the tailwater. And one thing to factor into that is the temperature increase in the River. So, we are cautious not to just only focus on a release from the Dam, but to take a look at what would happen by the time the water traveled down to the mouth. And so that is what we factored in here. Like, when the flows are less than 1000 cfs, May through September, the mean temperature increases like 3 degrees; and the mean temperature increase plus 2 times the standard deviation, and all of that data is about 6.4. So, per minimum flow this is a critical consideration seeing the temperature increase that much in the River. We have got to try to factor in this and the release temperature to see what is going to happen. And you see, it is supposed to go up, the temperature increase is not as much. And then October, more favorable means, meteorology is not warming up as much.

Okay, so here is the release results: '91, '92, '96, '98, 2000, and 2005. This gets right to the point, the green is what we ended up with. We have got the current conditions, we have got the --- you know, improve the elevation only. And then another one here is elevation --- oh, yeah, 60 elevation plus Unit 5 on first. So, it's a combination of them. And what we did was we looked at the green one, and what that is is that's a unit operations change at Saluda, on which the unit comes on first timing of the year, not just throughout the whole year. So, when you see these temperature drops, up to this point right here, mid-June, it was releasing water out of Unit 5. It was a little bit warmer. We got to June, we are dropping it down here and picking up the cooler water in the bottom. So, you can see compared to all the historical data, the future conditions if we were to operate that way would be cooler than it has been. So, it's better than it has been in the past. Or, would be better; or, it's about the same. Some years it's about the same and other years you see cooler temperatures.

Okay, these are the conclusions. Nutrient loads. This is the same slide I showed you when we started. So, I am going to show the results first. These are pretty much the same slides. Go over those again. These were loads of significance. High flow, especially March to June, is the primary cause for fish kills. Model results indicate that the temperature and DO range of tolerable striper habitat is 27 and 2.5. Model results show that preferential of Unit 5 preserves cooler water on the bottom and results in better habitat. Maintaining pool level at 358 either increases or has no effect on habitat. Combination of Unit 5 and holding up the pool level further increases striper habitat. The combination of Unit 5 preferential operations and holding pool level up in the summer is going to improve water quality in the releases. And that is mainly temperature that we were concerned about there.

Okay, so the final recommendations for Unit operations and the timing of those: for minimum flows, use 1, 3, 4. Units 1, 3, 4, those are the lower units. June 15 through December 1. And use

Unit 5 December 1 through June 15. For generation flows: that is flows with a greater minimum flow. Use Unit 5 preferentially 11 months out of the year, November 1 until October 1 of the following year. And then you use Units 1 through 4 preferentially in October. So, that is where we ended up. And that's up for review right now. I think comments are due in about a month.

Okay, now we are going to shift to another topic. This is considerations about raising the winter minimum pool. Going to show you some things that we have been looking at over the last several months to address this particular issue. We thought it was important to water quality, or could be. And the further we have gotten into it, it still looks like it is. So, we wanted to share those results with you now. This is not a completed work, it's a work in process. Or, progress? Maybe more process than progress. So, we have been assembling a lot of information on Lake Murray, and of course from literature from other projects that we have worked on. And so, we wanted to share some of those things with you today. And there are a lot of different view points. I know about the minimum pool levels, as well as all pool levels. We are going to focus here, we chose to use the picture because historically this happened. We looked at a lot of data in the past, and typically the minimum pool level in the winter is roughly around 350 or around 354, plus or minus one or two feet. So, they sort of clustered around those. So just to simplify things, I will be referring to like 350 and 354. But that really means plus or minus one or even two feet, so to speak.

Okay, these are the kind of things we have looked into, and actually went out and got some samples of sediment back in November, and will show you the results of those. Areas of the Lake that are inundated by increasing the pool level from 350 to 354. Aquatic macrophytes considerations. Little Saluda River embayment. And the likelihood to fill the pool each year. Those are the kinds of things we have been looking at. Sediment sampling and analysis. We focused on the upper end of Lake Murray. I wish this map was a little bit better, but I think you can probably follow it. This is Little Saluda River, and this is Clouds Creek. This is the main Saluda River coming down through here, going down roughly around Rocky Creek area.

And that's our last sampling point. I will show you what the samples look like in a minute. But, pretty much we were in the embayment here in Cloud Creeks and in Little Saluda River; and went up to Bush River for a couple of sampling stations. All these others are right down the main channel of the Saluda River. And we got a couple of samples up here in Camping Creek. And we refer to inflow stations, every one of these tributaries have an inflow station. And we simply went as far up as we could with a boat. And usually it was about a foot to two foot deep, the water was. And that's where we got the samples. All the work was done from a boat. And then what we did after that is we went about one mile downstream from that point in all these waterways.

So, Station 7 is the main inflow to Lake Murray from the Saluda River. And Station 11 is one mile downstream. All these tracks down here is roughly a mile for distance that we sampled from. We used Edmonds ridge (phonetic), which is commonly used for sampling

sediment. This device here is to the jaws on it, they are going to close and you send down a messenger down that rope and it clicks it and releases it, and it collects the sediment sample about 3, 4 or 5 inches deep down in the sediment. And then you just pull it back up. And you are going to see some pictures. Here is some sediment, that's a sediment sample right out of the Edmonds ridge where they emptied into a little bucket. And what you see here is, this is Station 3, which is at Clouds Creek. That's Little Saluda River at Clouds Creek.

You saw where the mouth of Clouds Creek comes into Little Saluda River. And what you primarily are seeing right here is what we call a ooze, on top of the cohesive sediment. You can see there is sediment beneath it, it has some cohesion because it's got some stake to it, but on top of it. But on top of it, this is what we call "ooze". It can be anywhere --- at this location, we got anywhere from zero at a couple of sites to roughly a quarter-inch to a half-inch, and then a maximum was like close to three inches further downstream. So, this is what we call "ooze". Ooze is a very active kind of sediment. That's where the water and the sediment meet. That's the sediment water interface. And it is sort of jellatous, and it's hydrate. It's relatively low solid content, so it has got a lot of moisture in it. And this is where algae die and settle right into this part here. Part of this is aerobic and part of it is anaerobic, this ooze; because it's just sort of moving around and mixing depending on water current, or wind, wind in these currents, or what have you. And then the sediment below it is old sediment. And typically that's anaerobic sediment, zero oxygen environment; has some things in it like carbon dioxide, and sulphide; and sulphide odors were reported when we were collecting these samples. And so that's one of the samples. And here is another one. This happens to be at the inflow to Clouds Creek. You can see, didn't see quite as much ooze on that sample. That's typically what we found at the inflow sites, is less. This is Station 11, this is 2 miles below the inflow to Saluda. So, this is on the Saluda River, two miles below the inflow. This is that same sample where they collected the sample. What we do is we just sort of scooped off the ooze off of it, and collected that ooze, and took it to the lab. What remains was this darker material here; it's sort of blackish, bluish, gray. And very indicative of what's reported in the literature, almost every lake has this stuff. It's got cohesion, and that's where a lot of (inaudible) products come from. Here is a measurement of the ooze. You can see it happens to be about an inch deep. Here is the inflow station at Camping Creek. We didn't really find any ooze. This is at the inflow station, and it's mainly just soil material, clayish type stuff. This is the inflow to Camping Creek, looking upstream. And it is interesting, we saw this sediment in grass type environment. That's indicative of sediment that has settled in the past, or deposited in this region. But the creek and so forth is passing over here. This is indicative of --- this is very typical of the sediment that comes into an embayment, then it is deposited, and then it doesn't get washed out unless probably we have a forty-year flow type thing. It just hangs around in the water, it's through the creek, even with high flows and floods, and all that, it

just sort of cuts a channel through here. And so the sediment remains, and then the grasses grow on top of it. And when we got these samples, the elevation was at 352. So, this is close at 352.

Okay, these are all the results, and that will be in the presentation, when you get a copy of it, they are produced, download a copy. What I want to do is just focus on sort of this green line down here. These are the percent increases as you move from the inflow station down to the next station. And all the stations that were one mile below the inflow site, they were quite similar to the rest of the sediment samples in terms of a lot of these constituents like balsa, suspended solids, that's sort of indicative of organic matter. Organic carbon, total kill bone nitrogen, that's like the organic nitrogen in the mass, in the organic mass. Phosphorous and ammonia. And so what you see as you go from an inflow site down to the next mile, all these increase. 51% increase in balsa solids, 77% increase in carbon, organic nitrogen 46% increase, phosphorous 100% increase, and ammonia about 100% increase. So, what happens is you get a little lower and deeper in the lake, you see more of these constituents that you would expect that have been exposed longer to more algae settling there and things like that. Accumulation of material. That is what happens, you know, roughly a mile downstream from the inflow site. The reason we are pointing all this out, let's see, number one, balsa solids, like that's organic mass, that's just organic matter. That's just a measure of that ooze and how much of it might be organic matter itself instead of clays or some other inorganic stuff. And then the carbon, very important. Algae pretty much consists of carbon, nitrogen and phosphorus. So that is why we are measuring these, sort of traces what might be happening with eutrophication, or with algae, and those kinds of things. Aquatic plants, us, animals, everybody, all of it. Socio-metrically, we call it. It's all in balance with a certain ratio of carbon to nitrogen to phosphorous. And so you can see they all increase as you go down into the lake.

This is a summary slide of just what we saw about the sediment findings. There are two inflow stations that had zero ooze, and no ooze was observed on its flow shoreline. That's typical, the ooze is either going to --- as the water surfaces go --- water levels go down, it's going to go in or stay with the water, or it dries up and becomes unavailable to anything. It just sort of dries up and actually is not as available, even for the next year of growth, so to speak. The next note, the first location downstream all experienced increased carbon, phosphorus and nitrogen. Showing that it would be more accumulation of organic matter near the surface of the lake, unless the pools drop more and allows this matter to redeposit deeper in the water. In other words, the minimum pool to us is the water quality management thing. Viewing water quality, you like to see the winter pool drop. It's going to move a lot of stuff that would otherwise get back in the motor column in the summer, and stuff like that, further down deeper in the lake where it's not as exposed. It's not a black and white thing, it's a gray thing. It is sort of like the more we can move deeper in the lake, the better it is for the surface

water quality of the lake. The algae in the lake, and stuff like that. These calculations here, the bottom line for this is just showing that that ooze is what we call labile. It's not been there a long time. We call it refractory matter that's been there for a long time, it's no longer decomposable. This is all indicating it's very labile, and it's very active, it's very decomposable. What that means is, a lot of phosphorus and nitrogen can be released back up into the water column, and become available for more algae growth. That's the cycle; it's internal cycling they call it. This slide captures a lot of the dynamics in a quantitative manner. And it's well understood, well accepted processes among limnologists. But here is the bottom line. The sediment water interface usually at the area of highest rate for biochemical processes. Just put that in perspective, this graph down here clearly illustrates that. This graph is a plot --- here's the water column, this is water depth, and then it hits the sediment layer, and then we go do down deep in the sediment. And this is applied --- the number of bacteria, that's all it is is just a number of bacteria. And so you can see generally it's around one. Down here is the sediment water interface, you can see it's big increase, and it's up to 1000. This is the log spill down here. So it's about 1000 times as much bacteria at this interface. What that is telling you is that ooze is pretty important stuff, because that's where a lot of the action is really taking place. Now, if you have deeper water, you can have a lot of bacteria up here just simply because it's such a thin layer. But usually on shorelines and up where we have been working with more shallow water, you are not going to have as much water volume over there, so you are not going to have as much bacteria in the water. So, most of the action here is in that ooze layer, sediment water interface. And so that is why it is so important to keep that in mind about the ooze. Shallow water areas are impacted more than deep water areas, mainly because whatever goes on down here it is not diluted. So if you have a hundred foot of water above this sediment interface, whatever is released from that sediment gets diluted with all that water. But if you have only got a few feet of water, whatever is released from the sediment is just going into a little bit of water so it's going to be concentrated, more focused, more algae, that kind of thing. Organic matter created by algae growth and aquatic weed settles to the sediment, where it decomposes and releases phosphorus and nitrogen back into the water column. That's back to the ooze again. Ooze layer in the upper part of Lake Murray is labile. That means it is very active. And so biochemical processes and the rates are high. Commonly used water quality models do not account for shoreline ecosystem processes. Want to put that in there because we have got to stop and think about the W2 Model we were talking about earlier. That's sort of like a main body model. It doesn't capture these details. It's a two dimensional model, so it's mainly going right down the center of the lake. It's trying to integrate the effects of these processes over there, but it is not going to address them, like Alan might have a question in here in a minute. What about up here? What happened up there, you know, on the side? And we don't have that captured in the W2 model. And 3D models

could capture it, but 3D models are impractical to run on something like this. It's just really not do-able.

Okay, the bacteria activity is proportionate to organic matter composition. In other words, the more organic matter you have got, the more bacteria you have got. Organic matter levels are proportionate to the amount of algae and plant growth in the areas of the lake. The numbers of bacteria are lower in organic poor waste swept areas. The rates of nutrient cycling from sediments to overlying waters proportional to organic matter and the number of bacteria. So, all of these things sort of add up, and they are all consistent. Point number one thing, you know, the organic matter and the sediments is really important. The more organic matter, the more activity is going on with biological processes and rates, biochemical rates. And phosphorous and nitrogen is released back into the water column, those kinds of things.

Okay, we are going to shift now to what we were interested in was having some idea about how much sediment is exposed if you drop from elevation of 354 to 350? Or, another way to look at is if it is at 350 and you raised it to 354, how much area sediment would be covered by water now that wasn't covered in the past when it was in 350, for example? And so this plot is based on the USGS data, and some other data that was collected by SCE&G to define the vicinity of the Lake. And it is based on a lot of data. It is intense through all --- I think it took two years to get the data. I don't know if it was full time two years, but it's like, you know, a number of months each year to get the data. And so we worked this data up using surfer software and other people have other different softwares to work these kind of data up. And so what we did is we just queried the model to say, "Well, you know, give us the layers that --- a difference between 350 and 354." And that's what we got. That is showing here in red. So, everywhere you see red, that's where that sediment happens a lot.

I am going to show you a close up here next in the lower part of the Lake and the upper part of the Lake. This is the lower portion of the Lake, this is Rocky Creek area. And then here's some other embayments. And then get down here to the Dam, you see a lot less red. And then going upstream, this is the Saluda River, and there is Bush River. This is the Little Saluda River. And this is Camps Creek. Actually the Little Saluda River goes up more here, but that's got less off of the data set. So you can see there is probably more red up here than there is further downstream. We showed all of those areas for a couple of reasons. One is, it illustrates where things are going to happen with sediments, deposition, or erosion, things like that. And I am going to show you something here in a minute about aquatic weeds. That's where they are going to tend to be a potential issue. But one of the processes that goes on with sediment is a very important one, and you will see this practically everywhere you go if you have the opportunity to get data and look into it. So, this is a very common process. I just use this, this is out of Douglas Reservoir. This is a dramatic change, so this is nothing like Lake Murray, or what have you. But the process that I am

going to describe happens everywhere, in every embayment, in every inflow, to whatever. It is just different degrees and scales. Douglas Lake, the summer pool elevation is 1000. And the winter pool level is like 950. So, they drop it 50 feet for flood control. It's a lot different than in the lakes around here. What happens though, what this illustrates is this is sediment accumulation. They collected data in '67, and '81, and '93. And so you can see what the bottom profile was in '67; and then in '81 it had increased due to sediment. And then another layer in '93. And what is interesting, one of the reasons I want to show this, is like the pool level usually gets down to 950, sometimes 960, stuff like that. But you see roughly about 10 feet below that is where the sediment delta has sort of formed. A lot of sediment doesn't accumulate up here because in the winter conditions, it sort of eroded and kept suspended, and then deposited down here below the winter pool level. So that is why we consider that to be so important, the winter pool, because of this kind of process. It's shallow, pre-deposition, stuff like that. This is Lake Murray, this is all the USGS data, this plotted all of it. And what we decided to do is just see what the bottom looks like. And it looks like this, like there is a delta that's formed here. In fact, when we were sampling between those small one mile points, we had one that dropped 5 to 6 meters in depth. So, before that it was like 1 meter every mile, 2 meters every mile, and all of a sudden 6 meters. And that is what started going on right here, and we think that's a delta. And this stuff springs from Rocky Creek; Rocky Creek comes in right about here. So, that seems like that's what is going on there. We think that might have been significantly affected by the draw down in 2003 and '04. And maybe more in 2003 because we had the combination of elevation 345 the pool level all summer, and the flows were high. So that would be ideal for showering and eroding the sediments down in old river channel and re-depositing beaches.

Okay, this is another piece of work. This is more recent, we did this last year and it's still in project. This is not something we did, it's something from one of the relicensing reports on Claytor Lake. It's owned by AEP, Appalachian Electric Power. It's on the New River in Virginia. And what I wanted to show you here is the reason

--- we have not been able to find the original contours, so we haven't been able to do what they have done here. But I wanted to show you, what they have got here is like this dotted line, that's the original contour before the dam was formed, the lake was formed. Either that or right after it, somewhere back in 1939. And here's the measurement in 2007. You can see they lost volume. This little graph right here, which is a little hard to see, this is the difference in volume. This is where the volume decreased. And if you look right up in here, this first 4 or 5 feet, and you can see the volume is decreasing a little bit but it peaks out right about here 5, 6 feet; and then you can see a higher volume in change right there. And they drop that lake every year 5 foot. So this just illustrates like above the winter pool level, you get more erosion. And that has been a consistent finding so to speak. Like I say, it's pretty much found everywhere, but I saw

this graph and thought it would be useful. This is using the same kind of data, and it just sort of shows the sediment accumulation with depth. And you can see you get a whole lot more up here at the upper layers, and then starts tapering off. Activity is around that winter pool level.

Okay, aquatic plants. Aquatic plants are affected by depth of water; affected by clarity of the water; is preferred by some fishermen. I don't know if there is any of them on Lake Murray, but that's where that comes from. It's part of your rid of weeds sometimes because fishermen have parades with their boats, fighting and getting rid of weeds. Surface area exposed by dropping winter pool levels 350 instead of 354. We just showed that. And exposure of plants to dry and freezing conditions causes plants to be reduced. So, what I want to talk about now is, where you might have plants, where they have been, where you might have them in the future, and the benefit of dropping the pool level periodically so that these plants freeze out.

Because getting rid of weeds is a very costly thing, oftentimes. Some weeds are easily taken care of by the grass cloths, and things like that. But when you don't have them taken care of by that, it is difficult. This is the plot that y'all have, one of the reports that's in the application. Water primrose distribution 2005. You will see mostly where this happened, if you remember the plot I had with the red and the blue on it, a lot of consistency between what we found just physically where the red area is between the elevation 354 and 350. And so you see a lot of green that overlaps with that. This is an aerial shot of where the primrose grew. And what happened in 2004 and '03, the pool level dropped to 345, plants started growing at that water interface, and they raised the pool level up. And it was not as close to the atmosphere, freezing conditions, so they just continued to draw, and just to get rid of it. I understand they have tapered off and died back since then. This is just more of it. This is on Little Saluda River, west side. This is a little embayment, it's really covered right in there. Considerations for minimum pool elevation for controlling aquatic plants. This is just a consideration. This last year pool level got down to 352. I think it started off at 357 back in the spring. But due to evaporation, minimum flows, and low inflows, the lake just kept dropping; and it got down to 352. A consideration is that when it gets down to 352 you are liable to see aquatic plants growing there, or right in that area, a little deeper like 351. I don't know, need to get some weed, or aquatic plant folks involved in this process. I know they already are but we haven't yet worked with them. And so, some of this is going on by another group. What is the name of the group?

MR. STUART: Aquatic Plant Management Council.

MR. RUANE: Aquatic Plant Management Council. So, they would obviously be the experts on weeds. But this is just something we identified as a concern, something to catch on. But the bottom line is if the pool level automatically gets down --- when I say automatically, naturally gets down to 352 and grows weeds, then you have a winter pool level every year at 354, those weeds aren't ever going to get frozen out. So, however they die back, or what have you,

is liable to take a long time. Freezing weeds is a very common practice when you have got a lot of weeds, or plants, in the lake.

Okay, Little Saluda River embayment. This is an SCEG, and this is not resolved, and I am not trying to say we know all about this. It's just a lot easier going on Little Saluda River. And in fact when we first started our work a couple years ago in the Working Committee, one of the things we had to consider was, "Do we address the Little Saluda River embayment?" DHEC was considering listing it.

I don't even know if it's listing or considering a TMDL. I don't know where that stands, but it was on the table to be considered. There has been elevated, algae levels and things like that. I think it's been less in the past back before the TMDL processes, back in the '90s and things like that. So, this is relatively well known system that's eutopic, if you want to use that word; high algae, high nutrients, things like that. Also coming into the Little Saluda River embayment is Lake Douglas (phonetic) plant, from the little town of Saluda. And then there are some out point sources. And I think there is some chicken operations, and what have you, up in the watershed. So, it has also got loads coming into it, so of course, we figured that would probably be an issue. We have decided not to focus on that because we ended up focusing on striped bass habitats, and things down in the main body of the lake; dissolved oxygen releases, and those kinds of issues. And thought this was better left. Besides that there wasn't much data on the Little Saluda River embayment, like one sampling point. And it's probably a complex system just to have one sampling point. So, for a number of reasons we decided not to address it. When this pool level issue started getting thought about or considered, we went back to here to see what we ought at least do with what we have. And so, what we did do is, we took our model, which is not calibrated, calibrated as best we can, but we wouldn't like to call it a calibrated model because we like to have three type calibrations for decision making. But if you don't have what you need to make a significant decision, so to speak, you can use sensitivity analyses just to see what the trends are, what are the patterns, what you might expect, in other words, just integrating a lot of information that you would have a hard time integrating yourself if you were to sit down and try to analyze it. So, the best way to analyze it is use the model, even if it is not calibrated. Because what we are doing is looking at sensitivity, like if we make a move in one direction, which way does it go? Does it get worse? Or, does it get better? Those kinds of things. So that's the nature of this kind of model in here, is sensitivity. Just to say, "Which direction is it going to go? Is it going to get worse or better?" Well, one of the crucial issues we were really concerned about with this particular embayment is what is called internal nutrient cycling. And internal nutrient cycling goes on everywhere. In other words, it's the release of sediments and nutrients back into the water. But it is not that much of an issue here to a water quality management decision, like we move a little phosphorous upstream. In the northeast where there is a lot of lakes, internal nutrient cycling is well understood and well known. What it means is it can get so significant that whatever you

do to inflow phosphorous, like remove phosphorous from lake trees, plants or point sources, it doesn't do any good. There's plenty of phosphorous already in that lake that's cycling itself. And so if you remove all of those other things it really doesn't make much difference to the improvement of water quality. So, that's why it became a bit of an issue to us like, "Well, we could lose the potential of improving water quality there if the internal nutrient cycling gets worse." So, if it is worse, then that's the sediment movement we would like to see by dropping the pool level in the winter time. Those kind of things would aggravate the problem. So, that's why we looked into it. So, I will show you what we found.

Okay. It gets back to the organic matter in the sediment. Okay. If you drop the pool level 4 feet, 5 feet, or what have you, everything starts moving down deeper and further down into the reservoir. That would make it better because you don't have it up closer to the water surface of the lake, you know, where you might be using it around the shoreline.

In the winter. All right, here is what goes on in the winter when you do that. You drop the pool level, and if you have a rain fall runoff, which typically in this part of the country you do. You know, like the high flows into Lake Murray are January through April. Now, we are not talking about proposing holding to 350 or whatever for four months. That's not the point. It's more like drop it there and just let it come back up. What you are trying to do is scour it out while it's in. And freeze it, if you can do that, too. So, what we did here with the model is to look at it from a sensitivity situation. And what we did is use the calibrated case, calling that the calibration case so you will know we don't consider it a calibrated model, but that is the best we could do. The case was SOD doubled sediment demand. Okay, doubled in the Little Saluda River embayment and the upper part of Lake Murray.

Okay, what is sediment oxygen, then? Well, that is back to that ooze we were talking about, more organic matter, and more biochemical activities. Sediment oxygen demand represents the effects of all that. And that is the demand on DO in the lake. And then the last case is the SOD sediment oxygen and doubles, there is no phosphorous input from the inflows. In other words, we want to see what happens if we treated all the phosphorous coming in the lake. So that improves the conditions in the Little Saluda River embayment. That's what we are going to try to show. We did a number of runs, I am just going to show one of them. It is right here, this happens to be where Cloud Creek comes into the Little Saluda River; that's just slightly upstream from it. It's almost right there at the mouth, Station 1.

Okay, here is the result. These two, the red and the green, that's with the SOD, double. And this is where the pool level would have been held up to 354; didn't drop to 350. And then the green is with no phosphorous coming into the inflow. In other words, we just cleaned it up, removed all the phosphorous coming in the lake. And I am afraid this is what we found. When we removed all the

phosphorous coming in the lake, it didn't really make any difference because the chlorophyll --- that's the chlorophyll here. It didn't really make a lot of difference, it just stayed high anyway. So, this embayment is already impacted by internal nutrient cycling. Like I said, that happens a lot up in the northeast, it didn't happen in the southeast that much mainly because of the reservoirs, we don't have a lot of stagnant water, so to speak. And I'm not saying the Little Saluda River's embayment is stagnant, it is not stagnant; but it is very slow movement, it has got a very long residence time, and it is shallow. Lake Murray has a long residence time, like 400 days, but it is real deep. So, this is real shallow and a long residence time, and so when given that you have a lot of opportunities to get a lot of nutrients cycled back up in the water, some sediment. And so that is what it looks like is going on in Little Saluda River embayment. What this means to us is the dropping to 350 would be favorable. It would help things by reducing the SOD that we are using in here. If you do that, it would reduce the SOD some. How much improvement you would get, I don't know that that is even predictable. That would just be the right direction to move, would be in that direction is all I am saying. Yes, ma'am?

UNIDENTIFIED: (inaudible)

MR. RUANE: Both of these have two times the SOD, and the green line is the one with no phosphorous coming in from the Little Saluda.

UNIDENTIFIED: (inaudible)

MR. RUANE: Right in here? I don't know, I would have to go back and look at the model run. I don't recall what caused that. That's a good question. You can analyze it by going back and running the model, and see what factors affected this. I can't do it right now.

MR. ROY PARKER: Let's suppose you have this same model here, and instead of this 345 to the 350 --- My name is Roy Parker, and I am with the Lake Murray Association. We just moved that and we say we compared now the 350 to the say 345, wouldn't we have the same dynamics except they would be moved further to the right there. So, you have got basically the same thing occurring, it's depending on where the inflow is and where the water got to. I think you would have the same thing.

MR. RUANE: You mean if you ---

MR. PARKER: Yeah.

MR. RUANE: Well, what you would do, you would probably help --- if you drop the pool level and scoured up a lot of that sediment, and redeposited it deeper, the upper end of the embayment would be a little bit cleaner. So that would be the pattern, the trend. And probably out here would catch up again. The first part of the year, right in here, it would probably be cleaner if you drop the pool level. You know, and then out here it would probably get caught back up, and you can't really tell that much difference. It's in a calibrated model, so we are getting much more detail in what you could do with this. But we mainly thought this is a concern because number one, from a DHEC standpoint. I haven't heard from them or got any

feedback from them. They may not think much of it, I don't have any idea. But they have their own internal decision making processes. But this would be in the direction of "TMDL process", quote, unquote, possibly driving the pool level. We don't have a TMDL going on. But, I don't know how it would happen like ten years from now if they list it, and you go to TMDL and say, "Well, the best way to improve it is drop the pool level." I don't know if those are the kind of possibilities that play out.

MR. PARKER: Yeah, I understand what you are saying, but the scouring effect unless you just pull it out immediately, the scouring effect is fairly confined to a narrow focused waterway. So, you know, your shoulder is out here unless it --- there is no scouring effect there; it occurs just in the main water stream. And I think that would be the same whether you start at 345 and compare that to say 350, or you compare 350 to 354. The dynamics, I think would be the same.

MR. RUANE: I agree with you in general. But the real world is different than what we are talking about. Wait a minute.

UNIDENTIFIED: Would you make sure they understand what chlorophyll "a" is, and with algae, and how the algae utilizes the nutrient process.

MR. RUANE: Okay. Yeah, chlorophyll "a" is an indicator measurement. It is actually reflected in the algae samples when they run it through a lab to where you look at the chlorophyll portion of the algae. It is something that is quantifiable in a lab without the more labor intensive process of analyzing the algae. So it is an indicator and it is quite complex. If you have different amounts of chlorophyll and different kinds of algae, so you have kind of got to get into that issue, too. Two reasons. One is, the deeper it goes, the more glutamines of anything that comes out of the sediment. The other thing is, in the summer time when the water is stratified, whatever comes out of that sediment might not get up into the surface water. So, it's not causing any algae to grow there. It just washes on down, and on down the Saluda. Roy, back to your question. You are right about the channel. But in looking at this whole embayment right here, this is the one that had all the plants awhile ago. That whole thing, a little embayment might be what we are talking about, so it impacted and improved either drawing it down in the wintertime. It's just so much there. If it was covered up, those processes would be cooking, so to speak. Same thing up here, of course, in Bush River. But mainly these embayments are like this, closed in. That's where you can see those, that's where they would be concentrated, those processes.

UNIDENTIFIED: (inaudible) If you take the water level up and down, and every year you wash these down, and make sure you wash these down, and make sure you wash any down, it looks like to me by washing it down every year --- leaving it where it originated.

MR. RUANE: It is going to decompose. It's what we call labile. And labile means the thing will decompose once it gets to what we call refractory, it's on the order of years as far as for the rate. So, it can build up, and does build up. And that's a long way, if

that is what you would like to do if it's deeper water where if whatever is going on doesn't get up into the surface water. The algae only grows where there is light. So, if you have a lot of ooze in the very deep part of the lake, you are going to get some nasty water. You can get sulphides, and ammonia, and things like that, as we call anoxicides (phonetic); but they are not in the surface layers. And they pass through now, and they have passed through the lake and through the dam. It's a common process in reservoirs, as far as the nature of the reservoirs. Yes?

UNIDENTIFIED: (inaudible)

MR. RUANE: Yeah. No, the red doesn't --- see right there, that's the difference in elevation between 350 and 354, that's all that is.

UNIDENTIFIED: (inaudible)

MR. RUANE: Well, you would have both. If you have got weeds and there is water around it, it oozes around weeds. That's just part of the algae growing weeds, and a lot of that organic matter, weeds die. If you have weeds submerged, you know, below the water surface, you will have these associated with that, as well as new sediment accumulating, too.

UNIDENTIFIED: (inaudible)

MR. RUANE: Well, that's why we are going to bring in this other group and work through there. That's one of those things that we just need to get more people that know what they are talking about on weeds.

Okay, actually, here's an interesting thing we found when we started looking at the operation, the water flows and the pool levels over the last few years. The main question we started wondering like, "We're in the water quality management of reservoirs; so what we would like to do on these kind of problems is, what can we play with on hydrology, and so forth?" And that's what led us in this direction. Like, when could we bring it down, how far should we bring it down, what's the difficulty in getting it back up, the pool level back up in the summer because we know it's always an issue? So, we just did sort of a survey to look into that. And what we found, it was probably interesting, this is the lake's level back in May or June. This is the max level, just two --- any one of these years, this is individual years. And the May, June levels were, you know, this is 358, that's 357, that's 359. And so, all of these, the blue ones, all fall in there. Now, the interesting thing was, our concern was a little different than others might have. But our concern was if we drop it to 350, what's the problem we are going to have in getting to 358? Because we know it would be best to have it for many reasons.

So, what we wanted to look at is like, the yellow dots here that's how low the water got in wintertime. You know, like January. December, January, possibly even February. It's mainly used in January, as I recall. And so, you see it getting down to 345; of course, that was in 1991. The prior timing is like 350, and then here is some around 354. There is the 354 line right in there. There's 350. And specifically it ended up being about half the time around 350, plus or minus 2. And half the time 354, plus or minus 2. So,

the other thing we wanted to look at is, how often does it get down there? But what happens when it gets down to 350 versus 354? And that's what we were a little surprised about, we didn't really see many years that were really suffered by being at 350. You know, like in January timeframe. And these are November flows. We found there was a little bit of a relationship between November flows and what happened in January through April. We were trying to figure out, could we predict when we can drop it to 350 and have a high degree of assurance it's going to raise back up next summer? And so, we were looking at November flows, because you probably well know it doesn't rain that much easily in September and October; it starts a little bit in November. And October date is sort of contaminated, if you want to call it that, by hurricane events; and you can't depend on that being a predictor of what's going to happen next spring. At least we didn't think we could. So, we ended up just looking at November flow and seeing how much that correlated with January through April flows the following years. If you could see, the only time it's 350, and every time it's 350 or any of these, it got back up. So, what was the November flow? Was it high, or low, or what have you? And will see a number of times when it's 350 the flows were real low. Here's two years right there, 2001 and 2002, November flows very low. Winter pool level, 350. You can see it got back up there to 358, or 357, point, something or another. So, it didn't seem to be --- this is almost consistent and all of this is just jumping up and down. So, I know this is limited and we are only looking at this one little aspect, but it was encouraging to us that these levels in the summer are not affected by the winter minimum pool level. This is sort of busy, I will try to get to the bottom line of it. One thing we found in looking at the data from 1980 roughly to 2007, is about 25 years of data; half the time it got down to 350 plus or minus 2, versus 354. And we looked at a November flow that would be consistent with that half the time, and it happened to be 1200 cfs. So, here's your 1200 cfs. This is from a long list of about 80 values. And so, I just copied off here. And I am looking mainly at these frequencies. The one we have got here is the years --- and the years are out of order since we have got it organized to where it is ending values. So, here is the November flow going from low to high; and then here is the January to April flow associated with that. So, at 1200 cfs in the November flow, that corresponds with two year frequencies. And that's on average, it's not every other year. It's on average. You know, you might go three or four years without dropping to 350. And then it's three or four years. So, if we operated that way in the future, it would be better than it has been because, I don't know what the reason was for dropping 350 in the past, but a lot of times maybe it didn't rain. So, it didn't really do us a lot of benefit, it didn't scour up the sediments, it didn't re-deposit them somewhere deeper. Maybe it didn't freeze and kill weeds, those kinds of things. So, we thought, "Well, we would be better off with dropping the pool level 350 when we think it is going to rain a lot, and have high flows." So, that is sort of what we started, some of the questions like, "Well, maybe we could get by with the three years

frequency, or two and a half year frequency," and all that. So, just looking at the values here, I mean, personally I prefer the two year frequency because that's what has been done in the past. And anything less than that is going to be a bit of a risk, we can't predict what it might be. We can talk about it, we can share, you know, expert opinions and all that stuff but we don't really have a model that is going to give us the answer. So, I prefer this myself. But, you know, if you decided to go with the two and a half year frequency or a three year frequency, you would be talking about forty percent of the time the flows would be greater than this. So, it would be like close to 1300 cfs would be your decision point instead of 1200. And so, the November flow for a three year frequency would be more like 1500 cfs.

And a 3.6 year frequency would be like 1600 cfs. And one thing that was encouraging when you look at this data, the higher the November flow, the better the relationship, or the probability that you are going to have high flow in January to April. So, back in here your correlation with November flow with high flows in January and February, that correlation was not as high as it is out here. So, if you do make a decision around this level right here, quite likely you are going to have high flows in January through April. So, it's just adding more information just for factoring into the whole thing.

Okay, concerns for increasing the winter minimum pool level to 350. This is just sort of summarizing what we have been talking about. Sediment accumulations in coves, especially the Little Saluda River. Aquatic plants increasing around the lake, especially in the Little Saluda River embayment, especially following years with low summer pool. In other words, low summer pools, plants might grow, take hold, raise it up to 354, and then it will freeze so to speak. Organic and nutrient accumulations and sediments of embayments, especially the Little Saluda River. And a shallow shoreline around the lake. Water quality and algae in the Little Saluda River embayment could already be controlled by internal cycling. Probable impact on the TMDL process on the Little Saluda River embayment. When I say "probable", I am sort of just basing that on listings in the past. It's not that they decided to list Little Saluda River to DHEC through the 303D process, but it's just right on the edge --- I don't know what goes in their --- you know, it's a decision making process. They have to speak to that. And then the last point, modeling at this point can involve only sensitivity analysis and there is not enough data to calibrate them all.

Okay, water quality issues that are related to effects of the winter minimum pool that can affect lake users. Okay, we got some questions yesterday, and so this is sort of added. I was just thinking from a --- I wasn't thinking, someone else was thinking and asked these questions, so I thought about some answers. Impact to lake users. You know, the lake user out on the lake, testing the impaction. Okay, these are the kind of things: increased eutrophication around the shoreline that could result in increased algae levels. Aquatic plants, turbidity, and sediment deposition. Where that might occur, it would be more likely in those red areas. But I mean they are going to occur in all those red areas, I'm not

saying that because there are a lot of other factors involved. But that is where you at least start to look where they might happen. Internal nutrient cycling. We talked about that. Increased sediment deposition at inflow sites that would impact boating and enhance aquatic plant growths, especially when summer pool elevations are less than full. What I mean by that is, if you don't drop it below 354 that means your sediment deposition is going to start occurring at elevations higher than they do now. So, if you want to drop 350, it still washes it out. And you raise it up to 350, and if you didn't ever drop it down to 350 again, you are going to start seeing lake sediment higher up in the water column. What my concern here is if you get another year like this year, 2007, where the pool level went down to 352 in the summer, you have got more sediment than you should have at 352. You see what I mean? If you were at 352 this year, the sediments would be a bit deeper generally than they would be say ten or fifteen, twenty years from now. Because you wouldn't have that extra scouring action that you are getting right now for 350.

UNIDENTIFIED: (inaudible)

MR. RUANE: Excuse me?

UNIDENTIFIED: (inaudible)

MR. RUANE: That's what we were hoping to combine, and think that would be an improvement going forward if they happen to drop to 350, and base it on the likelihood, based on November flow. So it would be a big advantage.

Conclusions regarding the minimum winter pool level. Okay, regarding considerations for developing a policy for minimum pool levels based on data for 1980 through 2007, the pool level was down to about 350 about half the time, plus or minus two feet. It would be best to maintain this frequency of drawing the lake down, other wise you are risking things different than they are currently. Maintaining the frequency of drawing the lake down to a 350 for an average of every two years should not be difficult based on historical flows. In other words, maintaining the summer flows. And pool level data as well as taking advantage of November --- predict January to April flow would be sufficient to refill it. And it is usually sufficient to refill it anyway even if you don't consider these, you saw drought conditions in 2000 and 2001, it gets there anyway, or, can. Minimum pool levels has little effect, little to do with attaining and maintaining 358. That's after the May-June. So, in other words, if you get it up to 358, 357, 359, May-June, or it goes on out in September, is not depending on what the winter minimum pool is. And a reservoir operations model would be best for developing alternative operating policies for the associated pros and cons for each policy. Quantifiable, as well as intangible pros and cons, would be included. Yesterday we had a working committee meeting, and we had a lot of discussion, it was all a very good discussion, and there was a lot of questions. Hardly any --- you know, you can't do many of these without factoring in how the reservoir drops. You know, the new policy, it might be on minimum flows, things like that, considering evaporation. But mainly the operation --- what is the new operation? How would it be operated? We

have got low flow years, and it didn't get up to the 358 in the model.

Well, the main reason was is because we were generating water, you know, like they might have been generating that year. So, we were bringing the pool down. But in the operations model, you can factor in all these operating policies, and get the water balanced first of all. And then examine some of these other things, other issues. I mention this here because it's very important. Some things are very quantifiable. You can measure them and predict them, and so forth. But oftentimes in these kind of decisions, you have got to factor in the intangible considerations. And it is not unusual for the intangible considerations to drive the decisions, believe it or not. Yes, sir?

UNIDENTIFIED: (inaudible) --- computer models (inaudible) for the homeowners. Around the lake? Your information is very good, learned a lot. Okay. I do agree, from what I see and what you say. But dropping the lake to 350 every other year on an average is a good thing to do. Okay? As you know, we drop it to 350 or below for five out of the last six years; so we have already gotten ten years worth of low level behind us. Okay. So, the last six years, five out of six would drop below 350. The twelve year period from 1990 to 2002, we dropped it to 350 six times, almost every other year.

Took it down to 354 two years out of those. The computer models are great, but I think it would be wise to also look at the real model. Okay? The closest lake to Lake Murray is Lake Greenwood. Now, Lake Greenwood is only about 20% the size of Lake Murray, about 1/5th the size of Lake Murray. There is a lot of similarities, but they are both hydroelectric. Okay. They both get the majority of the water from the Saluda River. Okay. Both have down flow and up flow requirements all year round. Okay. Lake Greenwood, the last 17 years has only been dropped 5 feet. And that's 16 out of 17 years. In 1993 they did drop it 8 feet. But in 16 of the last 17 years, it has only dropped 5 feet during the winter. And I don't think they have much worse fish kills, I don't think they have much worse weed growth. Okay. And what you are saying, I believe, is that it inhibits weed growth if you take it down to 350 every other year. Okay. It helps the fish if you take it down 350 every other year. But the nearest lake to us takes it down 5 feet every year sixteen out of seventeen years. And I don't see the increase in fish kills, I don't see the increase in aquatic growth. And that's what --- I think computer models are great, I think you ought to do them. But I think you also ought to look at the closest lake to us with very many similarities to us - same weather, same watershed, most of the water comes from the Saluda River. Why it may be so successful dropping it 5 feet, and why do we have to take it down ten feet? In fact, it has been down more than 10 feet five out the last six years. We have had enough.

MR. RUANE: Good comment. Yeah, when you do these kinds of things, what you are suggesting is commonly the best thing you could do. I don't only want to take Lake Greenwood, I'd probably look at all the lakes around, the symmetry around here. Also, the size of Lake Murray, and the vicinity of Lake Murray is a lot different than Greenwood. So, I mean, it's just another factor to consider. But the only thing, it's sort of like this brim mess up here. When you talk

in generalities then you look at two or three embayments and say, "Hmmm, now what about that one? What's going to happen?" So, that's where I think you have got to sort of live with it. The other thing, too, possibly --- I am a little familiar with Lake Greenwood, but I haven't worked on it that much. But the surface area is not near what we have here. And I don't know how much that factors into like the evaporation. So, you have got to ---

UNIDENTIFIED: Retention pond.

MR. RUANE: Yeah, retention pond would really be a factor.

UNIDENTIFIED: Lake Murray was intentionally lowered 3 and 1/2 feet in January and March of last year. Okay. 2007, okay. Actually lowered 3 and 1/2 feet in January and March. Okay. During the drought that was predicted by the National Weather Service - and by the way, they are also predicting droughts for the next three to six months in this area. Okay. It was dropped 3 and 1/2 feet during those two months. Okay. They dropped it 1 foot in six days at the first draw down in January. Okay. Was that good for the fish? Was that bad for the fish in the lake and below the lake? Is that why it was done? Just tell me was it good for the fish or bad for the fish to draw it down 3 and 1/2 feet? To draw it down a foot in six days?

MR. RUANE: I'd have to look at the data to see, and to begin to answer your question. And the time January, February, you can only answer that in a general sense, I guess.

UNIDENTIFIED: (inaudible) --- coming downstream . Is that right? (inaudible) Am I right on that?

MR. RUANE: No. If you do have any phosphorous coming downstream (inaudible), you'd have a lot less of it. Really, if you are going to find a lake that doesn't have a little growth of algae in it and --- what it is, the algae once it gets down to the (inaudible), how the algae grows it's all according how deep the water is above sediment. We were talking about this yesterday. If you --- down the forebay of Saluda and Lake Murray, it's higher than 70 feet deep. Number one, you would have less algae down there because you have less phosphorous. That's one thing in favor. The other thing, even though the algae is a lot less the sediment is affected even less. Lesser, or whatever you want to call it. So, the process if you drop the water it's often too (inaudible). [moves away from microphone]

UNIDENTIFIED: My question is, do new roots accumulate every year? It's the new phosphate is coming down that creates the damage, the danger in that ooze. Isn't that correct? If the phosphates were eliminated then you wouldn't have to drop the lake level to wash the ooze out because the ooze wouldn't have the nitrates, or the phosphates, or whatever it has in there. Is that ---

MR. RUANE: In a general sense. It's sort of like the proportion of the (inaudible). Number one, you can't get it down to zero phosphorous, really, you can't get to zero phosphorous. Within the southeast it's (inaudible). So, you are going to have some algae. The question is how much, for example. To give you an example, the sediment in Lake Murray, mostly the mean concentration of phosphorous is (inaudible). If you reduce the phosphorous in the watershed, you

know, like you can (inaudible) and stuff like that and get it down to about .02, .03. (inaudible) 50% reduction in phosphorous and you'll see what kind density it would cause (inaudible). There would still be some there. You know, .03 versus .02. It's more like a move in the right direction.

MR. BUD BADR: I am Bud Badr with DNR. And my question --- I mean, I never did anything with water quality modeling. But when you do the calibrations, you calibrate that for the --- again, it's the releases --- I mean, your calibrations were good. But, in the lake the calibrations were not as good. And my question to you, for a big lake like that full size in the lake is enough for a good calibration?

MR. RUANE: Is what?

MR. BADR: Is enough for a good calibration?

MR. RUANE: Using enough data?

MR. BADR: Yeah.

MR. RUANE: Yeah. The model is better if it's at the main body of the lake, down in the forebay near the dam, and as you come upstream, I think to about 20 kilometers. Down Rocky Creek area. Rocky Creek actually, there is more tangible conditions right there. As you move downstream from the inner towards the dam, it gets more lake-like. So, the more lake-like it is, the better the calibrations are going to be, on any one day. It's generally good as it is, especially Rocky Creek and going on down towards the dam. It's just helpful for making decisions on water quality. The model is very well for us. We were able to use that model with very minor changes for like nine years of accumulations, and still stay within a mean era of less than 1 the worst year, less than 1 degree centigrade. DO might be over 1, 1 and 1/2, or something like that. And the other thing, too, when you are using the model and you want to get the best calibration you can get, but on the other hand you have got to do a reality check. You know, just giving us the result that you would realistically expect, so to speak, like with striped bass each time. Or, DO. Or, what have you. So, it's a pretty robust model.

MR. BADR: About the sediment, you told us that the deepest point in the lake is 175 feet. And certain number one is actually 175 feet. So, when we designed the lake back in the '30s, we did not design it for a dead pool.

MR. RUANE: Right.

MR. BADR: So, that means that all the sedimentation is --- into the lake actually is difficult to (inaudible). Am I right about that?

MR. RUANE: Very little gets through to the releases from Lake Murray. Looking at the water quality down there you will see a little bit of pervisiony at times. But it's rarely that it originates pervision. You know, like frays or something like that. You will see a little cloudiness, you know.

MR. BADR: But I am talking about the different sedimentations for the last 70 years, since 1930s until today. We didn't have any changes because it's the long surface is 175 to the bottom of the lake. And there's something that leaves a good sedimentation over there. Am I right about that?

MR. RUANE: There are some sedimentations that go back here, look at this vicinity. Like, this is how much sediment --- well, that shows you, too. There's the volume of --- I believe is when, 1939 and 2007. So, you see the deeper you go, the less the sediment gets to you. What is really going on there is the long seasonal process. And by the time you get down to the dam where it's deeper, a project like we have in the southeast, the deeper part has always been that way.

MR. BADR: (inaudible) the velocity here, everything comes to the dam. But the currency, number one, is taking everything down --- take it downstream.

MR. RUANE: No, it's actually sailing away. That's 400 day residence time before it gets down to Unit 1. So, in 400 days you are going to get a lot of sediment. ---- this around here is going to --- weeds to a month, or something like that. So, most all that sediment is upstream, and even (inaudible). This right here, this is very typical in a hydro-power project. This is long residence time. You see here is like, here is the dam about 400 days downstream. And this is where --- or it appears to be where the delta is, where sediment has accumulated. We started the original calendar, straight line right there. If you draw it too down, more than in passing the 345, and you down to 300, for example, a lot of this gets eroded and newly redeposited down here. That's the process.

MR. BADR: Thank you.

MR. RUANE: Okay, thank you.

MR. ROY PARKER: Roy Parker again, with the Lake Murray Association. And I just wanted to address a couple of issues that we talked about, those embayments, not from the inflow but some of those coves where we don't have an inflow. And I think some of what you have been talking about the benefits of scouring, and I think the scouring effect would be much less, or would be less significant in those bays where you didn't have inflow. So, I don't think that you would get that scouring benefit in those. And also, I wanted to address the weed situation. As you know, we had a real serious problem with hydrilla a few years ago. And we introduced a grass clog, which did just a super job. And there was a great benefit --- or, there was some benefit from pulling the lake down when we had hydrilla because it froze the corn. One of the ways that hydrilla propagates is through the corn, and if you pull it down and it freezes while it destroys. So, there definitely was a benefit from doing that. But now one of the primary weeds that we have now is water primrose, and you don't have that same benefit with water primrose because it's not propagated from corns, it's just seed. And so that benefit wouldn't be the same as it was at one time. And as long as the grass clog stays effective, well, they are not --- and which I hope they will, we won't have a problem again, hopefully with the hydrilla.

MR. RUANE: Thank you.

MR. STEVE BELL: I am Steve Bell, with Lake Murray Watch. Jim, we had spoken yesterday, and I am still trying to understand this; and I am going to ask the question, and I hope it is not stupid. You indicated that the SOD level would double if you kept

the lake up to 354 rather than 350, and you predicted that. And what I am wondering is, and since you are able to analyze the ooze, if we were to keep the lake level up to 354 and then in five or six years go back to those points where y'all got GS --- coordinates, or whatever, and go back there and take the sampling, would you expect to see that ooze, or that increase? And can you go back there and actually do it, and have some kind of results that would quantify the --- you know, your recommendation? Thank you.

MR. RUANE: First of all, the SOD that we --- wasn't predicted. And so called measurements do not (inaudible) the water by using the (inaudible). So, it couldn't go that high. And so we were reasonably sure that was just a sensitivity analogy, like "what if". The other, going back and repeating what you have done. If you didn't have a lot, you could probably get good results. And I was impressed with the last (inaudible), variations never got in the data. Certainly techniques have improved over the last ten years, so to speak. And it's more interest in sediments in the last ten years, so it's improved. And so the data consistency from the same sample and variability, and all that, is a lot better. And we are not seeing as many (inaudible), so to speak. But, yes, you could probably feed it, but you probably wouldn't be very good with it like we did it this year, and he did it five years from now, and completely make a promise. You would have to almost do it like every year, kind of thing. Just get a pattern and a trend. So many variables going on. So, like you got to a level, and you either have a good flow, or we don't have it. You know, that's for discussion. A lot of things like that.

MR. BELL: Basically, you can't predict this. What we think, we are predicting that it would help but we don't know, or how much. But it is something that we could consider, and we are going to put this in the model as a constraint, and see how it works out with all the other constraints. And I want to just tell Ward, that in Lake Greenwood, I believe every five years --- Ron, isn't it every five years they drain they drain the lake down eight feet?

(UNIDENTIFIED): No, that's not true. Only one time, 1992, did they take it down more than 5 ---

MR. BELL: The new policy, when they got the new license.

(UNIDENTIFIED): They have a new license now.

MR. BELL: So, you are going to expect them to draw it down? They didn't before. But under their new license, I believe they are going to draw it down in the future, they will draw it down like every five years 8 feet. But not every 2 years 8 feet.

(UNIDENTIFIED): We done 358 one time in the last six years.

MR. BELL: Lake Greenwood is doing a draw down, but it's like every five years. And in the future they do that, but not every other year.

MR. ALAN STUART: Are there going to be other --- I mean, we can stay and answer questions all day. I am just trying to get a --- George needs to potentially change out his recording medium.

How many other questions do we have? Does anybody have any other questions?

(No response)

MR. STUART: That's perfect timing. Thanks to everybody for coming out. And we will have another one of these in about three months.

PUBLIC MEETING ADJOURNED.

SALUDA HYDROELECTRIC PROJECT RELICENSING
FERC PROJECT NO. 516
Quarterly Public Meeting
January 17, 2008
7:00 o'clock P.M.

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PUBLIC MEETING:

MR. ALAN STUART: Just a quick update on the relicensing. We issued the draft application on December 13th. Comments are due March 14th. And next week we'll be doing some additional IFIM workshops to establish potential minimum flows in the Lower Saluda River. After we do that we will be starting to put these inputs, these minimum flows. We also have some recreational flows that have been provided and we will be putting those into the hydraulic model. And we have things starting to play out. A lot of the stuff Jim is going to talk about tonight are his expert, professional opinions on managing the Lake and water qualities associated with that. There have been no final recommendations. We will start looking at those after we have developed the other constraints like minimum flows and recreational flows, and we will go from there. But, I think you will find his presentation very informative. I am going to let him introduce himself and his company. And, Jim, it's all yours. One other thing, for those that have not been here, Alison will be walking around with a microphone. We do audio and video tapes, the presentation. The mike is dead except for George up there. So, you will talk into it but you won't hear your voice resonate through the room here. So, state your name and who you represent, and that way you will get into the official transcript.

MR. JIM RUANE: Good evening. I will give you a little bit of background about our company and the people I work with. We are relatively a small company; in fact, my company only has one employee and that's me. But I work with about up to 15 other people similar to how I operate. And one of them is project management, Lee; and the other guys are support him. And so, sometimes I am sort of the leader and sometimes I'm just working on a project like anybody else in our group. But it is sort of niche business. We work on large reservoirs, and rivers; and there is roughly about 500 large reservoirs in the United States, and about half of those have water quality issues. So, that's the reason it is more like 250 that we might work on. We haven't worked on that many yet. In fact, we have worked on about 115, but we have been pretty busy and get around the country quite a bit. What we do is, as I said, focus on large reservoirs and rivers, do a lot of water quality modeling and assessments. And I am going to show you some examples of modeling this evening. We are not going to get into any aeration systems, but we do that as well; looked at all kinds of aeration systems. We have been working with SCE&G and KA on the Saluda aeration system for the turbine discharges and releases. Looked at temperature control methods, evaluation testing and the modeling of turbine aeration systems. Done about 50 projects in the country. Predictions of operational effect on water quality. We will talk a little bit about that tonight. Site specific water quality standards. There is a site specific water quality standard for dissolved oxygen below the Saluda that was developed in 2003, and that's part of the license application. Assessment of watershed effects on water quality. Assessment of anoxic products, we will talk a little bit anoxic products tonight. Assessment of sediment water interactions; we are going to talk about those, too. And like I

said, we have worked on 115 projects. About half of those have involved actual improvements in water quality to these large reservoirs. This, you can download a copy if you want to know more about these projects; but, this is just some selected projects that we worked on. About half the projects, the large projects in the country, are owned by the Corps and the Bureau of Reclamation. And the rest are owned by private utilities. And so, we do work for both the Corps of Engineers and Bureau of Reclamation. We have done a lot of work for Duke, and the Catawba Wateree System; Consumers Energy up in Michigan; Osage Hydro is a very large hydro power project in Missouri; Wallenpaupack up in Pennsylvania; Brownlee out in Idaho; and Lake Murray and Saluda Hydro. This is a list of our clients, and previous clients. Okay, we are going to talk about Lake Murray, and I am sure most of you are familiar with Lake Murray. But, here is the Dam, and here is the Lake, and this is the local drainage area. Most of the water coming into Lake Murray comes through Lake Greenwood, and the watershed is on up to the north of it, north and west. We will be talking tonight a bit about the Little Saluda River embayment, and Bush River. Some characteristics of the Lake and Saluda Dam; the depth is about 175 feet deep, it is a large reservoir with 2.3 million acre feet, average annual flow is about 2800 cfs, residence time - that is called the nominal residence time of the water in the Lake, about 417 days. So, it's a long time. There is only about ten projects in the United States that have similar characteristics to Lake Murray, particularly with respect to residence time. And residence time affects water quality very significantly. Depth of outlets, 175 feet for the four original units, and depth of outlets for Unit 5 is 78 feet, about mid-depth. Flow capacity of the original units is about 3000 cfs, and about 6000 out of Unit 5. This slide illustrates the sampling locations that have been established by DHEC and SCE&G. And so, we had a pretty good data base to do a lot of analyses on. We can always use more data, but we have quite a substantial amount to use and start with. It is also heavily gaged by USGS for most of the inflows and the discharges, and also down here at the Dam in the Lake is USGS monitoring there. These were the main issues identified by the Technical Working Committee on water quality. We pretty much ended up focusing most of our effort on the main body of Lake Murray; that would be mainly for example from the Rocky Creek area down to the Dam. And so, most of these issues relate to that. Actually, we developed the issues first and then decided to focus on that part of the Lake and developed our water quality models to address a lot of the issues. So, the two things that cause striped bass fish kill reported in previous years, especially factors related to Saluda Hydro operations. As some of you may know, there have been fish kills in the past, striped bass. And a number of people in our group tracked those over the years, and provided a lot of really good information, and so we had a good starting point on when these events happened and about how many fish died, and so forth. The other thing is we wanted to look at the effects of Unit 5 operations on striped bass habitat and entrainment of blue-back herring. Unit 5 had had some operating restrictions placed on it

because of what appeared to be fish kills that might have been caused by Unit 5 operations. Another one was determination of operational changes that might increase habitats for striped bass and blue-back herring. Assessment of pool level management alternatives. And track any impacts that could occur to the tailwater. In other words, we were looking primarily in the Lake dealing with issues there, but they come up with things to improve striped bass habitat and we wanted to make sure we didn't impact tailwater usage, primarily just fisheries --- from a water quality standpoint for tailwater fishery.

Okay, we decided to use the CE-QUAL W-2 Model to address water quality relicensing issues. This model is very robust model; it's been around since the '70s. Version 3 came out in the early 2000s, like 2001 or '02. And so it has been improved over the years, and we continue to make improvements to it. And it has been applied to something like 400 hydro power reservoirs and 300 or 400 lakes, as opposed to hydro power reservoirs, and to rivers and so forth. So, it has been used a lot; it is supported by a lot of developments, and literature; and the manual, you know, is about 3 or 4 inches thick; and it's been used by quite a few people and agencies. So, it is a very robust model, especially for hydro power projects. And the significance there is the hydro power projects compared to most reservoirs or lakes is a high flow through the systems. And W2 is very good at handling the water flows, and the water currents, and things like that, and the water velocity through the system. So, these are things we did in developing the model: analyze water qualities, meteorological data flow, operations data, and so forth. We did that before we even got into the modeling. It is important to understand the system you are working with before you throw a bunch of numbers in there and using the model, so to speak. We calibrated the model for the years at first at '96, '92 and '97. And also set up the model for the years when major striped bass fish kills occurred, and selected years where they did not occur.

And so, we wanted to do that mainly to try to see if we could analyze what might have caused fish kills, and also why is it some years we don't have fish kills? So, we wanted to do that. Used the model to develop temperature and DO criteria for tolerable striped bass habitats. What we mean by that is tolerable striped bass habitat for striped bass, a lot of people use the term preferred habitat and tolerable. And so most reservoirs in the southeast, or many of them, really at the tough time of year you are down to getting by with tolerable habitat. So, we mainly focused on the so-called tolerable habitat. As you can imagine, when you have fish kills you can see that you are already starting the tolerable area, so to speak. We will talk more about that as we get into it.

So we ran the models to identify the causes that apparently contributed to the fish kills and we identified those causes, both using the data by itself as well as the model. Then we used the model to explore ways to minimize these fish kills in the future. And used it to evaluate proposed pool operations and develop unit operations protocol to improve water quality. So, a lot of what we are going to be talking about follows this outline.

I am going to give you a brief overview of what the W2 Model does so you will have a little understanding about what's involved with it, and I am not going to get into equations or anything. But, just start right here, this is a typical reservoir with the dam here and the inflow upstream. And what we do is we develop a grid system for the reservoir. What we are going to do is route the water that comes in here all the way through this lake. And it is going to go to different layers, and move downstream, or even get blown back upstream. So, it tracks all the water movements in the reservoir. So, we divide this up into three intense grids. For example, we used one meter layers, and so that is roughly 3 feet, and you have 175 feet. You can see you are talking about 50 or so layers in the model. That allows you to be much more accurate with things like temperature and thermal stratification in the model. And then also longitudinally down the reservoir it's about 1 kilometer between each cell here. So, it's probably a large number of cells. And then that is significant because what happens is the model sort of operates on these cells. So, you see these represent equations, and things going in and out of the cell. So, each cell has water coming in and out of it vertically, up and down, and frontwards and backwards, so to speak. So it can handle the water moving any which way, vertically or horizontally in two dimensional frames. And as we get into some of the other considerations, a big part of modeling is identifying, or defining, the physical characteristics of the lake. That is very important to the water routing through the lake and how it moves through the lake, these water currents. And so, the model takes into account all these kinds of physical processes: evaporation, solar radiation, heating, cooling, of course the inflow, the density of that water. If it is cold water, colder than the water in the lake, it would duck down under like this or go to an inner flow. It handles light penetration; that has a lot to do with the heating of the water as well as the exposure to algae, which we will get into next. Gas exchange across the water atmosphere interface, oxygen, carbon dioxide, and of course, the output. Wind shear is very important. Vast currents in the lake, especially with the long resident time like Lake Murray, wind is a big factor. It handles settling. So, all of those things are being addressed in the model. And these are biochemical processes. And so this is where things like dissolved oxygen is calculated within the model. And inflow water quality, things like nutrients, phosphorous, nitrogen, dissolved oxygen in the inflow, and all kinds of things like that. One thing that happens in these reservoirs and lakes is if you put phosphorous, nitrogen, and carbon in the inflow, and if you have some sunlight, the algae is going to grow. Might be a little bit of algae, or might be a whole lot. But algae is going to grow to some extent in any lake. The model is going to calculate and determine how much algae grows in every one of those cells we just looked at. And it is going to calculate the growth rate of the algae and how much oxygen is produced, how much is used by the algae in respiration, how much the algae start dying. So some of the bacteria started to decaying that algae, so it is calculating that for us. And

then the settling of the algae at the same time. So, it's determining all those things with respect to algae.

Here is some of the constituency: nitrate, and phosphate, ammonia, all those things are being used up. And it produces oxygen; oxygen comes from the interface with the atmosphere. And then down here in the bottom of the lake we have more oxygen consumed than is produced. So, that's why in the bottom of the lake you often see low dissolved oxygen levels. Anaerobic releases, or aerology products, those come out of the sediment. Things like ammonia come out of the sediment, sulphides, things like that. And then we've got out flow water quality. This is what we call an explosion diagram. And I just use this one for oxygen. All the other water quality constituents have a similar kind of so-called explosion diagram. And each one of those cells I was showing you awhile ago longitudinally down the lake, and vertically, every one of those cells in interacting with all the cells around it, the oxygen level is being calculated. And all these things around the oxygen that is in these boxes, those are all being calculated. Aeration, respiration, photosynthesis by the algae, and so forth.

And then, where you see all these linkages, you see the "T" around there, that's the temperature. So temperature is affecting the rates of all these things. So, there's a lot of calculations, very intense. And then those are being done roughly every minute or so in the model. Say you run it for a whole year or so, you are talking about a lot of calculations, and really big files for output files, gigabyte type files.

Okay, now using the model we determined a number of things, and what I am going to show you here are the findings first before we get into the analysis and everything. I think it helps, it will help you to understand where we were going, what we found after a lot of work rather than reinventing that as it unfolded. So here is our findings, and we are going to go through some of the findings, and we will come back to this, and I will show you a little bit about how we got there. Number one, the nutrient loads are the primary cause for impacts to striped bass habitat, blue-back herring entrainment, and low DO, and the turbine releases. And we will show you more about that in a minute, explain how that happens.

One of the things we ended up deciding to not focus on where the nutrient loads because SCE&G in the relicensing process has no control over the phosphorous coming into the lake.

At the same time it is such a significant factor we didn't want to overlook it and try to work on all the other factors without keeping this in mind, and keep it in perspective. So, going beyond that we decided as a group to focus on the things that SCE&G can control; pool levels, water flows, things like that. So, one of the things, high flow especially during March through June is the primary cause for fish kills, considering the current nutrient loads; considering how we can't lower those, the high flows are a big factor. High flows introduce greater masses of nutrients and organic matter to the lake, and cause the bottom of the lake to warm up. I am going to show you some data showing that and reducing the habitat and increasing the DO depletion

rate. And so, you will see the linkage there between high flows and a lot of the things that we see as so-called (inaudible).

Another big factor is meteorological conditions. I am not going to show you a slide of that, but to give you an example, 1992 happened to be a fairly high flow year and we wondered why there weren't any fish kills; and it happened to be a very favorable meteorological condition, so, it can be a factor. Here is what we came up with for our tolerable striper habitat. So, what do we mean by tolerable habitat? Temperature is the important part of criteria and DO, dissolved oxygen. And so, if the temperature is less than 27 degrees centigrade and greater than 2.5 dissolved oxygen, the stripers will do just fine. It is tolerable, not the preferred habitat but it is tolerable. And when I say we used the model to help develop these criteria, these are not too much different than what you find in the literature. There is a lot of literature on this criteria and you will see figures like anywhere from 25 to 29, and DO anywhere from --- I don't remember the range, you know, 2s and things like that up to 4 or 5. This was consistent with some of the studies done in this region. I think some of them were even done on Lake Murray. And this also is what we came up with that was consistent between when habitat disappeared and fish kill occurred. So, that linkage right there drove us to assessing or adopting new criteria .

Okay, higher summer pool levels and preferential use of Unit 5 helps preserve cooler water in the bottom of the lake, and mainly in the reservoir; and was predicted to improve DO, increase striper habitat, and enhance temperature of the tailwater. So, that is sort of where we ended up. Then I'll show you sort of how we got there.

This is a plot of flow frequency in the Saluda River below Lake Murray. And flow frequency is like here is --- these are the flow levels, these are daily average flow levels. And this is percentage of exceedence. So for example, 20% of the time this flow was exceeded --- whatever year that is, is it red?

I can't pick up the colors here. It's a high flow year. And so about 20% of the time this flow was exceeded roughly 10,000 cfs. And the bottom plot is the same date, it's just what we did. We were trying to look at data before even getting in the model and see if we could see patterns, about when fish kills happened and when they didn't happen. And so, we just did something simple like for when the red lines occur, those are for years when fish kills occurred; and the blue for when fish kills did not occur. We did this for a lot of data, and I'm just showing you this one because it was so striking that this was sorta' like so evident that the flows were a key factor. And a lot of the others, the red and the blue just sorta' overlaid each other and you couldn't really see anything final. But this is so dramatic that we couldn't help but pick up this pattern.

So, flows, this happened to be March through June. And we looked at a range of all kinds of flow, the annual flow, six months of flow in the summers, and so forth. But this particular period seemed to be the most striking. To go along with that flow, and somewhat connected with it, is the water quality in the lake.

And I am showing you profiles here from what we call the forebay. That would be pretty much right out in front of the Dam, in front of the hydro power unit. It's where the depth of the lake is, it's near peak in the maximum depth. And so what I am going to show you here is just some of the --- we just got through looking at the flows, and showed like high flows, we had a lot of fish kills, and what caused that. A key part of it was dissolved oxygen temperature; and that's what we are going to show here.

These are temperature profiles. In August you have pretty warm water at the surface; and then at the bottom you can see pretty cold water for South Carolina. Nice and cold would be about 60 degrees roughly. But you can already see a pattern here in August, the red happens to be warm, that's when we had fish kills, and you can see some warmer water. And then cooler water when we didn't have fish kills. And here is dissolved oxygen to go along with that. This is for August again. And here we are looking at the red, this is where we had fish kills; and see the dissolved oxygen is typically quite a bit lower than in the other years when we didn't have fish kills. So you can sort of see what's going to happen here. I am going to go to September for the dissolved oxygen, and you will see what really happens more dramatically. These are sort of like monthly snapshots, so you don't get a nice smooth transition between August and September. But it is pretty evident the dissolved oxygen goes out in those years where we have fish kills. A lot of that, of course, is the water qualities get complicated and there is a lot of factors that drive it, but one of the biggest factors is flow through to the bottom of the lake. And so as more flow passes through the bottom of the lake, you are releasing a lot of cool water out of the bottom of the lake, and so it is being replaced with warmer water. And then the dissolved oxygen sort of goes along with that.

Okay, I am going to show you a series of profiles, as a class of dissolved oxygen temperature. This is temperature at the top 2002, and temperature for 2005. And we are going to start with July and then I am going to take it to August and September, and you will see the pattern. What's going to happen is you are going to see changes particularly in DO. And so here you can already see in high flow years like 2005, you have got a very small area of DO here greater than 2. The yellow would be the area greater than 2. And of course in 2002, which is low flow year, you had quite a bit of nice DO habitat. And so here is July, it is going to go summer, you can see August a month later. Quite dramatic changes in dissolved oxygen. Still have habitat here, but that's one right there. And then September, it sorta' keeps filing through except for DO; also starts going out here, but we have still got roughly 2 milligrams per liter and greater DO here. So, the habitat is the same through the whole year, and even a tough time of year.

Okay, one of the things when you use a work quality model, and really any model, but work quality model particularly since there are so many variables and so many equations involved in all the calculations for like chemistry, DO, and then a lot of the other water quality constituents. The more days you have got,

the better the model is going to be; and so that allows you to adjust the model because you can have a large range of adjustments on different factors. And so the more days you have got, the better you are going to have a model that is representative of the lake. Well, we started with failure for the three years '92, '96, and '98, calibrated the model pretty entirely to that. And then we also went to those years that had fish kills and some that didn't have fish kills, so we added some other years and that would be '91, '98, 2000, 2001, 2005. So, altogether we got about eight or nine years of model calibrations. So, the model ended up being very robust, I would say, because using a lot of the same information like water quality data that have been collected by DHEC and SCE&G, we were able to have very good calibrations. And that is what we call robust. You know, we see it get predictable, repeatable results. And then you have got data to check it out with specifically. So, I am going to show you a few examples because I think --- I forget the length of this report, I think it's like 200 pages of calibration reports. So it goes into a lot of detail, and it shows a lot of the calibration. We actually even did some more in the applications report. So, here is how well the model does on predicting temperature, for example. The dots are the greater, and then where you see the lines, those are the model predictions. And occasionally you will see like two or three lines like red, blue and black. Black is the day of the profile that's taken. And like blue is the day after. And red is the day before. Or, have I got that turned around? I forget. But we do that just to test what we call transitional kinds of variability. You know, like the net data could be off one day, freezing net data from Columbia, for example. So, it is not unusual to be a bit off at the lake compared to what's going on at the airport, for example. So, you get transient conditions. Here is a good example here, where you see some difference in the model predictions. And usually that is driven net data. But that's why we plot the day before, the day after, and a day, just to see if like for example, these didn't hit it but the red one did. So that just sort of shows you the net data probably accounted for that. But these are pretty tight calibrations. This is something we tracked, the statistics. This is the mean deviation of the data between the model and the data for every plan here. It is calculating the average of all these for this one value right here, and it is .46 degrees centigrade, a half degree centigrade, about one degree fahrenheit. So, that's pretty tight. And the next one is for dissolved oxygen. And here again we have got data versus model. And you can see the statistics, pretty tight, 0.6 milligrams per liter DO. So, we got a pretty good representation.

The other thing we keep our eye on is what we call systematic error. Like systematic error would be something that would be like this, you see where the DO on the model is a little bit lower than the data. And it runs like that June 13th through June 24th, and July. So, this is about like fifteen days. We don't like to see that continue like for the whole summer. You will get little transient things like this, so we keep our eye on the statistics and what we call systematic error. This has been the

releases from the project for temperature. The blue lines are the model output, and the green is data from the USGS gage, 2500 feet downstream from the Dam. And you see variability in the green because typically like this point right here, the model is only predicting what's coming out of Lake Murray, it's not predicting what happens after it leaves it. But the gage downstream, this is a few low flow days. You will see some warming up of the water in that first half mile below the Dam. So that is the kind of variability you see. These are all matching the data pretty well, very accessible.

This is dissolved oxygen again from the USGS data versus the model. And you saw where we were pretty tight with temperature, oxygen. You can see we were pretty tight in the years when the Dos was low. But around in here 98, and going forward it started aerating at the project using turbine aeration. And so what is happening down there is aeration of the water before it leaves the Dam; but we don't have that included in the W2 model.

There is another model we have got called a turbine aeration model that we are using for helping with the aeration design and so forth, but that is not part of this W2 model. But this shows also how much the DO has improved over the last few years. This is what the fish --- might have seen this some years ago. And now the releases are more on this order where it's DO quite high, and doing really good. When we did that fish study in 2003, it pretty much showed DO levels like this were quite acceptable for the fish, and so that was a really good study, too.

Another part of calibration of the model is not just the DO and the temperature, which is what we are interested in, but what is behind these numbers. And so anytime we have data like phosphorous, or algae, or whatever, we want to see how the model is predicting that because that will confirm how well the model is really --- are we getting spurious results or just really a model with high integrity and robustness.

This is chlorophyll a. Chlorophyll a, is something --- chlorophyll is found in all algae. And it is easily analyzed in the lab. If you were to try to go out there and quantify algae, it takes a lot of time, effort and a lot of money, you wouldn't get as much data. That's what it comes down to, you see you can't afford to do it so you are going to end up not having much data. But chlorophyll a, is very easy to measure in the lab, and so you will see mainly chlorophyll a as a surrogate for algae. And so what we are doing in the model, we are trying to see how well we can predict the chlorophyll a. So, we start up here at Black Ridge, and you can see chlorophyll a levels are quite a bit higher up there, 15 to 20 micrograms per liter, and by the time you get down to the Dam typically more like 5 and up to 10. And so you have a lot less algae near the Dam than you do at the inflow.

And then these are the intermediate stations. This is near Rocky Creek, that's near Dreher Island; and then this is Forebay. And you can start to see we are capturing and we are representing the algae levels in the lake pretty well. This is phosphorous, sort of a similar situation. Phosphorous is higher at the inflow, then it starts being used up by the algae, and the

algae are settling out in the lake. And so by the time you get down to the Dam and the Forebay you can see that most of the phosphorous levels are .02, and actually even less than that because these are the minimum detectable amounts when they collected the data. So, again, the model is capturing the phosphorous levels quite well.

All right, this is going to switch now, you will see a number of plots like this as we go forward. And what this does is this graph represents a habitat for striped bass. And like in this graph we have got the volume of habitat versus the time of year. The volumes for habitat for striped bass like when we start off here in May, it is pretty much 100% of the habitat is within the tolerable criteria. So, the striped bass is in a temperature less than 27 and DO greater than 2.5. And what we are plotting here is the suitable habitat. So in some years it goes to zero for about a month, and in other years you can see where it drops down to like, for example, 400; it didn't go all the way to zero. So this is what we call a zone volume plot for habitat tolerable, or another term sub-optimal. These are some of the years that we had fish kill. And these are the kind of data that were available from some of the working group members. Reed is in the room back there, they provided a lot of this data. Year 1991, '98, 2005, the documented dates. So here we have the dates, and the number of fish that died. And so what we were wanting to do is when we came up with the criteria, in this we are making sure that these criteria didn't exist --- when I say "make sure", we want to accept these criteria so that there was no criteria, no habitat remaining when the fish kills occurred. We didn't force it, this was after considering the water quality going on and so forth. So, it was interactive process to make sure that we were realistic, that's what we started converging on, the solution.

Okay, issues addressed by predicting effects of reduced phosphorous and using the W2 Model. Okay, now stepping back we are going to talk about the phosphorous situation briefly just to not dwell on it, but just to keep in mind that this is a big player, that we ought to be aware of it as we go forward. Phosphorous affects all these issues that are listed under these bullets. We found through the modeling that low DO releases from the Saluda Hydro is affected by phosphorous. Restrictions for operating Unit 5 due to entrainments, that was affected by the phosphorous. Eutrophication in the upper regions of Lake Murray. That was affected by phosphorous. The term eutrophication here was primarily thinking and applying it to in terms like excessive algae growth, large masses of algae, algae with so much that it causes dissolved oxygen levels to drop. Even at times like at the surface of the lake, there is two monitors up there that USGS has at Black Ridge and the other 391 Bridge that goes over Little Saluda River. And I forget which year, 2001 or 2002, that the dissolved oxygen level at both monitors was down to less than 2 milligrams per liter. And so, that was due to eutrophication - excessive phosphorous, growing algae, maybe a few cloudy days, or even the algae gets so thick that they shade each other, and below their immediate surface you get shading, and so the algae doesn't have light so it could grow. So, oxygen is consumed in those

places. So that's the kind of thing that can happen even in the inflow region. DO less than the State standard in the inflow regions of the lake. Reduced striped bass habitat in the lake due to low DO in the regions where the temperature preferences occur.

In other words, temperature might be fine but if you don't meet the DO criteria, you don't have the habitat you need. We also found at low Ph in the releases in the Saluda and the Lower Saluda River, low pH was caused by the phosphorous. And that's because the phosphorous produced algae, and the algae die, and that produces carbon dioxide. And carbon dioxide is carbonic acid, and when you don't have much (inaudible) in the water it can actually drop the pH, and that's what was going on.

So, this is the zone volume habitat, for the habitat, and just to show you the effect of phosphorous in those curves we were looking at. This is for '98, and this is for 2005.

This is what actually happens. This is mild but it's tightly calibrated, so it pretty much represents what was going on in the lake. And you can see it went to zero here for about a month, same thing here. By reducing the phosphorous, it dramatically improves the habitat a lot. So the phosphorous is highly significant.

Okay, back to the issues, I showed this slide earlier, this is mainly to get before us what we wanted to focus on. And we wanted to look at the causes of striped bass habitat, reported previous years, the effects of Unit 5 operations on striped bass habitat and blue-back herring habitat, and entrainment of blue-back herring. Determination of operational changes that might increase striped bass habitat and blue-back herring issues. Assessment of pool level management alternatives.

And we also want to make sure we track any impacts that occur to the tailwater cold-water --- a lot of waters there, cold-water and the tailwater, fishery due to potential operational changes. So we wanted to keep in mind we got a cold-water fishery downstream, and we wanted to maintain that if not improve it.

Okay, I am going to show you some more graphs here. This is a close up of one of the years, and you'll see it for other years, this happens to be 1998. And what we were looking at here was the effects of maintaining a summer pool at a higher elevation. For example, here we were using roughly 358, we were starting with 358, and by September we had a little drop there but it was like 357 up to 358. It's quite a bit higher than it was under the current conditions, that's what happened in the actual conditions in '98. So, we wanted to look at the effects of keeping that pool level up. And we also wanted to look at the effects of Unit 5 being used first as opposed to last, which has been used for a number of years. And you can see the kind of improvement we got. As we went from the current condition to a Unit 5 on first, you can see about 60% improvement, or reduction in the number of days that we were at zero. And by holding the pool level up in Unit 5 on first, we got us down to maybe 25% of the original time that the habitat was zero. So that's the kind of improvements we got. If you remember, the phosphorous reduction thing was down here, it was dropping only like 600 or -- - I forget the exact number, but it was dropping more like this

instead of just with these marginal kinds of improvements. But the thing being right now we can't control the phosphorous, so the thinking was whatever we can do to help things would help a lot. And some of the thinking for that is like shown right here, if we get this down to like a week instead of a month, a lot of literature and actual experience shows that fish can probably get by for a week with these kinds of conditions. It's just a longer term exposure, you know, like three or four weeks, or something like that. And where you draw the line is tough. But as part of the understanding of reality, they can get by for some brief period of time. And there may be other things that go on, too. There's a lot of other factors we can't include in this model that might cause fish kill. I am not a fishery person, but you know, you have got diseases and things like that, other stressors.

Okay, I have got some animations that show the model going through the year and how these things change under different conditions, and at the end of the program if we have got time I will show those. They will help you understand things a lot better. We enjoy watching them. Here is the zone volume plot for six years. This is '91, '92, '96, '98, 2000, and 2005. So this sort of shows you the results, if you see the green, this is sort of where we are ending up. This is elevation 350 in the wintertime, that's the minimum elevation, 350. Unit 5 is on first, and we're holding the pool level up. And so that is what the green represents. And you can see the improvement to habitat in some of these years. Like '98 we looked at awhile ago, you can sort of see that repeated here, similar to what we looked at awhile ago. So, in '96 we saw some improvement, it got down to zero for a brief period of time. And then see that moves up to like 200. Some improvement here. Some years like '91 and 2005 it didn't hardly touch it. So there again, we were doing what we can within the model and what SCE&G could possibly do entrainment pool levels and going to Unit 5 first. Those kinds of things. Okay, one other thing that we were concerned about, we were saying we need to track temperature in the tailwater, mainly temperature because of the cold water fishery. And we wanted in the releases to do the striped bass types moving in the direction of improving the striped bass habitat, and we wanted to see what's going on in the tailwater. And there were some things going on there, and we had to make some other adjustments to handle that. So, we tried to handle both the striped bass habitat and the cold water fishery. I think we came up with a pretty good solution to it. But one of the things that we had to keep in mind was the fishery, not all the fish stay right in the tailwater, they live about ten miles downstream, or you know, that whole reach of river. And as the water leaves Saluda, it is going to warm up, particularly at low flows like less than 1000 cfs May through September, the average temperature increase is about 3 degrees, two. Roughly you can double that to maybe 6 degrees fahrenheit. And the mean temperature increase plus two times the standard deviation is 6.4. And so you can see under infrequent conditions. But like 5% of the time in the summer it might increase about 6 degrees centigrade between the Dam and where the gage is downstream near the police camp, or close to the Zoo there is a USGS gage down

there. That's mainly what we were doing as far as looking at the increase in temperature. So, we were trying to factor this in at the temperature increase. As flows go up, the temperature increase is not as much. You know, a third of what it was with minimum flow. And this is more like a half, and that is more like a third. And in October the temperature increases are not as significant. So we factored that in as we went through the analysis. And here I am showing the release temperatures for these same years. And what we got is like here is starting April 1, plot 2, that's heating up over the summer. The black is the current condition. Current conditions, red is holding pool level up. 350 scenario, but that was 350 in the winter time when we were holding the pool level up to around 358 during the summer. And then we had Unit 5 on first, that's going to be the blue. And then the green is what we ended up recommending. When I say recommending, that's in the report right now and that is being reviewed. So, we get comments back in about a month. But where the green is, that's sort of what we recommended. And you can see like when you come out of Unit 5 first, the water is a little bit warmer. And back in April or May that's okay with the tailwater. In fact, it's even more favorable because it's a little bit warmer. Really, cold water fish actually grow a little bit better when it's warmer; it's like warmer than 8, or 9, or 10 degrees, for example. They would much rather try to have like 12, 13, or 14. So out here it is actually helping the fish growth rate by having a little bit warmer water. As summer progressed, June 15th is when we finally decided after looking at a range of dates, and trying to use triggers, and all that kind of stuff, we came up with the proposed --- is changed to the lower unit June the 15th. And so you can see the temperatures drop in here. And most years, some years it's about the same or close to the same; so, it's not much change. In all the other years you get quite a drop in temperature, particularly here in 2000 it was getting up there warming up, and got warmer, but we dropped it down there. It seems like a pretty good robust way to operate for the tailwater.

In fact, some of this, like in here you can see originally it got up here fairly warm like 18 degrees and stuff like that. That was under current operation, and see it's down around 14 degrees. So, it's quite an improvement.

Okay, conclusions for in-lake water quality and fish habitat. Again, the nutrient load, or the most dominant factor affecting the habitat: high flows, especially March to June is primary cause, but we can't control the flow to avoid fish kills. In other words, the flows once we get up to like a full pool or near full pool, you're on 358, whatever is coming in you have to pass through. And so you can't really control it, but it is important to know that that is a big factor that you are dealing with. Model results indicate that the habitat criteria should be about this. Model results show that the preferential use of Unit 5 preserves cooler bottom water, resulting in improved DO and increased habitat in some years. Maintaining summer pool at 358 either increases or has no effect on striper habitat. Combination of these two further increases striper habitat. So, the two together are better than any one of them by itself. And then we just showed that we came up with an

operational policy, proposed policy so to speak, that would maintain the cool water in the releases.

Okay, these are the recommendations for Saluda unit operations for the fisheries related to the previous slides. The following protocol for operations was developed: for minimum flows use Units 1, 3, or 4, those are the original units. They draw right off the bottom of the lake. June the 15th through December 1. And then use Unit 5 for December 1 to June 15th. That's for minimum flows. For generation flows, that would be flows for anything greater than minimum flow. Use Unit 5 preferentially 11 months out of the year, November 1 until October 1 the following year. Use Units 1 through 4 preferentially in October. And so that's how the units would be operated preferentially at Saluda.

Okay, we are going to switch to another issue here that sort of unfolded as we progressed. And there has been consideration for raising the winter minimum pool. And I am sure there's a lot of other considerations regarding pool level. But that was one that when we heard about that, there was some concern about it, how that might affect water quality. And so we started taking a look at that, and I am going to show you sort of where we are right now, still sort of gathering. We have got a lot of information, got a lot of to share with you but it's still just mainly information to factor in the overall decision making process for pool level management. So, what I am going to show you is results of some sediment sampling that was just done in this last November by SCE&G and KA. And areas of the lake that are inundated by increasing the pool level from 350 to 354, I am going to show you the areas that would be involved in that. We are going to talk a little bit about aquatic macrophytes, and talk about Little Saluda River embayment. And then also another thing we sort of came across is the likelihood to fill the pool each year even if it drops down to 350 instead of 354. Okay, this is quite a bit of work that was done over a period of a couple of weeks in November. And somewhere in there was turkey day. I am thinking the first sampling was right before Thanksgiving, or the week of Thanksgiving, I guess, and so forth. But that was the timeframe of it. What I am showing here is, these are all the sampling stations. And Station 1 happened to be in the Little Saluda River, and this is the inflow site. What we wanted to do is compare inflow sites to what sediments might be down in the lake after it got past the inflow site. In the inflow site, we started to find water where we could sort of get to by boat, and it's typically, you know, like a foot and a half, like a half a meter, something less than a whole meter. So, one and a half to two or three feet water depth for these. And so we got the inflow stations; like Little Saluda River, you will see that this Cloud Creek inflow station. This is the inflow station from the Saluda River on Lake Murray. Camping Creek. And then below each one of these inflow stations, we had additional sampling stations typically one mile downstream from each inflow site. And so as a total here it covered in the Little Saluda River embayment, and Cloud Creek, Bush River inflow, and then the model downstream roughly. And then starting up here at the Saluda, inflow going all the way down to the area of Rocky Creek. This is Rocky Creek

coming in right here. And then we jumped over here to Camping Creek and got the inflow station, and the one mile downstream. So we got a lot of data, a lot more than we can go through tonight, but I was going to sort of show you the highlights of that. What we were interested in doing here was looking at the sediment. And this is a sediment sample, it's called Edmonds (phonetic) Ridge, it is commonly used, it's been around for decades. And it is quite --- you know, a good sampling procedure, well accepted. This thing, you drop it down into the lake so it hits the sediment, and you send a messenger down. There is a messenger that slides down this rope and then it triggers these things so that these things here close. And then that traps the sediment underneath it, and then you pull up the whole device. And I will show you some samples that come out of that. This is up at Little Saluda River at Cloud Creek. This is where Cloud Creek comes into Little Saluda River, and the embayment at Station 3. And this is the term "ooze". This is ooze on top of the cohesive sediment. What we mean by that is you can see how --- another way to describe that is sort of hydrate (phonetic) it doesn't have too much form and there is no cohesion to this ooze. There's a little bit of cohesion because you don't see it up in the water column unless there is disturbance. But it doesn't have any form to it, and very high moisture content, or liquid content. And right below it you will see there is some shape here, and that's probably sediment that's below that ooze layer, so to speak. What we did was, we were interested in analyzing this ooze, because the ooze is what is really the main interface between the water and the sediment, that ooze layer. And so there is a lot going on between the sediments and the water, and it's all mainly between this ooze layer in the water column. I say mainly because even the deeper sediments can have some things that affect the water column, but they are a bit more remote. Here's a sample at the Cloud Creek inflow. This is at Station 11, which is 2 miles below --- well, Station 7 was the inflow on the Saluda River into Lake Murray. So, it's two miles further downstream. This is below Bush River, this is a sample that was taken. Again you see this ooze material. Everywhere we collected samples we measured the thickness of the ooze. Okay, this is that same sample I just showed you except they sampled it, they scooped off the ooze on top of it, and you can see this sort of blackish material. It's blackish, gray, bluish color. It's very indicative of what we call anoxic (phonetic) sediment, there is no oxygen in those sediments; and a lot of other processes are going on there where what we call anoxic products are produced, sulphides. Sulphide odors were detected in most all of these samples, so that is what they were smelling. This sulphide, started coming out of the sediment. Here are some ooze that was being measured, it's about an inch deep. It's two inches, and there's about one inch, and so they were measuring the depth, the thickness of the ooze. That was Station 15. That is six miles downstream from the inflow site on the Saluda River. Okay, here is Camping Creek, and you don't see any ooze to speak of here. It looks different but the same thing happened at the Saluda inflow site, Station 7. There wasn't any ooze up there. So, there were two sites that had no ooze, and

the rest of them the inflow sites had ooze associated with the sediment samples. This happens to be --- most of the locations they went to they took pictures of the surrounding areas, and this one is sort of interest to us for another reason. But this is the Camping Creek inflow, and what got my attention was the aquatic plants that are growing right here in the sediment accumulation here from years of inflow. One reason we were interested --- and the pool level when they did the study was at 352. And one of our concerns that we are going to get into is by holding the pool level up, we're concerned about accumulation of sediment building up. But then at 350 as it has been roughly half the time, and half the years it goes down to about 350, you don't have as much sediment being deposited because it's sort of washed on down deeper into the lake. But one thing that is really significant here is, this sediment build up has been there a long time, I suspect, unless it might have been one big event. These things can happen by events; you know, a road construction or something like that can wash in a lot of sediment. And once it is there and it starts getting cohesive materials and sticking together, no matter what you do with the pool level, more than likely it's not going to wash all that sediment down deeper once it's formed and taken root, and stuff like that. So, you see, the river is sort of --- there's a creek coming around here into a little rivulet, so to speak, and that's pretty common no matter where you go to any inflow to a reservoir when you have a sediment build up like that. Unless you have got a really high flow, a really big river that floods and can really wash out sediment before it starts getting real cohesive and establishing to where it is difficult to separate and erode away. This is what you will find.

Okay, I am not going to take you through all of these numbers, this will be available and you can look at them at your leisure. But this is the result of all the samples, got the sample I.D., and the station number, and location, the date, the depth of the water, where it was collected, the thickness layer, and it has got all these results that were --- we took these samples and sent them to a lab, and had them analyzed; and had them analyzed for things like the solid content of the selected sample, got a lot of water in it. The first thing you want to do is to see about how much of that was solid material. The other thing we wanted to know is how much of that was what we call volatile. And what volatile is, is it is more or less representative of organic matter. And how is that determined? Well, the solid content is determined by taking a sample in, going in a lab, taking a small portion of it, and raising temperature to a little over 100 degrees, like 105 degrees. And start getting rid of the water by evaporation, and then you measure the sample and that tells you how much solid contents there is. Then you raise it to like 550 degrees. So you are really burning off the organic matter, and then you can determine the volatile component. That is why it is called the volatile components. And that is closely representative of the organic matter. Total organic carbon, total nitrogen and phosphorous. These three are really big components of everything that is living, so to speak. Algae, particularly, we use that a lot. The what we call stoichiometry,

it's the ratio of the carbon to the nitrogen to the phosphorous. And it is usually pretty consistent no matter where you go, the ratio of all those. And the same things apply to us, cows, or anything that is living, grasses, leaves, whatever. But you have this ratio of carbon and nitrogen and phosphorous, and so that is why we wanted to look at these to see what level they were to the amount of organic matter is there, is significant. That affects water quality, and the more organic matter the more problems you have with water quality. But the other thing is by collecting these three constituents, we can see if this organic matter is like --- is it what we call refractory? In other words, it's not really doing anything, it's stabilized, it's not really causing any problem. Or, is it what we call labile? And labile material is sort of like live. It is still thriving, it's still being decomposed, it is still releasing phosphorous and things like that, and nitrogen. So that is why we did all of those. Down here at the green, I said I was going to focus on the green, and I went through all that other stuff. Percent increase between inflow sites and the in-lake sites. Our main reason for doing this was to see how much things change as you went from an inflow site down into the lake. Because if you raise the winter pool level, you are sort of moving the inflow site further upstream. And so, what you measure downstream like a mile, might move up a mile, that kind of thing. And so we wanted to see how much more area might be covered by this sediment that's got more organic matter in it. And so, one thing that we found was the increase between the inflow sites and in-lake sites. Volatile solids, 51%. Carbon, 77%. Organic nitrogen, oxygen, 46% increase. Phosphorous, 100% increase. And ammonia, close to 100% increase. So you can see there is quite a sizable increase in the difference between the inflow sites and even the model downstream. And so that means that if you raise the winter pool level where the water can't scour out the organic matter and move it downstream, it is going to happen further up in the embayment, and expose more water in the embayment to the organic matter that we are seeing in these samples.

Okay, what is the take away from this? There were two inflow stations that had zero ooze. When we were at Camping Creek, I showed you that one, and the other one is at Saluda River. And those were observed on the shoreline, sediment. That's important just to establish that other than getting down deeper in the lake, or where we were, and even at the inflow stations, you don't really have much, you don't see it in the flowing streams typically. You can if it is really pooled up or something like that, but typically in a flowing stream like the Saluda River, you don't see the ooze. So that is an important point. So the ooze mainly is a lake phenomena. The first location downstream from the inflow points increase, we just got through showing that. And this would be more accumulation of organic matter near the surface unless the lake pool levels drop in the wintertime, and allows the organic matter to redeposit deeper in the lake. That's what we prefer to see from a water quality standpoint.

Okay, and these are interesting, but I am not going to go through all of it. This is all a stoichiometry, the ratio like carbon and nitrogen to phosphorous. That is found in algae, freshwater, sea water, what have you. And what we did, we determined all those ratios. And like I was saying awhile ago, that's all labile material, that is all very active.

Let's go to the next slide here. This will be the presentation to see all this stuff, it covers a lot of information but it is very foundational. And it is really relatively easy to understand. But one thing I want to show this to you is just to sort of illustrate the significance of this water. Here is the water layer in this graph, and here is the sediment layers. And this interface is sort of the ooze. And this is a plot of bacteria. And this is a shot of bacteria in the water column, you can see it's roughly one right in here. This is number one, see how the water column (inaudible - moved away from microphone) --- bacteria is numbered. You see, the bacteria numbers, you know, increasing by 1000 roughly. And what that is doing is, that's just showing the more the bacteria, the more activity is going on in terms of processes and rates that affects water quality in the water above the sediment. The sediment water interface usually is the only area --- is usually the area of highest rates for biochemical processes. Biochemical is processes driven biologically, and then it is actually changing the chemistry of the water. And so at that interface that is usually where the highest rate is. Shallow water areas are impacted more than deep water areas due to less volume. If this layer of water above the sediment is shallow, then whatever is leaving the sediment right here, it's concentrated in a small amount of water. If you go down to the forebay of Lake Murray and it is 175 feet deep, whatever goes down here in these sediments, it's going to get diluted a lot by the time it mixes with the whole lake, if it was to mix with the whole water column. So, up in the embayments where water is shallow, the effects of these sediments become a lot more significant than they would be down in deeper water. Organic matter created by algae growth and aquatic leaves settles to the sediment where it decomposes and releases phosphorous and nitrogen back into the water column. So that is part of those biochemical processes. The organic matter is being decomposed, the phosphorous that's in it, and the nitrogen that's in it, it's being released and going back up in the water column. The ooze layer in the upper part of Lake Murray is labile. That's what we were showing awhile ago, it is very active. So, biochemical process rates are high. What I mean by that, they are real high, refractory material the rates are about 1000 as much. And so I mean it's dramatic between labile material and what we call refractured. Refractory matter is sort of like the black water you might see in some creeks around here, and moreso maybe down in Florida. It's an acid, comes out of soils and forest litter that has been there for decades, or at least several years. And that material doesn't decay. And that's why the black water persists all the way to the Gulf coast, or to the Atlantic Ocean. So that is refractory matter. It takes years for that to break down. Labile matter usually breaks down in days, and weeks, those kind

of things, or maybe a month at the most. So that is the difference in the rates. Commonly used water quality models do not account for shoreline eco-systems like this. I want to point that out because we have the W2 Model we were talking about; it's sort of like the whole lakes, and so forth. Well, it's a two dimensional model and it is mainly going down the middle of the lake, and it's representing all the water quality in the lake laterally. But it is not picking up on these small processes that happen up on the shoreline. So none of the water quality models really address that specifically, especially for a whole lake. You can have a model that might be for a portion of your embayment, or something like that, but not for a whole lake. Bacterial activity is proportionate to organic matter concentration. All of these are fairly straight forward, and understandable really, it makes a lot of sense. Organic matter levels are proportionate to the amount of algae and plant growth in the areas of the lake, especially the littoral zone. Littoral is like it is going out, instead of the deep water. Numbers of bacteria are lower in organic poor, lake swept areas of the lake. Rates of nutrient cycling from sediments to overlying water is proportionate the organic matter and the number of bacteria. So, it sort of paints a story here, and it makes a lot of sense, and so forth.

We're moving on to the next topic here, and this has to do with how much area are we talking about, between elevation 354 and elevation 350? How much sediments would be exposed? So, USGS back somewhere in the late '90s, I think, maybe early 2000, got a lot of data on a (inaudible), hydrographic equipment. I think it took them a couple of years to get all the data, it's very intense, a really huge amount of data. And we have been using that, this is sort of a software called Surfers, commonly used. And there is other softwares to work up that kind of data. Pretty much what it does is you don't see the contour lines in here but you can sort of see what we call the foul lags (phonetic), that's the bottom of the --- that's the original river channel, and sorts this --- captions all the depths, and so forth.

We have got maps like this with the contour lines shown on it; but not in this one because we mainly wanted to focus on the area of the lake that's between 350 and 354. So all these red lines, the red areas, that's the area of the lake that's involved between 350 and 354. And as you go up lake, you see more red than you see down here at the dam. That only makes sense. If you are right here and you are going 175 feet down that way, you can imagine the slopes here in all these embayments, and so forth, shorelines pretty steep. When you go up here and you are traveling this much distance all the way to the dam, it is going to be a lot --- you know, a gentler slope. So you are going to see more red areas in here. I am going to show you, this is more of a zoomed in on the lower core, this is Rocky Creek area. And so you can get a better idea about where these red areas occur.

I am going to show you another slide prepared by the people that work with the aquatic plants and where they occur. And you are going to see a lot of similarities between the red lines, the red areas here, and the green that they show. So it

only makes sense, the depth of water affects aquatic plants, and so forth. But these are the red areas, and you will see them up in the embayments and the coves.

This is Cloud Creek. We are going to go to the next slide, this will show the upper part. This is Cloud Creek again, this is Little Saluda River, this is the Saluda River, this is Bush River. This is an embayment that I am going to show you where some plants occur in this embayment in here in a minute. But you can sort of see where the red zones are, and that is the area involved near the shoreline that you will be able to physically see between two elevations. What is not shown here, we were talking about the ooze awhile ago, and that's down here in the deeper part of the channels, and that is what would be scoured out and moved down further downstream at 350; and if you raise this to 354 it is going to accumulate up in here more.

All right, here is a dominant phenomena that goes on in every embayment, or reservoir, where there is an inflow. In other words, at the lower end of the lake you might have embayments which there's hardly any watershed there; it's just water backed up in the area. When you go upstream often times you find tributaries feeding into these embayments, sort of a main river like the Saluda River coming in. I was using this as an example because it documents the phenomena we wanted to talk about. This is from Douglas Reservoir to TVA project over near Knoxville. And this particular project, the pool levels drop 60 feet every year for the winter pool. That's mainly because it's a flood control project. So, what they are trying to do is capture water runoff events, you know, like in January, February and March. And so they drop the pool level. Well, you can learn a lot from those situations. This happens in other projects, too. But this is the sediment accumulation over the period of 1967 to 1981, and then 1993 another little bit of sediment deposited there. But you will notice that all this, there is no additional accumulation between the years as you go upstream. That is because when you drop the pool level, the water that is flowing in is scouring out all of that, any sediment that is usually erodible, and redepositing it down here where this would be deep pool. This is where the water is flowing down and the sediment is settling in. And so that is just a common phenomena that goes on in any area.

I am going to show you another graph on another project, but consistently this. But this is why winter pool levels can be significant to the sediment in the lake is because of these phenomena here. Scour goes on above the pool level, water is coming in, and it scours out the loose sediment, and deposits it down in the lake. Next slide.

This is Lake Murray, this is the USGS data, it's all shown on there, it's a one big download. And what it captures is all the bottom elevation. That's what we wanted to show here is it appears to us like there is a delta that forms here, like I was just showing you on Douglas awhile ago. It seemed to be right in here, it's probably built a form. Various times when the pool level is at 345, for example back in 2003 and 2004 when they were doing all the work on the dam, and then in 2003 that happened, when the pool level was down they happened to have high flows in

2003 of all years. And so that meant you had low pool levels, and high flow, and then you sort of have had fresh sediment. You know, that's usually erodible, it's sort of loose and high water content. And it is easily scooped up and redeposited. So, we suspect that's probably what might have happened. We sampled roughly here and there, and between those two stations there was about a 20 foot water drop. So, it is pretty dramatic. Up in here we are talking more about like 5 foot per mile. And in here, it was like 20 feet, that kind of thing. So, it looked like that was a delta. We were trying to check on it to see if we could get the original contours to see if we can find out what the river channel used to be, more like that.

This is on another lake, this is some recent work that was done last year. This is Claytor Lake over in Virginia that's on a new river. And they did some sediment analysis over there. And they had the data for 1939, this is an elevation volume curve, storage capacity curve. In 1939 this was the curve; in 2007 this was the curve. There was less volume of capacity after a number of years. Notice these two sediments deposited in the lake. And this plot here is a little hard to see, but I think you will be able to pick it up. What they did is they analyzed this data, and they said, "Well, how much volume changes there at each layer?" And you start off here at the top and then you see the volume layer straight line here, there is no change; and then to the left that's where it had some sediment accumulation. So, you see it coming down here angling off to a point, and then from there on it is starting to decrease down. That happened to be where they drop the lake down to 4 or 5 feet every year. And so you can see above that 4 or 5 feet there is some accumulation of sediment, but you can sort of see it wasn't a peak. The peak is below that point. So most of your sediment accumulation is going to be below so-called winter pool. That's what they show.

And the next slide sort of shows a similar thing. It's different lake product, but you can sort of see the sediment accumulation. These are the zero, this is 6 feet deep, and then that's 16 feet deep. So you can see most of it happens in this first 10, 15, 20 feet of elevation. And then once you get down there it tapers off quite a bit to where you get essentially no sediment accumulation right down to the Dam, 116 feet deep, that kind of thing. So, most of it happens up in here. So that's why the winter pool level, again, drives a lot of that where the sediment might go. Next one.

Okay, we are going to talk about aquatic plants. The aquatic plants, they are affected by depth of water, they are affected by clarity of the water. They are preferred by some fishermen, and disliked by other lake users. Surface area exposed by dropping minimum pool to 350 instead of 354. We already talked about that. And exposure of plants to dry and freezing conditions causes plants to be reduced. And so that becomes a significant factor in considering the winter pool elevation. This is that plot that was similar to ours, but it had blue and red; this one is for the water primrose, 2005. This is a document that is in the application. And the green is very consistent. You can see around here this is where the water primrose occurs, and you can see it's

pretty consistent where the red area is we were showing in our graph. Next one.

This is a really good shot here, it's really interesting. This is the primrose, and this actually follows the elevation 346, 345 elevation of the pool. And the primrose got established back in 2003, 2004, when the pool level was down primrose grew. They raised the pool level back up, you know, to more normal levels, 354 to 358, and 352, and stuff like that. There was no freeze available to zap these aquatic plants like could happen if the pool level was dropped down to 345. I don't think anybody wants to drop it down to 345 every year to kill these things. Then if it takes every year, I don't know what the frequency would be. But a common practice for reservoirs is to drop the pool level so you can freeze these plants, because it's very extensive and almost impossible to zap them any other way. Hydrilla apparently is controlled by a (inaudible). But (inaudible) doesn't control primrose. Next slide.

It's just another shot. They have tried to kill off some of it, but still I think there were --- the report says 141 miles of this weed growth. This is in the Little Saluda River embayment I was pointing out a little while ago, there was a lot of red, very shallow. This is that embayment just to the left as you come down the Little Saluda River, and you are going into the embayment, right to the left is this embayment. And you can see it's dominated the whole area pretty much.

Okay, considerations for minimum pool elevation for controlling aquatic plants. Considering that the summer pool elevation can drop to less than 358, like it did this year in 2007 it shot up to close to like 357, thereabouts; in April or May, I forget which month it was, but it did get to around roughly say 357. And then, of course, all summer long it dropped to like roughly 352. And it dropped for no reasons. You know, evaporation, something you can't control; low inflows, something else you can't control; minimum flows, we can control but people want minimum flows, so that's another consideration in operating the project. But these are those kinds of things, and there wasn't much generation this last year. So, it's primarily these other factors that were causing it. The elevation dropped to 352. Well, the same thing that happened back in 2003 and 2004, the primrose grew --- there was elevation 345. In a year like this, I don't know if it actually happened, but one thing to consider is aquatic weeds could become established at 352, 351, or whatever. If you only came down to 354 in future years, those weeds would just persist until they either died out over the period of years, or what have you. But by dropping it down to 350, you would expose those. And so that is a consideration that would be more preferred like 350. I would, is my opinion.

Okay, next one. Okay, this is Little Saluda River embayment. And one of the things, this is back to sediment issue, and so forth, and the phosphorous issue. Little Saluda River embayments have a history of high algae levels, some other issues that have been identified by DHEC a number of times as a concern by different rankings they have used over different years. And so it is a sensitive water body, it's a pretty good size water body.

But one of the things that we were concerned about there on the winter pool level thing is something that is called internal nutrient cycling. What we mean by that is, back to the sediment, the sediments release phosphorous and nitrogen, and so forth. And then of course in the water column the algae can grow. What we mean by internal nutrient cycling is, it can control it. If there is a lot of phosphorous and nitrogen coming out of these sediments, whatever you try to do to manage that water body might not be much good. What I mean by that is, there's a lake water treatment plant on the Little Saluda River. There is, I think, a small package plant maybe on Cloud Creek. There is a number of chicken type related operations in the watershed that have been identified and mapped. So, there has been talk about trying to reduce phosphorous coming in the embayment. The big question would be, would it do any good considering the so-called internal nutrient cycling? It's something we usually don't deal with in the southeast that much. You see it a lot up in the northeast, and that's where I hear about it. But down here, we don't usually see it. Little Saluda River embayment is sort of a setup for that because it's a large water body. In the summertime there is not a whole lot of flow coming through it, so it is sort of like a lake. It's more lake-like. And so under those conditions, you can get to a situation to where it's more like controlled by the internal nutrient cycling even to the point where if you reduce the phosphorous coming into it, you may not see any improvement in water quality. So that was what we were concerned about, and that was the question. Unfortunately, our model, we didn't have enough data to calibrate the model up in the Little Saluda embayment. And we thought about that a couple of years ago when we first started all this, and decided, "No, we are not going to go there with the model." But when this issue came up we thought, "Well, we can use the model for a sensitivity run just to see what the expectation might be if we changed the sediment content, if we increased the sediment content to organic matter." So, that was the context of how we used the model for examining this situation.

Well, I am going to show you is some model results. There will be so-called calibration case, in other words that's with nothing changed. And then there is a case with SOD, sediment oxygen demand. Sediment oxygen demand is very much related to that ooze activity. You know, the organic matter in it, volatile solids. Sediment oxygen demand is how much oxygen is used by the bacteria for those so-called biochemical rates we were talking about awhile ago. Because for those rates to go on, oxygen is used by bacteria. And so that is why so-called SOD, sediment oxygen demand, is a factor. And so, like we say, "Well, if it's going to be more organic matter and stuff ---" we looked at a lot of data in the southeast from a data base we got, and said, "Well, it could double. So, let's just double and see what happens." We are not saying that would happen, it's not a prediction. It's sort of like a sensitivity check. And so, we double the SOD. And then the last case, we double the SOD with no phosphorous coming in the inflow. So, we just said, "Well, okay, we cleaned up all the inflows, there's no more phosphorous coming in. Did that improve water quality?" So, that is the question.

And so, the next graph shows where we plotted up the data. This is Station 1. This is Cloud Creek where it come into the Little Saluda River embayment. That's what this is, the Little Saluda River embayment. And this is Cloud Creek. And so we are just in the segment right upstream from that intersection. So this is Station 1. Bottom line, this is chlorophyll level. That's the indicator. Shows you a measure of the algae. And what we're pretty much showing, the red and the green is pretty much the predicted case as to what might happen if organic matter increased in the embayment. And SOD doubled. And it pretty much shows that the chlorophyll levels don't change even when you go to green. Green is the one with no phosphorous input. We went in the watershed, cleaned it all up, no more phosphorous coming into the lake. So, all the phosphorous now is only coming from the sediment, it's the only phosphorous available. And it pretty much showed very minor decrease in chlorophyll. So, this would be a situation where it could very easily be controlled by internal nutrient cycling, and not affected by the inflow. So, the bottom line is it's a conceivable thing to think about for improving Little Saluda River's water quality embayment. The water quality in the embayment is to watch after these sediments. And for example, try to scour them out, keep the SOD from increasing, try to minimize organic matter that's increasing, and stuff like that. So, anything that would be a move in that direction would be a positive sign. And can't really say anything more quantitative than that, it's just like that's the story, that's the take home. It would be better. How much better, you couldn't tell that kind of thing. Okay? All right, likelihood for the pool level. One thing we like to do when we see a problem, we like to solve problems, probably most of us do, you know. And so, we were sort of concerned with this issue where there is some thought about raising the minimum pool level up to 354. And we were thinking like, "Man, it would be a lot better to have it 350." And says, "Well, how important is it to raising the summer pool?" At the time, we have little blinders on and we are thinking, "Well, they want the pool level up to 358 for the summertime." In other words, some people are interested maybe 358 year round, or stuff like that. I don't know. But, our thinking at the time was like winter pool is one thing, summer pool is another. And so, our concern might be like, "Well, if you drop it down to 350 maybe it is not going to fill up in the summer." So that was the thinking going into this. And so, next slide.

This was very interesting there. We looked at, number one, we got all the USGS flow datas. You know, dating back to, I forget, 1927 or 1929. And so we had like 39 years worth of data of flow. Pool level data, that was usually accessible. We had it from roughly about 25 years of that, roughly 1980 or '81. Up to 1980, there you go, and we are going up to like 2005. We have got the data for 2006 and '07. And somehow or another it just got left off. But, we got probably --- here is the summer-spring maximum. You know, how much did it get up to? This we can have some control over. You know, how much we can get it up to like the May, June timeframe? What we found out this last year, we don't have much control once it starts

evaporating, low summer inflows due to drought; minimum flows you might have some control over. I know there are a lot of people thinking about the minimum flows that would be appropriate, and stuff like that. But that's another thing that could affect the summer pool. But this is one thing we sort of thought, "Well, this is sort of a point in time that if you get up to that level, you can do what you want to after that." But the question would be, "Well, how important is it for it to be at 354 to achieve that than 350?" And the bottom line was it is not very important to this objective here of getting the summer pool level up to that level at the May, June timeframe. So, for example, you see a lot of data here around 350. Here is a 345 back in 1991, you can see in that year it still got up to 358. Here is 350, and the November flows were very low. We started looking like, "Well, is there some way we could predict what the spring inflow is going to be?" Because we are thinking like, "Well, it would be nice if we knew how much water we were going to have in the spring." Because if it was quite a bit, you know, why would you worry about dropping it to 350, it's going to fill up very easily. Well, we came up with some correlation between the November daily average flow, and the flow in January through April. The January through April flows are the highest flows for the inflow of Lake Murray, significantly higher than the rest of the months. And so those are really what you are going to focus on for filling up the pool. I mean, if you don't get high flows January through April, you are going to use everything you can get in May if it happens to rain, so to speak. I'm not saying that, but just typically and predominantly it is January through April is when most of the flow comes in. So, we came up with some correlation between November flows and the following flows, you know flows following January through April timeframe. So, there is some correlation there. But you can see even here for these two years, year 2001 and 2002, the November flows were really about some of the lowest that you see. You know, 400 or 500 cfs. And you would expect to have spring flow fairly low. But even with those it got up to 358 one year and about 357.3 or 357.4 there in the other years. So, there doesn't seem to be much relationship between 350, 354, and what you get out here. So, the impact to water quality and other concerns like aquatic plants, and fishery concerns, water --- There is a lot of information coming out now about different thinking from different agencies, and other lake users, about what would they like to have with respect to winter pool level. And so a lot of that is coming out right now. But what this pretty much shows is like if you do drop to 350 instead of 354, from that standpoint it would not be difficult to achieve your summer pool level.

Okay, this is some more --- One of the things we noticed from 1980 through 2005 is that about half the years it was 350 in the winter, 350 plus or minus 2. And half the years it was roughly 354, plus or minus 2. And so, in other words, on an average every two years it got down to 350. So that got us to thinking like, "Well, it would be best from our perspective to keep it at that frequency." You know, on a two year frequency on the average, not every other year all the time; but, you know,

with some predictable conditions on the average we would like to see it about half the time getting down to 350. And we have got something to base that on, that is what it has been for 25 years.

And so, what we see now is what we would get in the future. In fact, if we operate it like we are talking about when we draw it down 350 when we expect higher flows, it would probably be better than it has been in the past. So, that's a good thing. Well, some other thinking was like, "Well, what if we go to a frequency of less than two years?" So, that's what this is, is just to show, "Well, we went to a two and a half year frequency, the November flow would be 1300 cfs." I forgot to tell you, this is the year and this is the November flow; and then this is the January to April flow that corresponds to that November flow. And there is a lot of other data that goes along here, but I just cut out a section so we could see it. And then this is all organized in ascending order here, so the flows are increasing. So, at 1200 cfs, you've got a two year frequency on average; 1300 cfs at two and a half year; 1500 cfs every three years; and then 1600 cfs about 3.6 years. So that give you some idea of the frequencies there related to the November flow.

Okay, concerns for increasing the winter minimum pool level from 350 to 354 every year. That was our main concern originally and still would be, like, "Okay, the minimum pool going forward is going to be 354 all the time, we're never going to drop below that, or rarely." That would be our concern. And so that's the context, concern expressed here. We would expect to see sediment accumulation in the coves, especially the Little Saluda River. That would be just straight sediment we are talking about there. Organic, yes, but also just straight sediment. Aquatic plants increasing around the lake, especially in the Little Saluda River embayment, and especially following years the low summer pool level. That is what we were talking about, like even if you got it up to 358 or 357, and like 2007 kind of conditions occur and it gets down to 352, we'd expect maybe weed growth at these elevations. Less than 354, so they wouldn't get frozen when you only drop it to 354 in the winter. Okay, organic matter and nutrient accumulation in the sediments of embayments, especially the Little Saluda River. And the shallow shoreline around the lake. Water quality and algae in the Little Saluda River embayment could already be controlled by internal nutrient cycling, and increasing the minimum winter pool would cause worse conditions.

One thing I didn't mention is the probable impact on the TMDL process for Little Saluda River embayment. TMDL stands for total maximum daily loads, and it is a process - legal process - that DHEC uses and EPA uses for controlling water quality, or trying to improve water quality. And so they can go through a process and identify ways to improve water quality, and then suggest things to do it. This pool level could work the opposite way to what the TMDL objective would be. In other words, TMDL, the reason you do that is to improve water quality. And one of the things that might stand in the way is the pool level being at 354 all the time. I don't know how that would be resolved, we just wanted to put it out on the table and make sure we are aware

of it. Modeling at this point involves only sensitivity analysis because of inadequate data, just to remind you of what we have already said.

And, next slide. Water quality issues that are related to effects of winter minimum pool elevation that can affect lake users. Okay, we have been talking about water quality and stuff that guys like me might talk about, algae and all that stuff. But I was asked a question yesterday and got to thinking, "Well, you know, from a lake user standpoint, what would a user see? How would they see it?" And so, this is sort of a list of things. Increased eutrophication and algae, and so forth, around the shoreline that would result in increased algae levels, aquatic plant, turbidity, and sediment deposition. Number two, internal nutrient cycling. We have already talked about that. And the last one, increased sediment deposition to inflow sites that would impact boating and enhance aquatic plant growth, especially when the summer pool elevations were less than full. And that is going like in 2007 and drop down to 352, for example, below the 354. And so, if you had a minimum pool of 354, you wouldn't have that scouring effect going on. And then if the summer pool goes down to 352, you are going to have more sediment than you used to have, you know, around the lake, and for boating or any other use.

Okay, last slide. Regarding consideration for developing a policy for winter pool levels based on the data from 1980 through 2007, the winter pool level was down to 350 about half the time, every other year on average. Would be best to maintain this frequency of drawing down the lake down to this level, or risk poorer water quality. Number two, maintain the frequency of drawing down the lake to 350 on an average of every two years should not be difficult based on historical inflows. And using the November flows to predict what the flows might be in January to April. The minimum winter pool level has little to do with attaining and maintaining a summer pool level at 358.

The last one. Those were operations model. We haven't talked about that here, but it's a discussion about using the reservoir operations model that KA has got to develop alternative operating policies. And then examine different desires that people have for operating the reservoir. You know, "We want it full pool 100% of the time, or winter pools at 350 or 354." All those things that different users might find desirable, you can factor into this kind of model and summarize the approaching times of each policy, and come to a decision in that manner. And that is it. Any questions?

(No response)

MR. RUANE: Is everybody asleep?

UNIDENTIFIED: Pretty close.

MR. RUANE: If you are interested, we can show examinations. It's up to y'all, if somebody wants to hang around to watch them or something, after others break up. Y'all might have some other things to say or do.

UNIDENTIFIED: Is this going to be on the web page?

MR. RUANE: Yes, it will.

UNIDENTIFIED: Is this re-printable? Can we use some of this information?

MR. STUART: If it's okay with you guys. Reed.

MR. REED BULL: Reed Bull, Midlands Striper Club. But, hearing this stuff yesterday and again tonight, we discussed this a good bit in the Midlands Striper Club, and based the consensus opinion of the people that I talked with there, and quite a few other lake users that feel that the minimum draw down as Jim indicated would during the winter months when there is very little recreational activities, that basically we didn't have any real objection to bringing it down to 350 because we felt that the chances that we would take in harming the water quality, and we have already got problems that basically we found we don't have a whole lot of control over of it, and hopefully reducing the phosphorous in the future, that we believe this really needs to be considered. And all of us would like to have the lake level up, too; but if that is going to create a problem for water quality, and water quality, I think, and I don't know whether it was emphasized tonight, but affects a lot more than just the striped bass. I mean, it affects basically everything in the lake, and we have got a lot of coves that don't have a lot of flow, so they are definitely impacted by that.

MR. STUART: Any other questions?

(No response)

MR. STUART: As Tom pointed out, the presentation will be on the web site. I know it's a lot of information to absorb in two hours. If you are interested, you can certainly download it. And if you have questions, Jim's e-mail address is on the web site, he would certainly be more than welcome to address anything after you have had a chance to really digest some of that information. He is just really good about responding by e-mail, and he is certainly a good resource to have in this process. Thank you, Jim, that was good.

MR. RUANE: Thank y'all. I appreciate it.

(Applause)

MR. STUART: With that, if there are no other comments or questions, we can adjourn. We will have another meeting, I think, somewhere around the first to mid-part of April, will be our next Quarterly Public Meeting. Thanks for coming out.

PUBLIC MEETING ADJOURNED.

**Saluda Hydro Relicensing
Quarterly Public Meeting**

Meeting Agenda

October 25, 2007

10:00 AM & 7:00 PM

Saluda Shoals Park – Environmental Education Center

- **10:00 to 10:15**
(7:00 to 7:15) **Welcome and Update on the Relicensing - *Alan Stuart***

- **10:15 to 10:45**
(7:15 to 7:45) **Presentation: “What is the Draft License Application” – *Alison Guth***

- **10:45 to 11:00**
(7:45 to 8:00) **Break**

- **11:00 to 11:30**
(8:00 to 8:30) **Presentation: “Effects of the Drought on Southeastern Hydro
Projects” – *Alan Stuart***

- **11:30 to 12:00**
(8:30 to 9:00) **Public Comments – Open Floor**

Adjourn



**SALUDA HYDROELECTRIC PROJECT RELICENSING
FERC PROJECT No. 516
Quarterly Public Meeting
October 25, 2007
10:00 o'clock A.M.**

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PUBLIC MEETING:

MR. ALAN STUART: Good morning, everyone. I want to welcome everybody to our fourth Quarterly Public Meeting in 2007, a few items. I see a number of new faces. We do video and audio tape the Public Meeting, so if you do have a comment later on in the Meeting, please state your name and who you are with for the record. We will be putting out a transcript of the proceeding, and we just want to make sure we have everything accurate. Restrooms are down at the far end of the hall. We will have a break after the second presentation. And with that, I want to go ahead and get started. My name is Alan Stuart, I am with Kleinschmidt Associates. We have been hired by SCE&G to try to help them through this relicensing process. Everybody, there are agendas out on the table. As I said, we will have a presentation right after an update on the schedule; and then there will be a break, and then I will give a presentation on the effects of the drought on Southeastern Reservoir. Just to give you kind of an update on where we are in this process, we are planning to issue the Draft Application next month. We have been working on it and have gotten some comments that we are addressing right now. That will go out for public review. And Alison will be going into a lot more detail on exactly what the Draft Application contains, what its purpose is, and milestones that are associated with that. We have been working on a draft Shoreline Management Plan. That is nearing its first stage of completion through the Technical Working Committee. We anticipate that coming out hopefully no later than January. If we can get it out in December, that is what I would really like to do. And there's a few loose ends that the Technical Working Committee is trying to wrap up, and optimistically I hope we can get it out. I know December with Christmas being in that month is pretty tight for people, so I suspect it probably will be January before it does come out. We will begin the operational modeling with the Resource Group constraints in January. What those constraints are will be things like flow releases for fish habitat protection downstream, any recreational releases, and also take into consideration Lake levels. This is where we actually start balancing the water and the needs. And this is something that is going to be at times I suspect very contentious. And we will just have to maintain composure and we will work through it. And then we will begin developing the Issue Resolution Agreement. This is where once we have tried to balance the water and come up with different recommendations that SCE&G will hopefully propose as part of their Final Application, which will be filed in August of '08. So, as you can see, we do have to file the Final Application by August of next year; so, we have got quite a bit of work to do. So, it's going to be a

fairly quick and rough ride between now and next August. With that, I am going to turn it over to Alison Guth; she is a Licensing Coordinator with Kleinschmidt Associates, and she is going to lead you through what the Draft Application is all about.

MS. ALISON GUTH: Good morning. Big group today. A lot of you know me already, I see a lot of familiar faces and I see a lot of new faces, as well. If you have been in any of the Resource Conservation Groups, you know me very well. And today I am going to be talking a little bit about the Draft License Application which you will be seeing, as Alan mentioned, in November. So hopefully we can today develop a little bit of a better understanding about it before you actually see the big document. A few discussion points today, and we will be reviewing for those new faces, some of the past milestones that we have already accomplished, where we have been and where we have come from, the purpose of the Draft Application as well as its contents, and a little bit of what Alan talked about, what we are going to be expecting in the future. And there is, of course, portions for public comments, and if you have any questions about the Draft Application there is a section to answer questions. So, Alan will be coming around with the microphone and if you have any questions, you can ask them at that time. Okay, so these slides you may remember if you have been to any of the other Quarterly Public Meetings. But it's a brief overview of where we have been in the past. Seems like forever ago, but in April of 2005 we issued the Notice of Intent, which is basically the formal announcement by SCE&G that they are seeking a new license for Saluda Hydro. And along with the Notice of Intent was also issued the ICD, or the Initial Consultation Document, and that contains a wealth of information. I know many of you have been through it many times. A wealth of information is provided at the beginning of the relicensing process so we can help focus on key issues and decide what key issues are necessary to discuss. The Joint Agency Meeting, which is one of these Quarterly Public Meetings, was held on June 16th of 2005; it was the kick off meeting. And we have had many Resource Conservation Group Meetings and Technical Group Meetings since then. This timeline may look familiar, it was developed at the beginning of the process. Let me see if I can use the pointer here, we are right about here. A few of the months are a little bit off, but we are generally in the timeframe. There are several more things that are coming up here in the future with the filing of the Final License Application, and the FERC starts doing what they do. In the beginning of the process we developed a Mission Statement. I'm not going to stand up here and read it to you because I know you guys can probably all see it

very well. But it's basically saying in light of the enhanced traditional process, which I will talk about in a minute, SCE&G will manage the process and all the relicensing participants, which are you guys, play a key role and help to address the resource issues and resolve the issues. And you heard me mention the traditional Three Stage Licensing process. It was the process chosen by SCE&G to go through this relicensing. It's actually an enhanced traditional process that helps --- it actually has more stakeholder input and involvement in the process. And you will see up there, there is three stages to it. The first stage consisted of the issuance of the ICD and NOI, which I talked about before. And also, the comments that were provided on the ICD by many of you, that was also considered part of the first stage. We are now in the second stage where our Resource Conservation Groups and our Technical Working Committees have been meeting to discuss the issues; and the filing of the Draft Application is also in the second stage. The third stage consists of the filing of the Final License Application, which will hopefully happen in the August timeframe of next year. So, you have heard us talk about the Draft Application. The purpose of the Draft is to allow a period of time for additional comments to be considered as the Final License Application is being put together. So, what does it consist of? Okay, the Final License Application, there are several components to it. It contains project details, study results, information from the initial consultation document, issue resolution agreements which I will talk about shortly, correspondence, and information requests; all go into the compilation of the Draft and the Final License Application. So, there are quite a few parts to it, and it's quite a big document. To give you a brief overview of what you will see, it will be really similar to the setup of the initial consultation document, if you have had a chance to look at that. And I have got a whole alphabet to go through here. The first part, it will contain general information, and at the very beginning you will see an initial statement which basically consists of items such as the location and the business address, and stuff that the FERC needs; just general information they need to know, project contacts, counties in which Saluda Hydro is located, that sort of thing. And the Exhibits are basically the different chapters or sections of the document. And we have Exhibits A through H, that I am going to go through. "A" is the project description; it contains information on the project structures, and on the reservoir characteristics, and give you a few examples. Exhibit "B", project operations and resource utilization. That contains information such as project flows and capacities. Exhibit "C", construction history. History on

the original construction of the project; and if there are any modifications to it, that is included in that section, as well. Exhibit "D" is not included in this. It's costs and financing, and that is not going to be in the Draft but it will be included with the Final Application. Exhibit "E" is the one that is near and dear to many of us. It will contain the water studies, and everything that we have been talking about during the Resource Conservation Groups. It's the environmental report, water quality studies, fishery studies, are all included in this section. And I will focus on this one a little bit more in a second. Exhibit "F" is project design drawings. It is what the engineers at our company have been working on with SCE&G. And you will see "CEII", that is considered critical energy infrastructure information. A big word. And that information is only available to the FERC for safety reasons. Project location maps is in Exhibit "G". And NIP is non-internet public. And the public can receive copies of project location maps through the FERC, but they cannot be posted on the internet for safety reasons, as well. And last but not least, Exhibit "H", it contains information on alternative power sources, the ability of the applicant to operate and maintain the project. It is quite a big document, it is going to contain a lot of information. I am going to focus on Exhibit "E" the most because that's what contains a lot of the information that the Resource Conservation Groups have been working through. It has got several sections, as well; although they are not called "Exhibits", they are called "Sections". It contains information on environmental resources, cultural resources, historic land use, and recreation. A very big document, as you guys will see in November. As we said before, you will find the study results that the Resource Conservation Groups have been working on, and studies that are already completed. And the study reports are included as appendices into the large document.

You will find the study plan list under your reports with it. The setup to Exhibit "E" is very similar to the initial consultation document, so hopefully it will be familiar to navigate through. Here are the sections of Exhibit "E"; as we discussed before, you will see water quality, aquatic resources which is basically the fish and those animals, wildlife resources, botanical, historical, recreational, and land use and land management. There will be references to the SMPs in this section, and as Alan said before, that will be coming out in January. And now I will breeze this real quickly, it is probably a lot of information, what are we going to expect in the future, though? We are hoping to issue this Draft Application in November, in the November timeframe. And we are hoping to file the Final Application in or before August of 2008. The FERC requires that SCE&G

file the Final Application as least twenty-four months before their license is due to expire, which is in August of 2010. So, we are on a strict time line. So, I have talked a lot about the Draft. How will you guys know when the Draft is finished, to use for public comment? There are several ways. We will post the Draft Application for download to the Saluda Relicensing web site. The web address is up there and it is also on the note pads, if you have one that you grabbed out there; should be one on there, as well. I also send out an e-mail to those of you who are on my e-mail distribution list. I send out thousands of e-mails and probably flood your in-box with them. But I will send it on e-mail when it has been posted to the web site. CD copies of the --- I'm sorry, of the Draft License Application will be sent out to those individuals who are on the service list. If you received a copy of the ICD, you will most likely receive a copy of the Draft License Application by CD as well. And the Draft Application will be also posted to the e-library on that FERC web site. I will talk a little bit about that in a second; it can be very difficult to navigate through. When it comes to the Final License Application there are several ways you will know when that has been issued, as well. SCE&G is required by the FERC, the F-E-R-C, to twice publish a newspaper notice, noting the filing of the Application in the local newspapers. So if you read the newspaper in the August timeframe, you will see that. The Final License Application will also be posted to the Relicensing web site. And if you are on the service, you will also receive this CD copy of that, as well. And you will also see it on the FERC Relicensing web site, and on the F-E-R-C web site. This is a screen shot, although very squished, of the F-E-R-C e-library. This is the web address to get to it exactly; but if you go to FERC.Gov, you will see in the upper righthand side of the screen, I believe, is the e-library link; and if you click on that, you will see this page. Takes a little bit of practice to get used to, but there is information where you can type in what text you are looking for, type in Saluda Hydro, and SCE&G, and you can most likely pull that maybe after you try. But it takes some getting used to. Part of the enhanced traditional process in place, collaboration among the stakeholders, and SCE&G, and often result in agreements among the parties involved about key issues that have been brought up. The Resource Conservation Groups are still discussing a lot of key issues; and unless we work really fast, most likely these will not be included in with the Draft Application. But, you will see them in the Final Application, or before the filing of the Final License Application. Now, once the Draft Application has been sent out, State coalition, resource agencies, will have the opportunity to comment on

the Draft Application. A cover letter will be sent out with the Draft Application, which will include information on how to provide your comments. But you, according to the FERC, have ninety days in which to submit your comments - which would put it in the February timeframe, I believe. And it is important that you demonstrate how comments or additional study requests have a project nexus that you basically relate to the project. This slide was provided at the very first Quarterly Public Meeting after the ICD was issued; and it's the Code of Federal Regulations Criteria for providing study requests. And it's important to demonstrate how they relate to the project. I think Alan used the example at the very first Meeting about an individual who had foxes running through her backyard; may be an issue to that person, but it probably doesn't relate to the project in the operation of the process. Well, I breezed through this real fast. Are there any questions? Alan will go around with the microphone. You may not be able to hear yourself when you speak into it, but George will be able to hear you up there, and that's the important thing. Well, either I did really good or really bad.

MR. PEE WEE GREEN: I am Pee Wee Green, I live up towards Hamm's Landing in Newberry County. How about the fish, the ones they put in to eat the weeds? Grass clogs (phonetic), yeah. Has that program been successful, and has the hydrilla settled down? Or, what stage of the game is that in?

MR. TOMMY BOOZER: I would address that. We just completed the Aquatic Plant Management surveys that we do annually on the Lake. And there was no hydrilla found. so the fish are doing an excellent job. So, they are controlling the hydrilla just like they are supposed to.

MR. PEE WEE GREEN: I guess, they have held off doing that so many years because it was going to hurt fishing. And how is fishing doing?

MR. TOMMY BOOZER: The fishing is still good.

MR. PEE WEE GREEN: So, the fishing is good and the grass is gone, so that'll be good.

MR. TOMMY BOOZER: You know, there's a lot of controversy between the bass fishing and the decision to put the grass crop into the Lake, but it seems like, you know, the fishing is still good and the grass crop control is good. Some people may disagree with that but the condition is basically that the grass is doing exactly --- I mean, the crop is doing exactly what it is supposed to do.

MR. PEE WEE GREEN: That's good. --- about the water level. It appears that --- particularly the last five years, we've had no water, period. We're thinking that maybe we can get it somewhere in the middle of 356, but that's a figure that nobody here seems to enjoy.

ALAN STUART: Well, I will address that. That's one of the things that we're going to be balancing in that operation model. That's the easiest way I can say that right now, because there's other people --- there's down stream users, the agencies have an interest in protecting the fish in the Lower Saluda. So, that's where the balancing comes in. And as I said earlier there is only so much water to go around.

MR. PEE WEE GREEN: How about let's go back to those remarks, at least you are good at it.

ALAN STUART: We'll be talking about that in just a minute. Let's get forward in this.

ALISON GUTH: Any other questions on the Draft Application? Okay.

MR. RANDY ADDY: My name is Randy Addy. I live in Lexington County on the Lake. My concerns are like a lot of the lands around the Lake originally were owned by SCE&G. Through the years that property has been sold off for development. And I keep reading different opinions in the papers and things that the Company seems to be dedicated to trying to relinquish more properties, that is to sell them off to people to be developed, as in selling fish license as a fringe land or in properties that they are in possession of. Now, in the years --- twenty or thirty years, or whatever, a lot of these sales have taken place, we have all seen the nature of the shore of the Lake change dramatically. Now, my own feeling is a lot of the shoreline is this property is already --- hasn't been developed. And surely within the years to come that is going to be developed. I don't understand the drive that the Company has to relinquish ownership of any more properties thereby accelerating or, you know, making the land available for development. I would like to know why the Company is insisting on doing that? If it indeed is, is it a position they intend to maintain? Or, is it something that they are going to be examining as far as the relicensing project?

ALISON GUTH: Well, many of you heard my presentation in the last meeting. The Research Conservation Groups, the Lake and Land Management, has been going through a process called Land Re-Balancing. And there have been members of DNR, S.C. Parks Recreation and Tourism, a lot of Stakeholder Groups are in there, Steve Bell Lake Watch, Lake Murray Association. They have been going through and looking at the different parts of the land from an economic view as well as from a natural resource deal. And they are looking at re-balancing the shoreline appropriately. So, they are in that process right now actually.

MR. RANDY ADDY: There is concern not just with Lake levels; but I know when I was very young we used to come to the Lake and the Lake when it would get full,

would

get full. I don't know when the last time the Lake was full. It's been a long time. And I know there have been some problems with the Lake reaching full or over full. But I thought that with these flood restriction zones around the Lake that being full was not such a problem. It seems now that there is a great fear of approaching full pool. And I want to find out is there a penalty that the Company faces like from the FERC? Or, is it just the public or individual action that is taken against the Company when it actually goes beyond full pool?

MR. RANDY MAHAN: I am Randy Mahan with SCANA Services. You've asked some very good questions, by the way. Full pool is defined under our license as a 360 contour. Particularly before we built the backup dam, and even still now, there is a concern about allowing the Lake level to approach the 360 because once it approaches the 360, we have got to get rid of all the water that is coming in or it's going to go above that full pool level, and you are going to start having impacts on the shoreline that you really don't need to have. In fact, when you really get above 358, which is what we try to target as the normal maximum pool level, you start having impacts on things that have been built around the Lake. You find out how many things are below the 360 that shouldn't be below the 360. But there are a number of things. But the real reason is because our ability to discharge as much water as is coming in to prevent an over topping of the Dam, it kind of gets "iffy" when you get above 360. Or, really even above 358. We want to give ourselves a couple of feet of free board because as you have seen probably in the past, when you have one of these tropical storms that comes in and sits right over the Lake, and we're in the basin above the Lake, the Lake can come up pretty fast. And in fact, it can come in a lot faster than we can let it go through generation. We can generate only at 18,000 cubic feet per second. If we've got 50,000 cubic feet per second coming in and the Lake is at 358, the Lake is going to keep coming up no matter how hard we generate. And if we can't let it out through generation, we have got to open the flood gates. Don't like to do that for a couple of reasons. One, it's wasted energy. But that's not the real issue; the real issue is what the downstream effects are. Because there is flooding, people have gotten used to having a maximum flow coming out of Saluda, the 18,000 cfs, so there have been encroachments in the flood plains down below. And there are a lots of issues associated with letting more than 18,000 cfs come down the River. We want to avoid that. And our license does have a 360 limit. I don't know what the, quote, "penalties" might be. If we were negligent and we let the Lake get too high, and then we

did in fact have to open the spillway gates, our Regulatory friends in Washington might have something ugly to say about that. In addition, we might have a few lawsuits downstream. So, we want to be sure. And that's why we really target 358, around 358, as the high water mark that we want the Lake to get up to. And we try to get it up to that going into the Summer. Okay? But, again, you have asked some good questions. It's not something we just picked out of the air; it's through many years of experience and the problems that we have seen coming when the Lake has been too high, when we have gotten into these times where you can have these tropical storms and so forth. Okay?

You had some more questions, and I am afraid I didn't answer them all.

MR. RANDY ADDY: Well, one thing basically what you are saying is the major concern when it comes to Lake levels is tropical activity, when it comes to excessive level, you are looking at the cyclonic activity bringing in moisture.

MR. RANDY MAHAN: We are looking at the ability to get rid of the water in time to prevent water from going too high around the Lake or even having to open the spillway gates to avoid further problems, yes.

MR. RANDY ADDY: The flow of streams forecasting ability is so much better than it has been in the past, and surely, you know, the basin ya'll know the calculations necessary per cubic foot of water, possibly coming through the drainage. You know, when you say they operate to generating capacity, is that all five operating at full capacity?

MR. RANDY MAHAN: That's correct, 18,000 cfs, that's it, that's all we can let got through generation.

MR. RANDY ADDY: I know the last time I thought the Lake was real high about '68 or '69, so that was before the grandma was installed up there.

MR. RANDY MAHAN: And we were sued, by the way, when we had to open the spillway gates back in the '60s because even though we were letting no more go than we had coming in, okay, we had to open the spillway gates. A subdivision which had been built in the flood way, flood plain, downstream was flooded; and SCE&G was sued. Now, the Courts upheld that ability, was to let as much go out as was coming in even if we have to open the spillway gates. But we would really rather not have had that situation arise whether we could legally escape liability or not. That's not the issue. The issue is downstream, foolishly or not, people had done things along the River, they had built things along the River, they are going to be impacted, and we would rather not have to deal with that and we would rather not for those people to have to deal with the impacts of having too much

water coming downstream. Now, if we opened all the spillway gates all the way up, if we ever got into that situation, I can assure you there are going to be a lot of flooding downstream even if we are not letting any more go out than is coming in. People are going to be impacted, and we just don't want to be in that position.

MR. RANDY ADDY: I understand that.

MR. JIM FRAZIER: (inaudible) --- read from the newspaper, if I look every day the Lake --- I'm sorry. I am Jim Frazier, and I am a property owner on Lake Murray. How often in just the last year and a half has it been 357? In the last year and a half, I mean looking at the newspapers from January 1st.

MR. ALAN STUART: My presentation will have the guide code, which is based on historical data, which will appear. But, it covers --- do you know what the, guide code, do you know how many years of data that covers? It's about 40 years, isn't it?

MR. JIM FRAZIER: That covers from here back to '77.

MR. ALAN STUART: Yeah, so it will show the actual guide code which is what it's been operating for the past, since the '70s. Actually, we hold comments until the end, but this is just a good a point as any to address things.

MR. CLARK WEBER: My name is Clark Weber, and I am from the Lake Murray Homeowners Coalition. I've been down here six years, and I live on Lake Murray, and I keep hearing everybody say, "Normal is 358," and this is just a comment. I will bet you in six years there haven't been ten or eleven months that that Lake has been at 358. And I know you have built a dam, and there is always reasons, but we ought to stop using 358, it's never at 358 for any meaningful period of time. I came from up North where lakes freeze in the wintertime, and you have a seasonal lake. I thought coming to the South where the lakes don't freeze, you would have a lake that was a year-around lake. This Lake is managed like a seasonal lake like the Summer ends and all the tourists go home, and nobody uses the Lake. And I don't think that's an appropriate way to manage that Lake.

MR. ALAN STUART: I'm going to comment. I think in my presentation you will find that Lake Murray is not the only lake that does that. And it focuses on lake reservoirs in the Southeast. So, this is kind of getting into an area where my presentation, so this may be a good segway to move into that.

MR. DICK CHRISTIE: Good morning. I am Dick Christie with the DNR, and enjoyed your presentation, Alison. A question regarding the Draft License Application,

are y'all planning on suggesting to the FERC what you would like to see in license articles versus what might be more appropriate in a settlement agreement in the Draft License? And, even in the Final License Application?

MR. ALAN STUART: As far as the --- you know, I am assuming we are going to work through the issue resolution agreement in the TWCs and the Resource Groups. So, if you have recommendations and you want to provide them, you can provide them to the Group, or to us independent, or in addition to the comments on the Draft Application.

MS. BERTINA FLOYD: Bertina Floyd, with the Lake Murray Homeowners Coalition. Alison, you mentioned that some key issues that are still in discussion would not be a part of the Draft Application, how will those types of things be addressed? I mean, will it be a blank that is under discussion, or how will it be addressed?

MS. ALISON GUTH: All the issues that were requested during the meetings and in the comments to the ICD are listed. You will see those listed in the Draft Application under their appropriate sections. And if they -- and as we come to resolution on those, there is a paragraph noting what the TWC or the RCG has elected, or how they have elected, to address it. If we are still in discussion about it, there is a paragraph that says, "The TWC is still in discussion about this issue," and it will be included in the Final License Application.

MR. JACK RICHARDSON: Jack Richardson, a homeowner near Ballentine, have lived there fulltime thirty-five years, and probably going back into the '40s. You mentioned, I remember well the days when we hit 360. I don't ever recall anybody getting sued, but obviously you did if you had to handle it. One comment was made earlier if you were to bring it above the 358, there would be problems with homeowners who have built structures below that. I don't see where that is a problem to anybody if someone who violated the regs in the first place, and built it there. Also, with the release of water, if you build in a flood plain, my understanding that's why it's called a flood plain and designated as such. So, I am kind of at a loss as to why I should be penalized because some morons go out here and build below the 360, and because developers build in flood plains, and then say, "Oh, but you can't let the water out." Somehow I can't comprehend that. Thank you, Alan. Great program, by the way.

MR. RANDY ADDY: I am Randy Addy, I live in Lexington on the Lake. I have noticed a big change in the way that the shoreline of the Lake looks. It's a culmination of a good many factors of low water levels. And I have noticed a good die back of a lot of the plant species that

we have been told are good for the fishery, such as the button bushes, and some willows, and stuff. I believe a lot of it is directly related to the water, low water levels. And I would like to think, or I would like to see an effort made to restore a lot of that. It's going to be difficult, though, with the continuing drought and with the very low water levels we are experiencing. Another thing I have in my area, and I know other people see, is the beloved beaver. And the beloved beaver is reeking havoc all around the Lake.

I know it used to be beautiful this time of the year with leaves changing; it ain't so pretty no more. I would like to see some sort of a containment effort. But my understanding is you can't --- I don't know if there are any real legal methods to control these; and I know a lot of people use other methods other than legal methods. But it is a consternation. So, when you see, you know, what's happening around the edge of the Lake, it changes; and it's not necessarily the hand of man directly. But the beaver even though it is a natural occupier of the space, it is not natural to Lake Murray. As far as I understand, when I was younger, there were no beavers on the Lake because they had been eradicated. So, you have a native species that's come back to an unnatural situation, really. And it's just playing hell with the environment where I live because all the big beautiful sweetgums and maples, and things, are being killed; and there is really no end in sight except for, well, if the beavers were to disappear. Is there any kind of plan to help contain the damage being done by these large rodents?

MR. ALAN STUART: We have somebody from DNR, a couple of guys with that. But, as far as I know they are the ones charged with beaver trafficking. This kind of goes back to the fox issue that Alison mentioned earlier.

MR. TOMMY BOOZER: Alan, currently the only alternative that property owners have, and I think DNR does have a list of professional trappers that they will come out and trap. But then it's the responsibility of the property owner to pay that trapper. So, right now that's the only available avenue other than some of the other means that you are talking about. But, to get back to your first question about the vegetation, with the draw down, you know, and it did put a lot of stress on a lot of the shoreline vegetation. But over the past nine years, we've got a Lake Murray Shoreline Management Enhancement Program for the vegetation where we actually give button bushes and willow trees, and a variety of other species, away every February.

A lot of the homeowners have participated in that, and we also do additional planning ourselves. We also are working in our committees to come up with some ways to restore some of the vegetation around the shoreline. We have got a

restoration plan that we have established for some of the buffer zone areas. So, you will see --- you know, we are losing it and believe it or not almost probably 50 to 60% of the vegetation that we plant annually, the beavers eat and destroy. So, it's a challenge and it's something that we do need to address.

MR. ALAN STUART: Since we do have quite a few new faces at this meeting, can I see a show of hands of individuals who have actually gone to the Saluda Relicensing Website? I see it's mainly the ones that are primarily involved in the relicensing. I think you will be very impressed with the amount of information, the studies, a lot of the questions I am hearing we are actually dealing with in these Resource Conservation Groups. You know, we didn't get together and rattle up a bunch of bones and throw them on the table; I mean, we have actually been doing a lot of work. So, I think it would be very beneficial, you know, our website is very user friendly. It's divided in Resource Groups, Technical Working Committees. It has study plans that were developed, final reports, the Minutes from the Meetings, and it basically just spells out almost every detail of what we have done since April of 2005. I think it would be very beneficial, if you haven't gone to that website, to at least visit it. If you do plan to make comments on the Draft Application, I think you can save yourself a lot of work. And that's one of my biggest recommendations, I guess. It deals with a lot of the issues you are talking about and which Tommy touched on. So, I encourage you to do so. That's not saying, you know, you can't provide comment, we welcome comments.

MR. GENE BARRADLE: My name is Gene Barradle, and I live in Prosperity, and have Lake property. And the question I have is why can't the Company maintain 356 at this time? Because at a time just before the Whitewater Rapids, we had a pretty good elevation of water, and then zip they let the water out for the Whitewater games, and never started to fill it again. Is the rate of inflow much less now and they can't contain it? Or, is there a problem of that nature?

MR. ALAN STUART: Again, I think my presentation will answer a lot of your questions and some additional ones. So, I don't want to not answer the question at this point, but I think you will get a better appreciation once we do. If we could hold Lake levels til after my presentation, I think that will be somewhat beneficial.

MS. ALISON GUTH: Does anyone have any more questions on the Draft Application?

(No response)

MS. ALISON GUTH: If you think of something, I

will be around, so feel free to ask me anything after the Meeting or during the break. I think we are going to take a break right now, and then Alan will give his presentation.

MR. ALAN STUART: Also, if you think of something in the interim, there will be additional time at the end for additional or more comments. So, please write it down on your pad, or whatever, but keep it in your mind.

[Off the record - break]

MR. ALAN STUART: All right, if we could go ahead and get started. My presentation is --- and I have entitled it, "So you think we have it bad here". It's just talking about some of the effects on the drought, or of the drought on Southeastern Reservoirs. There's a few things about the drought, it's basically four categories: Moderate, Severe, Extreme, and Exceptional. I believe in South Carolina we are somewhere in the Severe to Extreme. Is that correct?

Severe? 26% of the Southeast is under Exceptional Drought.

Those droughts, I'm not exactly sure of the history, I think some of those are droughts that haven't been observed in somewhere around 100 years. Mandatory water conservation measures at some level are in place in most every Southeaster state. This kind of gives you an idea of the departure from normal rainfall that we have experienced. If you can't read the scale here, the burgundy is minus 20 inches. So, you can see, Alabama is hit very hard. Northeast Georgia and a part of South Carolina, this little belt right here is --- this is primarily your water shed for the rest of the State, each one of those states. All that water that starts up here ends up in some point in your reservoir; any water that is down here, goes on out to the ocean. This kind of gives you an idea of the rainfall deficits for some of the major cities around the Southeast. As you can see, Birmingham is right around 20 inches, is what that graph explains. Columbia, before we had this rain the last couple of days, was around 17 inches. So, it's ranking right up there high with the rest of the major cities. Unfortunately, this is the projected seasonal outlook on drought. And as you can see, this is also a National Weather Service to NOAA. In that same belt it appears that the drought, or their prediction is the drought can persist or even intensify, which is not good news. If you have questions, I don't mind stopping. A lot of this is just graphics, and pictures; and I am getting ready to present a number of hydrographs, and I am going to try to explain those the best I can. This is some of the locations of reservoirs throughout the Southeast. What I have picked are just a handful of them. I picked Weiss, Martin, Lake Allatoona, Lake Lanier, Hartwell, Thurmond, and then of course, Lake Murray. This kind of gives you an idea of the

lake sizes, and with in relation they are all fairly similar. Obviously, Lake Allatoona is a little on the smaller size, and then you have Lake Thurmond which is a little on the larger size. So, you can see that Lake Murray falls pretty well within that band. I think that's why people primarily picked a lot of those reservoirs. Okay, this is a hydrograph of Lake Weiss, that was the one that was up near the upper part of Alabama. As you can see, these are basically their guide curve. And basically the way you read a guide curve is it's the beginning elevation is at 356 for the next year. This is generally the guide curve they try to follow. If the lake level is higher at 358, that's where they generally try to follow; and if it is off somewhere inbetween, then it basically runs this gamut right here. The blue line is actually 2,007 at Lake Weiss. This black line here is normal; it's based on average elevation on this one since 1965. As you can see, Lake Weiss was basically up above their guide curve at this point, and then just basically drastically started to tail off there. Right now they were actually even below their guide curve at Lake Weiss. Do you have any questions? Yes?

UNIDENTIFIED: What's the elevation change from January to May on a guide curve?

MR. ALAN STUART: Which one? Right here?

UNIDENTIFIED: In a normal flow, what is it from January to March?

MR. ALAN STUART: All right, there's 358; and then to May, 362.8 or something. I got Lake Murray.

UNIDENTIFIED: Six feet?

ALAN STUART: Yeah. As you can see, and I'm on the third, you are going to see this same generally trend for every one of these hydrographs. You see this tail off at the end of the season. This is a typical Southeastern reservoir mode of operation. Basically what happens is they start draining the reservoirs to prepare for the winter rain. And you will see that some are more dramatic than others, it just depends on the water shed they are in. This is Lake Martin, this is down near around Montgomery. As you can see, they start here at the top end of their guide curve they never even made it up to the top of the peak there. And now they have --- actually, they have three guide curves that they try to predict and run by. They are below the lowest guide curve they have, even though they started with a much higher elevation. This one is really dramatic showing the effects of the drought on Lake Martin. At the end I will have some photographs of some of these various lakes and a few others that I found off the internet. So, it kind of gives you an idea. Again, this one is set up the same as Lake Weiss since it is from Alabama Power. That's the top end guide curve, secondary; and then your cursory there.

Here is what has been experienced the normal this year, goes back to 1960. That's just a period of record for those gages at the reservoir. Right now it appears that --- and we will get to this, there is a backup slide at the end. But, to touch back on what you asked earlier today, in January it goes to about 3 --- or, 479; in May it is about 489. So that's about ten feet in March. This is for Lake Allatoona. It's basically the same information, it's just presented differently because it comes from the Corps of Engineers. This is their general guide, you know, preferred guide curve, and then low end guide curve. This is their record low elevation. As you can see it is very close to their record low elevation at Lake Allatoona. They did, you know, follow the guide curve fairly well up til about April; and then as you can see, they generated Allatoona and they have been releasing water. And the effects of the drought have taken them down below the low end of the guide curve, and actually nearing record level. That record level --- I can't tell if you can see it, but it's about since 1952 to 2006, that's what that basically follows. This is Lake Lanier. As you can see, this is an extremely busy graph; being outside of Atlanta, that's understandable. The actual on this is the blue line, again. This is the actual one, and then forecasted to where it may end up based on their release. You can see they are very well below their low end of the guide curve. They never met the top end of the guide curve, even though they started in this upper band. Right there to right at that point is about 18 feet; has a potential based on their predication of rainfall and releases, if something doesn't change Lake Lanier will be 18 feet below full pool, or normal pool. Here is Lake Thurmond. Again, this is very similar to the other one. Unfortunately, the Corps of Engineers divide their district, or their regions, into different districts. Why they can't standardize their guide curves, I don't know. But this one came basically from the Savannah District where the ones from Allatoona and Lake Lanier came from the Mobile District. You would think --- then again, it is the government, that they would have some standardization. But, that's not the case. This is their general guide curve, and based on starting inflows again. You can see they are below, they are on their Level 3, or projected to go below their Level 3. The Level 3 basically is releases from Thurmond Dam. As you see, Level 1 is 4,200 cfs; then the 4,000; and then the 3,800. So, they are hurting up there at Lake Thurmond, as well. Again, you still see this general trend. Now, you know, it shifts somewhat to a month depending on where you are and what reservoir, and you know, who is doing the running. But, you still see that general trend there towards the end of the year to drop the elevations in those

lakes to capture the seasonal rain. This is Lake Hartwell. This is down around --- or, this is up near Anderson, South Carolina, in that general neck of the woods. It's Clemson? You can tell he's a Clemson fan. You know, and this basically, all of these are general trends of the reservoirs. This is showing the general impact of the drought, and everybody is having a hard time to meet their guide curve.

UNIDENTIFIED: Are they all hydroelectric?

MR. ALAN STUART: They are, every one of them are hydroelectric.

UNIDENTIFIED: They generate more electricity than follows from Lake Murray? Lake Murray is stand-by electricity generated.

MR. ALAN STUART: That's correct. Most of these reservoirs are peaking facilities. That's one of the things I have been trying to help educate people that Lake Murray is a reserve facility. That allows ---

UNIDENTIFIED: --- reserve facility?

MR. ALAN STUART: No, they are peaking facilities, they run every day.

UNIDENTIFIED: So that could be a reason their lake level is lower than ours.

MR. ALAN STUART: Well, that's correct, partially. And part of the reason why SCE&G --- and you will see this in a minute, is SCE&G uses their full reserve. If SCE&G chose to they could operate --- and they have historically in the past used it for peaking and low. So, those types of operation have a much more pronounced effect on lake levels. So, reserve capacity and its application at Saluda is very beneficial in trying to maintain lake level.

MR. CLARK WEBER: During this drought and the draw down has SCE&G sold electricity out of state? They generated it, they have drawn the Lake.

MR. ALAN STUART: I can't answer, but I don't think so.

MR. RANDY MAHAN: Randy Mahan, we do not sell power out of Saluda out of state. Saluda is used to meet our reserve obligations. Now, the reserve obligation may be as a result of a power plant in North Carolina, or Virginia, a part of the VACAR, the Virginia-Carolina Reliability Group, going down. And we have an obligation to provide that power when called upon within fifteen minutes. Okay. Now, we don't operate it that long. They are also obligated to get off of that. But we don't charge for that power. And if one of our units goes down, and we have to call upon one of our VACAR members for a reserve from them, we don't pay for that power. It is an emergency, it is a backup, it is to be sure that system reliability is where it needs to be and we don't have a problem. Because all of the systems are inter-

connected, you've got a problem with one, you got a problem with all. So, understand we have an opportunity to make a lot of money selling power into Virginia or Florida, we are not running Saluda to do that. Saluda is used for reserve. That's it.

MR. STEVE BELL: I am Steve Bell, with Lake Murray Watch and the Lake Murray Homeowners Coalition. Thank you for bringing these graphs in because it is good information to see how the drought impacts the lakes in the region. But I would like to indicate that these are also flood control lakes, they are a lot different from this Lake.

MR. ALAN STUART: That's just one of their uses. They have ---

MR. STEVE BELL: Well, let me finish.

MR. RANDY MAHAN: They have flood control, hydropower, and recreation similar to --- the only exception is SCE&G is not a, quote, "a flood control reservoir".

MR. STEVE BELL: Okay, please let me finish. These are flood control lakes and they operate differently than we do, we are not a flood control lake. The other thing is that one lake that we should use as a comparison is Lake Greenwood, it's a lot smaller but if you look at how Lake Greenwood has operated this year you will see that they stayed almost at their full level when they needed to, and right now they are two feet below full pool. And they are holding it right there. And they are, you know, upstream from us.

MR. RANDY MAHAN: And that has an impact on the levels in Lake Murray.

MR. STEVE BELL: Yes. And then the other thing Randy mentioned that you only generate when you use the reserve power, you are also generating when you are managing lake levels. And I think what Clark was talking about, "Are you selling electricity on the grid when your generating demand is lake level?"

MR. STEVE SUMMER: This is Steve Summer, SCANA Services. If you look at the discharges from Saluda Hydro right now, you will see things in the neighborhood of 5 --- 600 cfs. There is less than one megawatt generation coming out of that at that level. I don't know that we have had recently any significant discharges for the lake level management.

MR. ALAN STUART: And that's a good segway into this slide. This is basically the operation of Saluda, or Saluda Hydro which is the blue line. This is the releases, or outflow from Saluda to the Dam. This is the actual storage where your elevation is at the Lake and where it has been since January 1st. The green line is your average inflow. And this is basically the general guide

curve which is similar to what I had on the other graph. So, this kind of answers your question within the last --- at least goes back to the year. Here is three elevations, 357. So as you can see, since --- or at least up to about whatever that is, the first part of July, it's been running between 356 and 357.

MR. JIM FRAZIER: He said that his target was 358. And I just thought --- you know, with all due respect, I felt like that was incredulous because I look at the newspaper every day, and I can also look at my property line, and I just haven't seen it at 358 very often. I can understand the buffer and being conservative in managing the Lake; but at any rate, it just didn't seem --- there was a disconnect in what he was saying and what I was seeing. So, that's why I asked the question.

MR. BILL ARGENTERI: Let me answer that.

MR. ALAN STUART: Go ahead. State your name.

MR. JIM FRAZIER: Jim Frazier.

MR. ALAN STUART: Jim Frazier?

MR. JIM FRAZIER: Yes, sir.

MR. BILL ARGENTIERI: Bill Argentieri, South Carolina Electric and Gas. The last time we were at 358 was from May to August of 2005 during a normal rain year. Last year we did not reach even 357 because it was a below normal and somewhat drought year. And this year as the graph shows, we did hit 357 on four different occasions, four different months. But the idea of a target is just that, it's a target. If you have rain and you can target it, then you are going to reach that; if you don't have the rain, then you are not going to be able to reach your target. And that's whatever color line that is that is the guide curve, go back here. Yeah, that one there, the guide curve is a target elevation for the Lake.

MR. JACK RICHARDSON: Jack Richardson, homeowner. You know, we are talking about discharges for power, etcetera, in bringing the Lake levels down. I saw a City of Columbia brochure the other day, and they are supplying something like 70%, if I recall, of their entire supply system out of Lake Murray, sending it way on up to Blythewood, and god knows where. Can you comment on the impact that those draws would have on our level?

MR. ALAN STUART: I can't. I don't know the actual draw ---

MR. BILL ARGENTIERI: I can. Well, actually those --- well, the outflows, never mind, I was thinking. We do take into account the net inflow, that's what it is the net daily inflow does include evapor --- that's what it was.

That green line there, the olive colored line, does include evaporation and withdrawals from municipalities. And right now the City of Columbia has the ability to withdraw about

100,000,000 gallons a day; and between it and the other municipalities that have water withdrawals on the Lake, which is West Columbia, City of Newberry, the County of Newberry --- the Newberry Water and Sewer Authority, I believe is their correct name. In all, right now they are withdrawing almost 200 cfs out of the Lake. And that's 200 cubic feet per second, every second of every day. And during the time period of --- and this goes back to Sease (phonetic) Point about Lake Greenwood. Lake Greenwood reduced their discharges, which ends up feeding Lake Murray; but they reduced their discharges to around the 200 or below level through most of the summer months. And so, basically whatever they were discharging, the Municipalities were withdrawing. That's not counting evaporation nor our minimum flow that we are required to release. So that where we --- we had a net negative inflow; and when you consider our minimum flow, the municipal withdrawals and evaporation, through the summer months we had approximately 700 cfs negative flow from Lake Murray; which, once again, that's 700 cubic feet per second, every second of every day for since probably about June where we were in the negative.

MR. ALAN STUART: I think that is pretty well represented by this graph right here, the red line. Because if you look, it corresponds to right around the June timeframe. If there is no water there, you can't make it. Thank you.

MR. BILL ARGENTIERI: You are welcome.

MR. ROY PARKER: Roy Parker with Lake Murray Association. In some of the meetings --- we have heard your guideline there is, at the end of the year is showing at 350. And my understanding is if you have the water to enable you to do it, that the new guideline is 354. Is that correct?

MR. ALAN STUART: I don't think a guideline has been developed. I know that number has been thrown out. But what this guideline is, is based on historical data. That's what it has been based on the period of record of the gage. So that's what lies up there. Will there be new minimum lake levels? There very well could be. But at the same time, I caution to say that there will probably be a drought contingency plan developed as part of that. To kind of recap this, this kind of shows you, the kind of a grayish color is full pool at each one of these projects. And the yellow is what they call normal seasonal. That's the deviation from each of those, as you can see, what we considered normal based on what it has been historically. SCE&G is above, not a tremendous amount, but it is the only one that is above what we call normal pool. As you can see, I threw Carter's Lake in there, that is right outside of Atlanta. We do have a couple of others, I think. Yeah, Lake

Keeowee and also Lake Norman. So, that kind of gives you an idea of where and how Lake Murray sits compared to your neighbors. For summary, these are just some facts and tidbits I found. All the marinas at Lake Murray are closed. I thought that was pretty significant on a 50,000 acre --- As many of you probably may have read in the paper, some of the Governors in Alabama and Georgia threatened to fill a lawsuit against the Corps of Engineers and the U.S. Fish and Wildlife for releasing some of those dams. Lake Lanier provides drinking water for one out of three residents. They have projected if they don't get significant rain, they can potentially run out of water in 120 days. That's quite impressive, unfortunately. Approximately 50% of the boat ramps at Strom Thurmond and Lake Hartwell are closed. I believe only SCE&G has one that is inaccessible at the current level. These are just some photographs. This is Lake Martin. To give you kind of a perspective, I believe this photograph was taken in June. This is Allatoona. If you look real close, that's the water level, or what should be.

See that dart from the white pole, and then from that dark section down, that's where the lake level should be in that cove. That to me looks like the moon almost, with a little bit of water on it. There is Lake Lanier. I am sure these folks right here got to know each other quite well when they were laying out on their docks. This one is near and dear to me. We have been addressing shoal markers in our TWC, and I just had to show this, and this is on Lake Hartwell. I am not exactly sure how tall that buoy is, but I estimate it about three feet. So, that distance there is somewhere about ten feet based on my --- that's what I thought, but I was being conservative, yes. That kind of gives you an idea if we can say defined it. If that buoy is five feet, then that kind of gives you an idea. That's Lake Thurmond. Well, it's not Lake Thurmond, it's a cove associated with Lake Thurmond. As I breeze to the north, Lake Norman. This one I found interesting, you can see where they actually excavated a channel out of that dock to get that boat out.

UNIDENTIFIED: When was that picture taken? Do you know?

MR. ALAN STUART: It came off the Catawba River web --- I can't tell you. It was a report that they had out. If you go to that --- I may have misspelled that. It's catawbariverkeeper.org. There is a thing on there. I will find out later, though. Most of these, with the exception of that first one have been, I want to say within since October, if I remember right. This is Lake James; well, what is left of Lake James at this point. This one is a little west of Charlotte. You can't see, I know it's kind of ---

UNIDENTIFIED: That's the first (inaudible) on the Catawba River.

MR. ALAN STUART: That is exactly right. There is your water level. I don't know how long that is, but I know I couldn't throw a football that far, I can tell you that. This is Lake Wylie. This is one of the water intakes. I'm not sure exactly which one it is, whether it be Rock Hill, this may be from up that way. You can see this dark shady color, that's normal water line and where the water should be. I think that guy is standing in a about 28 inches of water, something like that, is what the --- there was another picture. This one was taken back in August. This is Falls Lake in North Carolina. This is Allatoona, trying to pull water back in the lake.

UNIDENTIFIED: Where are they pumping it from?

MR. ALAN STUART: I think they are testing their fire trucks, I'm not sure. That's what that is right there, is a fire truck.

UNIDENTIFIED: Alan, did you happen to look at Santee Cooper? Because with the meeting that we had some of those guys, they are suffering, too.

MR. ALAN STUART: I did try. I tried to get that graph, but I couldn't find it. I know they are suffering because you guys were trying to maintain water levels in May on this one. That was a --- September 5th Drought Statement that South Carolina DNR put out. Yes, Steve?

MR. STEVE BELL: Steve Bell with Lake Murray Watch. Alan, I think, you know, one of the big issues in the relicensing is, you know, re-evaluating Lake Level Management Policy. And I see a lot of people here, and I would like to know how many people here are concerned about Lake Level Management at this meeting? We have a good crowd here for --- you know, that's come here to express their concerns about, you know, Lake Level Management Policies. And I would like to bring up the fact that in March, you know, we released a lot of water, and if we had kept that water in there we would have had --- this Lake would have been almost two feet up more than it was. And so far I have looked at a lot of information and looked back through historical data, and I really don't see a really good reason for that other than the fact that typically we get, you know, enough rainfall to fill the Lake back up. And I think in the relicensing we are going to want to see a better, some more information on why that happened and why we can't have the Lake up, you know, around 356, 357 in January. And I think most of these people here would like to, you know, to see that also.

MR. ALAN STUART: Well, if I read this graph right, I believe it was up to 356 and 357 in January. But

these releases, I assume --- and I am not --- I can't speak for SCE&G, but I assume they correspond to nearing that up around the 358, approaching 360 to catch ---

UNIDENTIFIED: I think you got a 357 in March and then it went back down to 356. It was up to 358 ---

MR. ALAN STUART: There's 357 up there.

UNIDENTIFIED: Yes, sir. It got up to 358, I think, in March and then it was released back down. It never got to 358.

MR. STEVE BELL: So, the big question, why run all the water out and knowing that you like to have some, you know, free water there? But, you know, could we not do that in the future? And so, that's what --- We want information to justify why we do that, other than average rainfall. Because there's other things --- you can figure that a little closer than just going by average rainfall.

MR. ALAN STUART: Well, I assume the Resource Groups would have gotten that.

MR. STEVE BELL: As opposed to y'all --- y'all agree to, you know, discuss it and visit with us and provide that information, and answer our question.

MR. ALAN STUART: Well, one of the things that's going to play into this is there will be a minimal flow requirement to protect fish habitat in the Lower Saluda River, which is not --- the one, there is an agreement with DHEC right now to release a minimum of 180 cfs. That number will go up. I have no doubt about it, I am just going to go ahead and prepare you for it. The models are showing that to protect fish habitat, and optimize fish habitat in the Lower Saluda River, they will probably be significantly higher than that. That's one of the balancing acts we are going to try to address as this process goes on. We do have a very sound and robust hydraulic model for the Lake. It has been --- I'll use this term "sniff tested" by the State Hydrologist and the Technical Working Committee folks. As that process goes on, you will see a lot of documentation and a lot of information coming out of that. That's why I encourage you to go to that Saluda Relicensing website.

UNIDENTIFIED: Alan, are you going to put that presentation on the web page?

MR. STUART: Yes, sir. The presentation will be on the web page for those that are interested.

MR. CLARK WEBER: Just like to make an observation. I have been down here six years, and it seems to me that in a non-drought situation it's kind of been normal for that Lake to go down to about 350. Okay. There is 10,000 dock permits out there, so roughly I hear, okay, I will bet you 5,000 or 6,000 of those people wouldn't have any problem or bitch if the docks could go out another lousy 25 or 30 feet. And it seems terrible to me that you sell the

land off, everybody pays big prices for the land, you issue a dock permit that goes this far, and then you have a normal non-drought management that puts the docks on the ground. I can see in a small cover you could have problems, but I will bet 'cha half of the dock owners on that Lake - if you could go out another 25 feet, wouldn't be complaining at 350; they could still put a boat at the front. And I've argued with your manager who issues dock permits over this, but that's just an observation.

MR. ALAN STUART: What was the name?

MR. CLARK WEBER: Clark Weber.

MR. ALAN STUART: We are addressing dock issues. That was one of the things that at this point that has not changed that I know of, but it is something that we could look at.

MR. PEE WEE GREEN: I am Pee Wee Green, again.

On the Newberry side, I keep hearing, "Well, that's the way we have always done things." I mean that's the historical, "The way we have always done it." I have been playing on this place since 1947. I have seen it at 223 --- 323, I'm sorry, 323. And I knew it used to drop drastically back in the early '80s. But it seems like that we are keeping that mindset through all of this, particularly when there is draw downs for the Dam. But everybody understands those conditions. We even understand drought. But we don't understand just dropping it because that's the way we used to do it. And the other thing is that we keep doing the same old mistakes over and over. And I would like to see that computer model that you use every March to declare the water level because whatever that model said has been wrong the last five, six or seven years or more. So, we just rid of the water during the early Spring, and there is no doubt all you have got to do is have just a little bit of drought, and you are going to have the level we've got now. So, my question is, I don't see why if you start out with just those 359.5 to give Randy a little bit of six inches there. And let's keep this --- I mean, if you have got it in there, then you can let things out for whitewater rafting, and you can let the water out for this, that and the other. But, what we are doing is we are dropping all of a sudden to 356 because we are scared that it is going to rain. Well, I'm scared it's not going to rain. So, the point I am trying to make is, let's keep it in there as long as possible. And if you do that looks to me like you've got --- you can do things with it later on. But, I still advocate 356. I think after 356 you are getting way too low and you are putting too many obstacles out there on the Lake to run across, lose a motor, or whatever. So, I may be talking --- I know I am talking to an establishment here, but there is a lot of pent up feeling on this Lake that is not being explained right

now for citizens. They are madder than hell, really. But, then you see T-shirts like this come along, and anyway it's just going to get worse than that if we don't find some solution.

MR. TIM FRAZIER: Tim Frazier, Lake property owner. And I may have missed this in a previous session because this is my first one that I have had the opportunity to come to. But, we had a draw down for two years, and that was to build the dam behind the Dam, and I understood that. But it seems like the very next year that it was announced that we had to draw it down again for some other technical evaluation. Now, I don't have all the data that you have, but it seems like to me when you draw a lake down for two years, you can get done what you need to get done at that time so that we don't have to draw it down the next year. Now, you are shaking your head, Randy, but a lot of it is still that way; so we have got a communication problem from SCE&G if you don't communicate to us. That, I think, is the frustration that a lot of us are feeling. We are reasonable people, but we have to have communication in any relationship. Thank you.

MR. BILL ARGENTIERI: Bill Argentieri, SCE&G. To follow up on that question, you are correct. That issue was discussed in previous Public Meetings and the draw down that we had in 2006 was for repair of the upstream riprap on the upstream side of the existing Dam. And the reason why we did not do that work at the same time we were doing the dam remediation was because of access to that area. The only way to access that area would be from the top of the crest of the Dam, which is where the highway was going across, and we would have had to stop the traffic for about a six week period from going from Irmo to Lexington; and the Department of Transportation did not think that was a good idea. So, what we ended up doing was putting that work off until the two new lanes were developed and paved so that the DOT could transfer traffic, re-route traffic down to the two lanes that you are using now, that's the two existing lanes that you are using now, and we could go in and do our work from the crest of the Dam when the DOT blocked off those two existing lanes that were on the crest of the Dam. So, that was the reasoning behind having to wait until after the first draw down, which was for the Dam remediation. So, I hope that helps you understand a little better why we had to do that at a time after the first draw down, there was a reason behind it. It wasn't that we woke up one day and said, "Hey, I think we want to get those homeowners on the Lake."

MR. CLARK WEBER: Why couldn't the riprap have been put there with the water in place? Why did it work out to disappear with the riprap (inaudible)?

MR. BILL ARGENTIERI: Because part of the remediation for that upstream riprap was, there were some areas that needed to be excavated. And part of the excavation needed to be done in the dry as part of our construction program that we had got reviewed and approved by the FERC.

MR. CLARK WEBER: After you installed it on the (inaudible) side of the Dam?

MR. BILL ARGENTIERI: Yes, sir. Yes, we did.

MR. CLARK WEBER: The completion date?

MR. BILL ARGENTIERI: The Dam was completed --
- the Dam remediation?

MR. CLARK WEBER: No, all of the work on it?
Do you have a completion date?

MR. BILL ARGENTIERI: Oh, you would have to talk to the Department of Transportation on that. Yeah, the schedule I have from them it should have been completed in April of 2006. And I haven't received an updated schedule on that, yeah.

MR. CLARK WEBER: Thank you.

MR. JIM FRAZIER: Jim Frazier, Lake property owner. I appreciate your answer, but I still didn't get the answer in terms of communication because this is the first time I have heard of it. And it looked like to me that if you clarify to the Lake Homeowners Associations these types of problems, then at least we get a perspective from your side. And I haven't heard that. I understand your explanation, but I think the frustration comes when we really don't get good justification for why you are making the decisions. And that's the first. And I read the newspaper, maybe I needed to go to a website somewhere and find out more specifically. But I think the Homeowners Association, the President, of the --- are the people that can communicate to us best.

MR. BOB KEENER: Bob Keener, with the Lake Murray Association. I am also a Lake property owner. In regard to the gentleman's most recent comment, I would like to point out the fact that this Quarterly Meeting has been going on since the inception of the relicensing; it's been publicized in the paper, it's been on the website, and we have all had the opportunity to attend. The Lake Murray Association has conducted a Quarterly Meeting, or an Annual Meeting, in each of the four Counties, so it's four Meetings. One in Lexington, Saluda, Newberry, and Richland County. And at those Meetings the SCE&G people have been present, they have answered every question that has come up; we have not always liked the answer, but the questions have been addressed, the information has been available. I didn't come here to defend SCE&G, they have got an awful lot of really smart people working for them. And they have given

to my thinking in most instances very logical, very reasonable explanations for what they are doing. And these very smart people know how to generate electricity; but one thing that they have not been able to figure out and know how to do, and that is generate rain. So, let's don't lose sight of that fact, that rain - the lack of rain - is the problem. It ain't SCE&G. I'm sorry.

MR. ROBERT YANITY: I am Robert Yanity, I am with SCE&G, I am in the Public Affairs Department, and I am sure I have talked to probably hundreds of Lake owners over the couple of years who have called asking about rain and Lake levels, and things like that. But I do want to emphasize, it's a good point about communications. We do our best to work with --- whenever we know there is a schedule release coming, we try to work with newspapers like Tim Flack with The State, The Lexington papers, Newberry papers, we always try to do a news release that announces what our intentions are, what our estimates --- if we have an estimate as to how many, you know, inches the Lake may go down. In that instance that Bill had talked about with the draw down for the riprap repair, we did a lot of extensive communications in trying to get the word out that that was happening. So, not only do we do the news releases, there is a weekly update that Ray Amarill, who many of you know, goes out to a lot of stakeholders that tells exactly what has happened throughout the week with our Lake levels and other events that go on with the Lake. I know that when we send a news release out on any issues, it doesn't just go to newspapers, it goes out to the heads of some of the homeowners coalitions. I know it goes to Joy Downs at the Lake Murray Association, and several other stakeholders. So, we are doing our best, I think, to try and get the word out there. But, we will take any suggestions if there is other ways we can get the word out. You know, we do our best to try and do that to make sure that --- you know, like somebody said, "You may not like all of the answers," but we are doing our best to at least get information out there as to what we are doing and why we are doing it.

MR. STEVE BELL: Steve Bell. I am going to have to disagree with my friend over there, Bob Keener, for a second here. I think Lake levels depend not only on rainfall but in the inflows it also depends on how SCE&G --- you know, their Lake level management policies. And both of those have to work together to try to give us the best Lake level for recreation on this Lake. But it's just not inflows, it's both of those have to, you know, work together.

MR. ALAN STUART: One thing, while I know most of your interest in here are on the Lake. We have to keep in mind, I know people don't like releasing water for kayakers

and tube peaking people, or whatever, but the water is of the State. It's not just water in Lake Murray, it's water of the State. They have just as much right to enjoy those things, and that is what SCE&G is trying to do is help balance the recreational needs, not only of the Lake homeowners but of the River users, as well. So, that is one thing that needs to be considered. And that is what we are doing in this relicensing process, that's why it is going to be a balancing act.

MR. REGIS PARSONS: This is Regis Parsons, homeowner. There was a meeting you had, and I apologize, this isn't a question about this. But we are almost out of time.

MR. ALAN STUART: That's all right. Just go ahead.

MR. REGIS PARSONS: So, I am going to ask another issue. There was a meeting we had, the Recreation, RCG, and in that we reviewed the 15 recreation sites that exist on the Lake. There was a reference to 23 informal recreation sites. And you and I discussed it, I put some e-mails in. I wonder if we could get something either on the website, or in the meetings, or something that would show us where those 23 informal recreation sites are?

MR. BILL ARGENTIERI: I could identify them on my recreation map, that I am sure you all got a copy of it. And we will be glad to bring it to the next meeting. It is a fairly large map that has all the public recreation sites, and promotion sites on it. It will be helpful as far as identifying them.

MR. REGIS PARSONS: If you recall our meeting, I asked about that. And we talked about possibly getting it on the website. But apparently it is too big.

MR. BILL ARGENTIERI: Yes, sir, it's a large map.

MR. REGIS PARSONS: But, if you could bring that, I would be most grateful.

MR. STEVE BELL: I have smaller ones of it and it shows you all the rec areas on the Lake, about this big.

MR. CLARK WEBER: So, y'all have a smaller one with all the recreation sites on it.

MR. BILL ARGENTIERI: We have the one with future recreational sites, I am not too sure if the (inaudible) years are on the one that you are referring to, though. --- are areas that were traditionally people, it may limited to dead end of the road, it may be under a bridge, it may be along the side of the road. Any place that people would have access to the Lake, to just walk in and go fishing. Those are those type areas.

MR. CLARK WEBER: They are not so-called

managed or designated for existing or future sites. --- SCE&G, big talking and I am sure you do a lot of long range planning for maintenance. In the next five years, how many maintenance events that will require a draw down of the Lake?

MR. BILL ARGENTIERI: At this time we don't know have any plans.

MR. CLARK WEBER: In the next five years? I know you said you will give us notice when you do, you usually give us six months notice. You must have a maintenance during the next five --- or, I would think even a ten year maintenance plan for that Dam. What has to take place in the time table for the next ten years? What events there will --- how many future draw downs?

MR. BILL ARGENTIERI: Maintenance issues, we have no maintenance issues planned in the next five years --
-

MR. CLARK WEBER: No more riprap ---

MR. BILL ARGENTIERI: --- that would require any kind of a drawn down at this time.

MR. ALAN STUART: One thing I do want to speaking of maintenance. One of the issues is being evaluated, is Lake level draw downs for plant management, and for water quality management. So, that's one of the things that is being discussed. We are looking at the frequency and we are trying to look at the hydraulics to determine when the draw down should take place and how quickly, and should it be based on hydraulic factor whether the reservoir can be met, raised to the level, target level, the next season. There is some concern that, especially the Little Saluda embayment, those that are familiar with that.

It somewhat functions as its own little lake, we will call it. And if there is so much inflow or input, nutrient input from some of the upstream sources, that that embayment could become, I don't want to say polluted, that's too strong of a word --- allude, appropriate. It means subject to severe algae and some other things. So, the only way to assist in eliminating that is to draw the Lake down so it basically does not create it like a hydraulic dam where the Lake can't flush out. That would be

--- that will be a consideration that is given, and it would be as part of a five year maintenance plan, or whatever. But it is not specifically for structures, as with the Dam.

MR. CLARK WEBER: A draw down like that for how long?

MR. ALAN STUART: Well, that is what we are evaluating. You know, we are evaluating the hydraulic record.

MR. CLARK WEBER: I think you have got too many employees who earn a living looking for a reason to

draw that Dam.

MR. ALAN STUART: I don't work for them. I mean, I am not an SCE&G employee. I am just telling you what we are doing is part of the water quality TWC. And as a matter of fact, I believe at our next meeting we will have a presentation, we are having a limnologist come in, and I encourage you to come to that meeting, and he will explain to you ---

MR. CLARK WEBER: It would be nice if we had these all laid out and you could bunch them so could do them all at the same time rather than draw down, draw down, draw down. One draw down, do two or three things at one time.

MR. ALAN STUART: And I think that would be the goal. It would be, you know, a planned draw down over whatever the time and frequency is. So, it would be, you know, if the opportunity present itself to do any kind of maintenance on the intake towers, or some other thing, it would be coordinated, I assume, with that. I don't think SCE&G is here to punish people and draw the Lake down. I think that, I know people are adversarial, or seem adversarial, but they are not here to punish you.

MR. CLARK WEBER: I think you need more (inaudible) on the Lake.

MR. ALAN STUART: I'll take the log, if we're giving them away. I'll be first to volunteer.

MR. CLARK WEBER: (inaudible)

MR. ALAN STUART: I have one question, from Newberry County. How many people in here are SCE&G customers?

How many people on the Lake, live on the Lake that are SCE&G customers? Yes, you do. Actually parts of Newberry and Prosperity are co-op. And they get their power from the Corps of Engineers.

MR. CLARK WEBER: Only about 30% of them on the Lake are SCE&G customers.

MR. ____: (inaudible)

MR. ALAN STUART: No, it is. They get their power --- the co-ops get their power from the Corps of Engineers, Santee Cooper, those sources. Those other lakes you see them being drawn down a lot further than Lake Murray. That's where you are getting your power from. Not in your backyard.

MR. STEVE BELL: Alan, what was the purpose of that question?

MR. ALAN STUART: Just a question for my own personal interest. You are on the co-op, Steve, I know what you're ---

MR. STEVE BELL: No, I'm with SCE&G and I think I'm glad that we have this Lake here as a backup system, because it doesn't, you know, affect lake levels

that much. The Lake level is SCE&G's concern and anxiety over the spring rains that come in. And I think we can do a lot better job in reducing that, and maybe we can reduce anxiety a little bit more.

MR. ALAN STUART: Well, what's in control of this is the man up above. He has the biggest control of it. I want to end on a quick story, so no more ---

MS. DONNA FOREST: May I ask a question?

MR. ALAN STUART: Yes, ma'am.

MS. DONNA FORREST: I am Donna Forrest, and I just a homeowner on Lake Murray. When there is a drought situation, which we have been for quite sometime, and there is a request for White Water Rafting, and other recreational things on the River, can you not say, "I'm so sorry, this is not a good time, we are in a severe drought"? Rather than saying, "Okay, here is some water." And everyone else is up the creek. I mean, how many kayakers do you have as opposed to recreational use up there?

MR. ALAN STUART: Well, quite a few. And to answer your question, that will be one of the things as we are going through the constraints and the modeling where we are trying to balance the water needs. Prioritization of certain activities. That's not to say, you know, we have gotten some requests from American White Water, their wish list, as we call it. It's everything they would like to have, if they could have it. But we have requested that they prioritize those in the event that, just like you said, there is not enough water.

MS. DONNA FORREST: Alan, we should have those already ---, or whatever. I mean, this could be a very important --- kyaking things.

MR. BILL ARGENTIERI: To respond. I am sure are --- or, I am assuming you are referring to the event that happened in July where we released some water for the International Kyaking Event. And that event was planned and was in the planning, and was planned over a two year period. And at the time that SCE&G made the commitment to provide that release, once again we didn't know what the weather situation was going to be like, so ---

MS. DONNA FORREST: (inaudible) the money.

MR. BILL ARGENTIERI: But SCE&G committed to that event, and it was an event that brought twenty-some teams from around the world into the Columbia area, and it was a balancing act that SCE&G thought that --- or, was working with the City of Columbia, and it brought in quite a bit of tourism. I don't know if you know or not, but people could not get a hotel in the City of Columbia for that week because of all of the events that were going on. And one positive note on that, and maybe the people that live around the Lake might not think it was a positive, but the City of

Columbia thought it was a positive, was that the organizers of that event were so impressed with Lower Saluda River and the hospitality that they said they would rather have stayed here the whole week instead of spending three days up in Charlotte. They felt that if they would have stayed here it would have been a much better event. So, it was a great event to show case the City of Columbia, and it was ---

MR. CLARK WEBER: --- a waste of water.
(everyone speaking at once - not transcribeable)

MR. BILL ARGENTIERI: I don't have those numbers, but it was --- I think that event in itself lowered the Lake four inches in that area.

MR. JACK RICHARDSON: As I recall, the press said that that event was so well handled that they are planning on future annual events of the same nature, and it's going to be a very big benefit to the Columbia area as far as income goes. If that's the case, and you spent two years planning for it, why could you not plan at, you know, 358, 360, when it comes give them the water and we're still happy?

MR. BILL ARGENTIERI: (inaudible) ---- certain times of the year, and actually some of you brought that up. We have a request for another White Water International Event next August, planning annuals.

UNIDENTIFIED: You are planning on a protest.

MR. BILL ARGENTIERI: And we have not committed to that one yet.

MR. JACK RICHARDSON: But if you do commit, can you commit to the Lake homeowners what the level would be prior to, during, and after?

MS: DONNA FORREST: Yes, and they come in January.

MR. ARGENTIERI: Well, we don't set their schedule. They have their own schedule, and when they are --

MR. JACK RICHARDSON: You just said you plan two years in advance, so you must know the schedule.

MR. ARGENTIERI: No, --- Well, the schedule is, they plan the schedule. SCE&G does not plan their schedule for them. I am hearing have them do it in January. Their schedule usually wants them to do it in one of the summer months, like July or August.

MR. JACK RICHARDSON: I understand that.

MS. DONNA FORREST: But don't you have the right to say, "I'm sorry, we can't do it at that time. We are in a drought,"?

MR. ARGENTIERI: We are evaluating that right now for next year, yes.

MR. JACK RICHARDSON: So, actually the economic impact is what the high point is there.

MS. DONNA FOREST: It's all the money.

MR. JACK RICHARDSON: One other comment. This is my first meeting, and I hear quite a bit of talk about how SCE&G and SCANA really manage their properties, manage the Lake, manage how you can build on, put a dock on, and all that. And they also tell us how they manage the water. We don't own the property, but a statement was made by Al, I think it is, that the State is the water owner. Well, the State is the public. We are the public and we don't seem to be being heard, as far as I can hear. This is my first meeting.

MR. ALAN STUART: That's why we formed the Resource Groups. The State is, and will be the first, or DNR and Department of Natural Resources, PRT, they will freely admit and state that you guys are their constituents, and they represent your interest; but they also have not just Lake homeowner interest. They have River owner, or River user interest. And when you say --- you're right, you know, you are the public. Just as you say that, there are kayakers, and everybody else out there. And that's what the DNR is trying to --- the DRC, and those guys are to keep in mind and consideration when we are trying to evaluate these needs and uses on the Lake and the River.

MR. JACK RICHARDSON: Right. Earlier I had asked why 356 could not be maintained. And whatever elevation you have now, 353, 352, it's being maintained beautifully. Why can't you come up 2 and 1/2, 3 feet and maintain beautifully?

MR. ALAN STUART: Again, I think a lot of it has to do with rainfall. As you noticed, as Bill explained earlier, there was basically 700 cfs being lost out of the Lake, and it corresponded to that where you saw the curve beginning to go down in June. So, again, you can't make water. I mean, you can manage water to a degree, but you can't make it.

MR. JACK RICHARDSON: Okay, but you are maintaining at where we are. We are not losing every day.

MR. ALAN STUART: I beg to differ. I think that was the point of what Bill said. You are losing between ---

MR. JACK RICHARDSON: You mean evaporative and municipal ---

MR. ALAN STUART: Evaporation, withdrawals for consumptive uses, and lack of inflow. So, there are days, I think, the Lake dropped down six inches a week at peak of a parks drought, is that what it is? So, that's just evaporation.

MR. JACK RICHARDSON: Got 'cha. Thank you.

MR. ALAN STUART: It's such a huge reservoir.

MR. JACK RICHARDSON: I have to comment one

more thing. You are handling this meeting beautifully.

MR. ALAN STUART: Thank you.

MR. STEVE BELL: Steve Bell with Lake Watch. To answer --- I would like to add to the gentleman's concerns here about, you know, how --- who ultimately decides what happens on this Lake. Ultimately the Federal Energy Regulatory Commission will determine what happens, how the water is going to be used, how the land is going to be used because they ultimately approve the license application. So, and they work on --- they act as Trustee for the public to ensure that the public resources are managed, you know, on behalf of the public. So, the FERC will give the final --- make the final determination on how this project is going to be managed in the future. Thank you.

MS. BERTINA FLOYD: Bertina Floyd, Lake Murray Homeowners Coalition. Just one question. Are we anticipating torrential rains in the --- you know, at any time with hurricanes or anything like that? And, if so is the Lake going to be brought down so we don't go too high? Or, are we going to pray those rains and let it come up?

MR. ALAN STUART: Well, I think --- I am not a meteorologist, weather man, but I think the second part of your question or statement is correct. As far as I know, we are entering the end of the hurricane season. I think it ends in sometime in November, and we almost there. So, I don't foresee us getting any hurricanes. And if you recall that third slide, you know, based on what Noah is projecting, it appears the drought is going to continue or it could possibly even intensify. So, unfortunately I think that's the answer to your question.

MR. ROBERT YANITY: Robert Yanity, Public Affairs. I just was going to --- when we were talking about the kayaking event, I know that I think Bill had mentioned that it maybe impacted the --- well, I actually was going to talk to that graph you had up there. Could you go back to that real quick? The one you just had up. That kayaking event, I think, took place in July; and I think at the time, if I'm not mistaken, we also did Columbia's Swift Water Rescue at that time to at least maximize the release of the water. But, if my understanding is correct, from the middle of July the only scheduled releases that we have had have been the kayaking event, and then we had some maintenance work on Saluda in September. So, as you can see from that red line, you know, we have only had two instances where we have released, you know, several inches of water for various things. Everything else is Mother Nature is just not allowing that Lake to come up. And if I am understanding that correctly, that's what that red line shows is that, you know, more water is going out than is coming in. And we

can't change that.

MR. ALAN STUART: I think ---

MR. CLARK WEBER: --- here is the drought (inaudible). In January and February goes down to 354, 355, 356, something like that will change that mentality of lowering to 350 because when that happens then you do get a drought, then you've got a disaster on your hands. And pre-drought, that has been the policy, hasn't it? To take it down to around 350? Pre --- all of this drought. We want to see that change. --- has a dock permit, who are very, very angry. We pay all property taxes in the whole damn State and County because we got (inaudible) property, as our docks sit in the mud four months a year, or five months. All this stuff comments, we are unhappy.

MR. ROY PARKER: I think SCE&G in some of the meetings that we have had, the Lake Murray Association, they have had a representative come to our meeting and we have had one of the officials say that they would try to maintain that level at 354. Now, of course, we have --- if we have insufficient water, that won't be possible. But they are not planning to go below 354 unless it is weather related.

MR. CLARK WEBER: And we would hope that that kind of worry gets into a relicensing agreement. I don't want to put intention, the relicensing agreement should verbiage in there that states that. Maybe even supply what your emergencies are.

MR. ROY PARKER: I would just like to add one other comment related to the rafting event. I know there is incentive to the business community in the Columbia area because they certainly benefit from that. But I think that it would be wise for SCE&G when they are considering those business benefits to those people in Columbia to also consider the business benefits that higher water levels give us to the Lake, the businesses that are on the Lake; and also, you know, we need to balance those business interests both from lake owners as well as the Columbia business interest. So, I would like to see that taken into consideration when those decisions are being made. And, maybe they are.

MR. STEVE BELL: Last question? Steve Bell, with Lake Watch. I just want to say that the Lake Murray Homeowners Coalition and Lake Watch have asked --- have requested that 356 be put into the model that they are going to run a flow model, or whatever; and we are requesting a minimum of 356 be included in that model as a constraint, or whatever. And we will see what happens, and you know, when we put that in there, and we hopefully could be looking at, you know, a fluctuation between 358 and 356, according to what the model says. But, that request is being made, and it's going to be put into the model; and we will have to see

what happens after, you know, the downstream people's constraints are put in, too. Thank you.

MR. ALAN STUART: At this point we don't know that. We are not --- there is no commitment to any level at this point.

MR. STEVE BELL: And why is 356 (inaudible) to be put into the model, and we will see what happens. What the outcome is.

MR. ALAN STUART: Basically what will happen is, the Lake will --- the model --- Whatever it is. It could be 350, it could be 360, it could be whatever. And then you start adding constraints. There will be a minimal flow requirement of X-cfs, twenty-four hours a day, seven days a week, from this year to this year. There may be a higher cfs for fish spawning, or whatever other activities at this level. You start putting these constraints, those are the actual constraints. If the model sees the Lake at 356, it realizes there is so much water in the Lake it could elevate to 356 based on inflow. Then you start putting these other constraints, downstream constraints, and it starts sucking that water out. There will be a constraint for power generation, or for reserve costs. There will be, like I said, for fish habitat and other things, there will be a continuous minimum flow. It may be a seasonal type thing where "X" as being the summertime, a little higher in the fall, and a little higher in the winter. And those will go in there and they will start drawing out water from the model in the Lake. And then you will see how many times that the Lake level can be maintained at a certain --- at 356, or how many times, quote, it is violated. Does that explain a little bit? Any other questions?

UNIDENTIFIED: Do you want some more?

MR. ALAN STUART: I'll field 'em all day.

UNIDENTIFIED: Thank you very much.

MR. ALAN STUART: Thank you, guys. I appreciate y'all coming out.

END OF PUBLIC MEETING.

SALUDA HYDROELECTRIC PROJECT RELICENSING
FERC PROJECT No. 516
Quarterly Public Meeting
October 25, 2007
7:00 o'clock P.M.

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PUBLIC MEETING:

MR. ALAN STUART: If I could get everybody's attention, please, we can go ahead and get started. I want to welcome everybody to our evening Quarterly Public Meeting. A couple of housekeeping items, we do have a break scheduled inbetween the presentations if you have a need the facilities, they are down the hall and to the right. Another item, we have rearranged the Agenda that was out there; we are going to start with the presentation on the effects of the drought on Southeastern reservoirs first. We found out during our morning Meeting that there were a lot of questions, and thought that changing the program around would be beneficial in addressing probably some similar questions we may get this evening. I am Alan Stuart, the first thing we wanted to do is kind of give everybody an update on where we are in this relicensing process. We plan to issue the Draft Application next month. Alison will come up after my presentation and talk a little bit along with what the purpose of the Draft Application is, its contents, and some of the Regulatory milestones associated with it. We have been working very hard to develop a new draft for our management plan within the Technical Working Committee. And there is a little work that needs to be done on that. We had planned to issue that simultaneously with the draft, but unfortunately like I said, we have a few loose ends that need to be addressed and tied up so it will probably be a January timeframe before we get that out. We will be beginning the operational modeling with the Resource Group constraints. What those constraints are will be things like minimum flows to protect fish habitat in the Lower Saluda River, recreational flow releases that have been requested. It's basically where we balance the water, see how much water is available, put in all the constraints, and see what can and can't be done. And lastly, we will begin developing what we call the Issue Resolution Agreement; that's where we develop, after we have done some of the balancing, the flow recommendations and all that, and how everything plays out. That's in April. And then in August 31st, 2008, we have to by law file the Final Application with the Federal Energy Regulatory Commission. At that time, if we have not finalized the Issue Resolution Agreement, we will put a place holder in the application and let FERC know that we are continuing to work on that, and we will file that as soon as possible after we file the application. Are there any questions on the relicensing, any part of it?

UNIDENTIFIED: When will you be doing the Draft Application?

MR. ALAN STUART: Alison is going to do that in her presentation. She has got a very comprehensive presentation. I think you will find it very interesting, the content of that.

This is my presentation on the effects of the 2007 drought in the Southeast. As everybody has probably, if you have been anywhere near a television, newspaper, radio, you have heard quite a bit of it recently. A few facts on the drought, the graph is basically four categories: moderate, severe, extreme, and exceptional. I believe our State is in the severe category at this point. 26% of the Southeast is in an exceptional drought.

Exceptional drought, basically from what some of the experts say, those are droughts that happen around every 100 years. So, it's pretty significant. Also, most every state, I believe all Southeaster States have some mandatory water conservation measures. I think it is done a --- I know is South Carolina it is done on a County by County basis. But, in this State we are in a severe drought of mandatory conditions for sometime. This is a graph that states basically the departure of normal rainfalls this year up through October 22nd. If you can't read the scale, this basically represents a 20" deficit in rainfall. As you can see, there is a belt right here through the headwaters of Georgia, Tennessee and Alabama --- yeah, Georgia, Alabama and South Carolina extends up into Tennessee. Obviously, Alabama is suffering the most extreme effects of the drought. Obviously, Tennessee --- or, Texas, and Oklahoma, and Kansas, those states are really full of water; unfortunately, we are not getting any of it. To give you an idea of how it translates into cities and areas close to us, as you see Columbia is primarily second, including the rainfall we have, thank goodness, just recently got. But we are about 17" into desperate in the Columbia area. Again, Birmingham, almost 20". You can see most of these major cities are pretty dry. This is the drought outlook that was prepared by NOAA. As you can see, that same area that has been dry, unfortunately, the drought based on projections, the drought is to continue with this or even to intensify, which is not very encouraging for lake levels, water levels in the state. What I have done is take a few reservoirs to show examples of how the drought has affected conditions in those reservoirs. I selected Weiss reservoir, right there on the border of Alabama and Georgia. Lake Martin, in the lower portion of Alabama. Lake Allatoona, Lake Lanier, Hartwell, Strom Thurmond, and of course, Lake Murray. I am going to show you a series of hydrographs. For the most part they are different in some level, but I will explain how they are. Just to give you an idea of how these lakes compare in size, obviously Lake Thurmond, the biggest reservoir in the State around 70,000 acres. And then Lake Allatoona is one of the smaller ones. As you see, Lake Murray at 40,000 acres falls pretty well in the middle of all that, all those guys. This is a hydrograph of Lake Weiss. Lake Weiss is the one that was in the upper righthand corner of Alabama on that border of Georgia. The red lines --- the way you read these hydrographs, the blue line is the actual 2007 level in Lake Weiss. The red line, this is their upper end of their guide curve. The lower end is here, and basically this black line you see is based on average elevation since 1965 for Lake Weiss. As you can see, Lake Weiss is pretty dry; it's actually below the low end of their guide curve right now. This hash line from that point forward are projections of how the lake will continue over the next few weeks. It did reach, actually exceeded the top end of the guide curve early in the year, but as the lack of rainfall throughout the season continued, it died off pretty much after that. To give you an idea, that would be elevation 557, from their historical record, that is 561, so that's about a four foot difference below normal. It's a little bit, slightly more than that for the upper end of their pool. One of the key points that

I pointed out earlier, as you will see, on every one of these hydrographs, there is a draw down associated with these reservoirs, that's typical operation in the Southeast. This is Lake Martin; this is down near Montgomery. As you can see, they started out fairly well early in the season, and they started making some progress towards the upper end of their guide curve. And then as the drought persisted, they have actually dropped very low on the low end of their guide curve. Departure from normal, that's 483. That's about 474.2; so that's about 10 feet, close to 10 feet. The last I heard the projection, if they don't get significant rain, they could be below 15 feet here very soon. This is a hydrograph of Lake Allatoona. This is prepared by the Corps of Engineers, it's a Corps of Engineers Lake. As you see, you can still see a very similar trend. And the blue line represents the actual --- this is the record low based on data from 1952 to 2006. It's very close to their record low in that reservoir. As you see, this would be about 422, their high end where they should be at this time of year is somewhere around 437. That's about 14 feet. Lake Lanier, very similar. Again, they are below their low level guide curve. Significantly below normal, and very much below the top end of their guide curve. Lake Thurmond, again very similar. What this shows is significant drop in their guide curve and their full pool. The varying colors, the yellow and the green, and the red, these are actual releases based on the lake level. They have a level one that pretty much would release 4,200 cfs from Thurmond dam, all the way down once the water level drops below their 3rd tier, level 3, they will cut back to 38. I believe the last I heard, they were cut back to 36, and stayed at 3600 regardless of that inflow. Inflow to Lake Thurmond was say, 2400; the Corps was going to continue to release 3600, the last I heard. Yes?

UNIDENTIFIED: (inaudible)

MR. ALAN STUART: It goes down to Augusta, Georgia; and then on to the Savannah.

UNIDENTIFIED: (inaudible)

MR. ALAN STUART: Oh, yes. I think it hits --- yeah, there are various purposes. I know Evans, Georgia, has the water withdraw, Columbia County. The City of Augusta, pulls water out of the Augusta Canal for their drinking water. There is a simulation, you know, there is industry down there that they have to release certain flows for, you know, dilution, that type stuff. They do generate electricity with that, you know --- sell to, it's basically given to SEPA, which is the Southeastern Power Authority; Southeastern Power Authority then supplies electricity to those co-ops. They are different from SCE&G, and SCE&G produces only to their customers. Whereas, the co-op actually gets their power from the Corps of Engineers, TVA, --- some of those.

MR. STEVE SUMMER: Alan, this is Steve Summer, SCANA Services. To clarify, all that water coming out of Thurmond is the Savannah River.

MR. ALAN STUART: Yes. This is Lake Hartwell. Lake Hartwell is up above Strom Thurmond, for those that aren't familiar with it. Again, you see the same trend, I mean it is very dry. And I haven't heard much on what the Corps' plan is, but I

suspect it is going to be continued to operate business as normal. This one is near and dear to everybody, I'm sure, this Lake Murray. It's pretty colors and everything, so I will just tell you what's what. This is the actual guide curve --- the curve, this guide curve is what we call it. The red is the actual lake level for this year. The blue is the daily average outflow from Saluda Hydro. And the green is the average daily inflow; and that daily average inflow that accounts for evaporation and also water withdrawal from --- the municipal water withdrawal forces of the City of Newberry. I think Columbia, the City of Columbia, and what is the other one? West Columbia. So that's basically the net after those water withdrawals are taken. As you can see, Lake Murray is actually above the actual guide curve for this year. As you recall some of the past hydrographs, most of those other lakes were significantly below that. Are there questions? We had quite a few questions that were --- yeah, Dave.

MR. DAVE LANDIS: Dave Landis, Lake Murray Association. You said inflows for the blue line and outflows just ---

MR. ALAN STUART: The blue line is outflow from the Saluda Hydro. The green line --- there we go.

MR. DAVE LANDIS: Okay. And just to clarify, the outflows include Newberry, Columbia and West Columbia water usage for the ---

MR. ALAN STUART: That would be inflow. The inflows to the Lake, or minus the net inflow which subtracts evaporation and the water withdrawal. Because it is obviously not water that can be used. That's the easiest way to phrase it.

MR. DAVE LANDIS: And we are above the mean because of SCE&G's trained to keep it at the 354 level and maintain that for the winter.

MR. ALAN STUART: Yes, they have made an effort to try and target that 354.

MR. DAVE LANDIS: Looks like we would --- the water, level that in the spring.

MR. ALAN STUART: You talking about this blue line? Where it has the --- from the Hydro? It would be the blue line. And if you notice, you have to look real close because it's in there. That green line extends all the way up to about here, which would have been high inflow coming from Lake Greenwood and whatever tributaries enter into the lake. Question?

MR. CLYDE WARD: My name is Clyde Ward. Now that we have introduced grass eating carp in the Lake, what is the reason why the guide curve is down to 350?

MR. ALAN STUART: Now that we have introduced what?

MR. WARD: Grass eating carp in the Lake to handle the weed problem, why has the guide curve come down to 350 each winter?

MR. ALAN STUART: For aquatic plant management, the 345 is what they drew the Lake down to control the last aquatic plant management draw down. Not 350. 350 is the guide curve that they use. That's basically what's happened over the past --- I don't know the, what is the period of record? Fifty years, forty years?

MR. BILL ARGENTIERI: That guide curve is based on what we have on our license now. The grass carp is being introduced into the lake does not have anything to do with how you manage the lake for hydrology. The grass carp, as Alan was saying, has to do with the aquatic plant management. And the reason why we call the lake down is the hydrologic issue of when the spring rains come we want to make sure there is enough room in the lake to handle the rains that don't violate our license elevation. So trying to compare the two is comparing two things that should not be compared.

UNIDENTIFIED: (inaudible) --- the last ten years (inaudible).

MR. BILL ARGENTIERI: The answer to that would be, we hope we never come (inaudible) the lake, because that would be violating our license. That's the whole idea of not ---

UNIDENTIFIED: (inaudible) --- 350 or 250.

MR. BILL ARGENTIERI: When we have spring rains, yes. When spring rains come --- if we have a normal rainfall year, the rainfall will fill up to 350 in elevation, on a normal rainfall year.

MS. PAT SCHEETZ: How often? I have lived here for 25 years and I can't remember that happening very often.

MR. BILL ARGENTIERI: Normal rainfall year?

MS. PAT SCHEETZ: Where it went up to 350.

MR. BILL ARGENTIERI: Once again, I just --- at 358, we have got a limit on our license. We really don't want to test that. It's not like we want to see how close we can get. So, that is why we target at 358 as our upper range.

MR. ALAN STUART: 358 is considered the normal operating range.

MS. JOY DOWNS: You have done your work in that possibility. Hurricane Hugo brought 22 inches of rain. Think about that for a second. Katrina could have done more had she come here.

MR. ALAN STUART: The record is --- like I said, we have to video and audio tape the Meeting. Alison is walking around with a microphone, see Alison up here because you need to speak into that microphone, state your name and who you represent for the record. Thank you.

MR. STEVE BELL: Steve Bell, with the Lake Murray Homeowners Coalition. Alan, I think everybody should know that this is the current little curve for the old license and as we go through the relicensing process, we are putting in information that may change that for the next relicense. And it could be that that curve, we could have a minimum level of 356 or 357 based on, you know, what the computer model tells us. So, we are waiting on the outcome of that model to look at what a new real curve could be. So, we are not stuck with that. Thank you.

MR. ALAN STUART: Other questions?

(No response)

MR. ALAN STUART: With that, this gives kind of a comparison of where all the other lakes, a lot of lakes, within the Southeast and how they compare to Lake Murray. The silvery gray is actually the full deviation from pool to pool for these

reservoirs. The yellow is the deviation from the normal seasonal level. As you can see, Lake Murray is the only one that is above normal seasonal level. Just a quick summary of some of the impacts. All the marinas at Lake Martin closed. That's pretty significant. Governors from Alabama and Georgia are threatening to file lawsuits against the Corps of Engineers and Fish and Wildlife Service to reduce flows from some of these core dams. Lake Lanier provides drink water for 1 in 3 Atlanta residences. It was estimated, the last estimate I heard was they were contending they were going to run out of water if they didn't get significant rains within 120 days. I talked to somebody today, he had heard 80 days. So, that is pretty significant.

MS. JOY DOWNS: (inaudible)

MR. ALAN STUART: 90? Yeah. Joy said --- for those who didn't hear, Joy said it was 90 days when she was there last week. Approximately 50% of the boat ramps on Lake Thurmond and Lake Hartwell are closed. Currently, I believe they have got one boat ramp that closed on Lake Murray. So, as you can see, things aren't quite as bad as they could be. To kind of give you an idea, this is Lake Martin in Alabama. That's Lake Marion, which Lake Murray feeds.

UNIDENTIFIED: (inaudible) --- we don't have to give them water (inaudible). And that is one of the reasons why we (inaudible).

MR. ALAN STUART: That is a positive. However, I am sure, as you can imagine, not getting water makes these people just as irritated as some of you may be. This is Lake Allatoona. If you look real close, this is a pole. If you look where the change from white to black, that's the normal high water mark --- water level in Lake Allatoona at this stage. Lake Lanier, up near Atlanta. I made the comment this morning, I am sure these few individuals got to know each other very well over the summer. That's Lake Hartwell. This one is near and dear to me because we are going to talk about these markers in the lake. To get kind of a perspective, Dick Christie was here this morning, with the DNR. I believe he said these buoys are close to five foot tall. Isn't that what he said? That kind of gives you an idea, that's at least three of those buoys in that bottom going down. So, that kind of gives you an idea, a perspective. That's Lake Thurmond; or, a cove in Lake Thurmond, not necessarily Lake Thurmond. Lake Norman, one interesting thing I noticed in there was how that's been excavated out. If you look real close, you can see a significant change in the color of the water there. That's Lake James in North Carolina. If you can see it, the water is right there.

UNIDENTIFIED: We have actually got places on Lake Murray like that. (inaudible)

MR. ALAN STUART: I am not sure how far that is, I wish I had a scale to see how far that was. But that has got to be at least 100 yards. That's Lake Wylie, what the red area is pointing to is one of the water withdrawals for either the City of Rock Hill or possibly Fort Mill. I'm not sure which one. The transition, that's basically the high water mark. We see that black down through to the water. It's typically where the water

level is in Lake Wylie. I believe there was another picture. I believe that's about 28 inches where that guy is standing. Falls Lake in North Carolina, That's Lake Allatoona. I thought that was pretty interesting. That's a fire truck pumping water back into Lake Allatoona. That's pretty much the end of that. I will be happy to answer questions.

UNIDENTIFIED: The closest lake to Lake Murray is Lake Greenwood? Lake Greenwood is also the first lake upstream of Lake Murray?

MR. ALAN STUART: The only major lake, that's correct.

UNIDENTIFIED: Do you have any pictures of Lake Murray --- of Lake Greenwood?

MR. ALAN STUART: No, I don't.

UNIDENTIFIED: You don't.

MR. ALAN STUART: I believe Steve said he checked something and they were near full pool.

UNIDENTIFIED: That's correct, yeah.

MR. ALAN STUART: Or, close to it. So, they are basically holding water back. I'm not sure what the inflow at this point is from Lake Greenwood, but this is SCE&G's hold --- releases for, you know, so they can't make it downstream to Lake Murray. Lake Greenwood is doing the same thing to Lake Murray.

UNIDENTIFIED: So you do show us pictures of lakes in Alabama, but you don't show us any pictures of the lake that's closest to Lake Murray. Thank you.

MR. ALAN STUART: Well, I showed you Santee Cooper. I mean, I showed you the ones around --- I will be happy to show any pictures you like.

MR. STEVE BELL: Alan, Lake Greenwood is --- Steve Bell, with the Lake Murray Homeowners Coalition. They normally operate --- they will operate as close as to one foot below their legal limit. And right now, they are at three feet below their legal limit. And they will stay until December, and then they will draw another couple of feet out, off from that, then for the rains. But, one thing that is interesting is that, I believe, on January --- or, February the 1st, they are going to start bringing their Lake back up, and they will shut the door on us from February 1st, or either February the 28th until April, they close the door. So, you know, we won't be getting a whole lot of rain from them, you know, next year if the drought doesn't go away. Thank you.

MR. ALAN STUART: Right. I am not sure, what's the acreage of Lake Greenwood? Tommy, do you know how big Lake Greenwood is?

MR. TOMMY BOOZER: About 1,000.

MR. ALAN STUART: It's about 1/3 of the size of Murray? Other questions?

(No response)

MR. ALAN STUART: Well, y'all are an easy crowd compared to the one this morning.

MR. KEITH LINDLER: About how much inflow does Lake Murray get from Greenwood versus (inaudible).

MR. ALAN STUART: About 58% of it.

MR. KEITH LINDLER: Of Greenwood?

MR. ALAN STUART: Well, Greenwood picks up about 58%. Just runoff from some of the --- like Clouds Creek, Ninety-six creek.

MR. KEITH LINDLER: Keith Lindler.

MR. ALAN STUART: Some of that.

UNIDENTIFIED: (inaudible)

MR. ALAN STUART: No, there's none of that.

The reason I know it's 58%, because we did a water quality model for Lake Murray when we were addressing some of the phosphorous nutrient level. And what we found was Lake Greenwood contributed about 58% of the inflow, but only about 18% of the nutrient load; and where the other tributaries and other providers, the additional input, nutrient input, was much less flow. So, that's how I know.

MR. STEVE BELL: Steve Bell, with Lake Murray Homeowners Coalition. I just want to ask Bill Argentieri, and his folks at SCE&G, to please not run water out of this Lake for lake level management 'til we get this Lake back up to 358, and we are in this drought situation. And I would hate for us to get a good bit of rainfall coming in the water shed and the Lake would come up three or four feet, and y'all would decide that you need to run water out of the Lake so you can have it down at 354 by January the 1st. And, you know, considering the drought, I would ask you to please re-evaluate your normal policy. Thank you.

MS. JERRY KELLY: Jerry Kelly, homeowner.

Let me ask one question, if you get to that 358 or what, don't y'all have a spillway you can open up to let the extra water come up in case of a hurricane, or whatever, is going to come and fill it up?

MR. BILL ARGENTIERI: Bill Argentieri, SCE&G. There is a spillway at this project, but if we have to use it, then we are not doing our job. To open the spillway, we are wasting water, and the Public Service Commission would not approve of our using the public water in that manner. So, what we would want to do is generate through the power house and be prepared with --- give ourselves enough time to be able to generate through the power house to lower the Lake in order to accept whatever water is coming in from the impending storm. Yeah, we don't want to just open the spillway gate just to release water. There is another issue which our attorneys tell us is not a good idea for opening spillway gates as it leads to legal action against SCE&G. And I know we have a whole floor of attorneys, but we really don't care to keep them busy by suits against us for flooding downstream when we could have managed the Lake through the generation and through the power house.

MS. JOY DOWNS: Joy Downs, Lake Murray Association. Steve asked that Bill, or SCE&G, not bring the Lake down to 350 by January 1 --- or, get to 350 by January 1. It is certainly my understanding that that is not the intention of SCE&G this year to bring the Lake to 350. Am I correct?

MR. BILL ARGENTIERI: Bill Argentieri, SCE&G. Actually I understood Steve to say that he didn't want us to bring it back down to 354, but ---

MR. STEVE BELL: If it goes up.

MR. BILL ARGENTIERI: If it goes up, yeah. So, don't bring it back down to 354, yeah. But, yes, Jim Landris (phonetic), our Vice President, has agreed to target the elevation of 354 during the winter months. Now, as you can see, we are already below 354; so, when we do get rains we will manage the Lake to try to maintain the elevation between 354 and 358.

MR. ALAN STUART: Bill, I like what you said. Bill pointed out something this morning, I don't think we touched on. And, Bill, help me out here with where we had the minus 700 cfs. There was a point around the end of June, first of June ---

MR. BILL ARGENTIERI: Yes, sometime in June, about the time when Greenwood reduced their discharges significantly, and the evaporation from Lake Murray kicked in to high gear, and with the municipalities withdrawing water, we were at a position where we were release --- between our minimum flow releases and the inflows, minus evaporation and water withdrawals, we were at a minus approximately 700 cfs. And we have been at that minus cfs since --- what is that? About five months now. And that's one reason why the Lake level is coming down as it is shown there in the graph. If you notice, the green line is in the negative area, which is the net inflow. So, we have had a net inflow. Plus, the blue line, which is our discharge. So if you add the blue line basically to the green line in the negative direction, you will see that we have a negative inflow, or in this case a positive discharge from the Lake.

MR. ALAN STUART: Thank you, Bill.

MR. MALCOM LEAPHART: Malcom Leaphart, Trout Unlimited. Would you explain to the audience tonight a little bit about how you maintain the dissolved oxygen through the turbine vents, and how that affects the actual minimum flow? I hear a lot of people complaining about your releasing so much water through the Lake, but it is really in the two to six hundred range for the most part, and I think maybe the change in that range is probably due to the venting. But I am not sure everybody understands it. Thank you.

MR. ALAN STUART: For those that did not, or could not, hear Malcom's voice, what he basically asks is if I would explain the turbine venting in trying to maintain dissolved oxygen levels in the Lower Saluda River. SCE&G has implemented what they call a turbine venting program. Basically what it does is they use the existing units and they will spin them at a lower gait, or a gait that actually draws air into the releases from the Dam, or from the turbine, effectively vent and maintain those dissolved oxygen levels for fish and other creatures in the Lower Saluda, is the optimum around 400 cfs is what is what is required to effectively vent. There has been some conservation groups that have been very strict on SCE&G's maintaining dissolved oxygen levels in the Lower Saluda. As a matter of fact, if you look right there, that spike was the result of some turbine testing that was required by one of these conservation groups. So that's what accounts for that spike in release from the hydro. Malcolm, does that kind of answer your question?

MR. MALCOLM LEAPHART: Yeah. I think a of people may

remember when we had minimum releases as low as 100, you know, 180, 200, 250 in that range. And I think some of the questions, you know, why it's in the four to 600 range, and I think the turbine vents were the answer. So, thank you.

MR. ALAN STUART: Yeah, basically, SCE&G requires -- I say requires, agreement with DHEC is 180 cfs. At 180 cfs, the turbines will not vent. They won't aspirate, they won't suck air into the discharge release. So, that's why you will see it fluctuate upwards towards the 400, between around 300 and 400 because that's the lowest gage setting that the turbines will aspirate, or pull in air, and maintain water quality in the River, which is very important.

MR. STEVE BELL: Alan, would you explain why you would do that (inaudible)?

MR. ALAN STUART: Well, in that scale basically we fish and insects will suffocate if there is not enough oxygen, all the oxygen in the water, fish need around three parts per million at a bare minimum. Well, the bugs the bugs that the fish feed on need around three. Fish can go a little bit lower, but not for prolonged periods of time. The State standard for waters in South Carolina, excluding trout waters, is four minimum, five daily average. In the Lower Saluda there is also a third standard, which is five and a half milligram, thirty day moving average. It's like a specific standard that was developed as part of a huge study that was done with DNR, DHEC and SCE&G. Luckily, the waters are not of higher standard, or I say higher standard, trout water; trout waters in the mountains, I think have a much higher standard. There is a growing trout fishery in the Lower Saluda, and that's basically what is needed to protect those species. The stripe bass actually move up into the Lower Saluda River and use it as a thermal refuge during the summer. Quite a few stripe bass, large stripe bass are outside that stretch of river. It's a very important fishery to the South Carolina Department of Natural Resources in there. They are very concerned not to impact any of those creatures.

MS. JOY DOWNS: With the drought situation as it is, what is SCE&G currently doing with reserve? Are you going to other sources, if possible? For example, Fairfield, or something else?

MR. BILL ARGENTIERI: Bill Argentieri, with SCE&G. Actually we have always tried to use other sources if we could, and Fairfield is one of the sources, and gas turbines are another source. But, Saluda is still on the radar screen for assisting with our reserve at this time. Even throughout the year, we have tried to use other sources, but if they are not available --- right now we have had problems pumping up Fairfield, there is not enough water in the Broad River to get Fairfield up to full pond. So, we are limited there. So, you know, there are others --- depending on the issues, that is usually a call that our dispatchers make based on the availability of all of the plants that we have.

MR. ALAN STUART: Does anyone in here not know what they are talking about when they are talking about reserve? Does everybody know how the Saluda is operating especially with reserve

operation? Yes? No? Basically it means below the zone --- it means it will come on to help balance the grid if there is an outage, say, at McMeekin, and there is an immediate need to help stabilize the grid, they will cut on Saluda until they can find alternative power sources. One of the benefits of having a hydro with storage capacities is it can come on very quickly within fifteen minutes. SCE&G has an agreement, which is an agreement for load sharing in the event of an outage. It is between Santee Cooper, Carolina Power and Light, Duke Power, Virginia Power, and Santee Cooper Progress Energy. And their contribution to that is 200 megawatts. So, if a plant at, say, one of Duke Power's Nuclear Plant, they lose 1100 megawatts, then they go to all those other utilities to get staff in to help stabilize their grid so we don't have brown-outs and black-outs.

MR. STEVE SUMMER: Steve Summer, of SCANA Services.

We are talking about not using Saluda Hydro, just for a point of reference. That 500 cfs is coming out of the Dam right now is essentially providing no generation, you know, less than one megawatt, I think is on the average. So, it's just enough water to make the electricity flow in a positive direction.

MR. ALAN STUART: If that. And there's times that it actually flows in a negative, will actually use electricity, if you can believe that.

MR. STEVE BELL: Steve Bell, Lake Murray Homeowners Coalition. Alan, I think we all need to understand that while Saluda's use for reserve power, that there is a lot of generation that goes on when you manage lake levels, when you release water to bring the lake down for the incoming rains, all of that is a part, you generate during that time. And how you --- and one of the reasons why you want to bring the water level down is so you can generate when you want to rather than at the spur of the moment, and you maximize your efficiency. But, there is a lot of generation going on, it's more generation going on with managing lake levels, I believe, than reserve capacity.

MR. ALAN STUART: There is an energy production when there is a lake level management. Of course, we are not going to sit there and not use the energy, they may have an outage --- it may correspond to an outage at Fairfield or one of the others. And it's an energy producer, it's not a capacity producer at that point.

MR. STEVE BELL: Right.

UNIDENTIFIED: (inaudible) generation had to be utilize this past summer?

MR. ALAN STUART: For reserve capacity?

UNIDENTIFIED: Yes.

MR. ALAN STUART: I don't know.

MR. UNIDENTIFIED: Looking at the spike here, it doesn't appear to be used very much.

MR. ALAN STUART: That's correct. You said for reserve capacity?

UNIDENTIFIED: Right.

MR. BILL ARGENTIERI: Bill Argentieri, SCE&G. Actually looking at the spikes, none of those spikes are for reserve generation. Every one of those spikes has to do with

either a recreational flow release or a test that we were required to do as part of our relicensing. Any reserve call will not show up on that as anything more than the straight line. So, as far as the number of reserve calls, we have probably had this year maybe about a half a dozen. So, I mean, you are talking maybe six. On that graph, the blue line, those reserve calls, you wouldn't even see them; they would be just still a straight line because when we use the Saluda for reserve, and we generate maybe up to two hours, you are not going to see much of a spike on those, on this graph. But, these other, the spikes that you are seeing, were not related to the reserve call.

MR. ALAN STUART: So, if you go back to March, that wasn't a reserve call.

MR. BILL ARGENTIERI: March was a lake level management.

MR. ALAN STUART: Four or five days they try to release the water during ---

UNIDENTIFIED: I believe it was stated this morning that only two of those releases were recreation.

MR. ALAN STUART: That could very well be. I know the one in August --- was it August when the kayaking event?

MS. JOY DOWNS: July. And then the Olympics. We had it in July.

MR. ALAN STUART: When, or --- is that what you are asking?

MS. JOY DOWNS: No. It was the Olympics. It's not like it was a small thing, it was the Olympics. You know, gold medals, all that good stuff.

MR. ALAN STUART: Right. It was a very good kyacking event. There were competitors from all over the nation. Thank you. I know some of these because I was involved with it. This one, again, that was the required turbine testing for the work in the Lower Saluda to maintain dissolved oxygen. The one here in June was an instream flow study that was required by the Department of Natural Resources, U.S. Fish and Wildlife. Those are the ones I know of. The Olympic kayaking was there in July. There was a Canoeing For Kids event, Mother's Day, in that timeframe here. I know those are the two recreations. Whitewater racing training. It was requested by the Columbia Fire and Rescue, and American Whitewater.

UNIDENTIFIED: In June were your (inaudible) study.

MR. ALAN STUART: Right. SBN studies ---

UNIDENTIFIED: Bill, the one in August was reserve -

--

[several people speaking simultaneously - not transcribeable]

UNIDENTIFIED: The reserve was 12 hours. Do you want to explain why it was twelve hours instead of 2 hours?

MR. BILL ARGENTIERI: I'd rather not, but I keep going.

UNIDENTIFIED: I just want to make sure we cover everything. The same story.

MR. BILL ARGENTIERI: August 13th is the same story, yeah, make sure it's the same story. Well, you will correct me if

I deviate here. But, August 13th was not a good day for our system. We have a plant in Jasper, gas turbine plant tripped off line. And we nor Westinghouse? Or, GE? Westinghouse. Westinghouse could not figure out what the problem was, and we went out onto the --- actually, our first option was to go out and buy, or purchase, power on the open market. But if anybody recalls, August was the hottest August that I believe we have had on record. And there were --- no other utility was willing to sell electricity other than 27 megawats. And we needed about 1500 to make up the --- to make sure that we kept our system on line. So, we brought on as many units and gas turbines as we could, and the only other option we had was to run Saluda for the twelve hours, which once again is part of the use for an emergency. So, that was an emergency to make sure that we did not have the system trip on us. So, eventually later that night between us and Westinghouse we were able to figure out what the problem was and bringing that gas turbine back into the systems, we were able to get off of Saluda.

MR. STEVE BELL: You said there was nothing available to buy, or was it so expensive you didn't want to buy it?

MR. BILL ARGENTIERI: There was nothing available to buy, yes. We probably would have paid whatever the market was going. But everybody else was in the same situation. The whole Southeast was in one of the hottest times. And Robert Yanity has his hand up, and I am going to let him --- he looks like he's ready.

MR. ROBERT YANITY: Robert Yanity, I am with SCANA, Public Affairs. I remember August 13th pretty well, as well. And the reason I know, August 13th we set another peak demand record that day. And that date stands as our all time peak demand record, it got up to 106 degrees. And that record, there was a record set earlier that week on Wednesday. So we set two all time peak demand records, and August 13th still stands as our all time peak. So, yes, it was very hot, and it was very hot across the Southeast. And like Bill said, it was either run Saluda or rolling blackouts would have begun.

MR. ALAN STUART: Robert, do you remember what the megawats were that day?

MR. ROBERT YANITY: I believe it's 4920. Yeah, I believe that's right. I believe we had to --- some of our big industrial interruptible customers, we actually had to call in those interruptible customers. Those customers are on a rate such that if we ever get in a situation like this we can call that in so that we can service our retail customers, which are our primary people that we have to support. So, yeah, we actually had to cut off some of our larger customers so that we could support our system.

MR. ALAN STUART: You said it was, what?

MR. ROBERT YANITY: I think it's 4920.

MR. ALAN STUART: What's the total capacity you have in there?

MR. ROBERT YANITY: Total capacity is about 5800, but that does not include ---

MR. ALAN STUART: That's per average.

MR. ROBERT YANITY: Right, right. So, yeah, we were extremely tight.

MS. JOY DOWNS: I am Joy Downs, Lake Murray Association. I have two comments. One is, Lake Murray Association was informed when that was going on, we appreciated that so that we could inform our people what was happening. The other thing is, when you mentioned interruptible customers, has SCE&G --- or, do they have interruptible customers that are private citizens? When I lived in Charlotte, Duke Power you signed on to that situation where you could be interrupted in an emergency.

MR. ALAN STUART: Would you like to sign up for that?

MS. DOWNS: I might.

UNIDENTIFIED: They have that in Florida.

MS. DOWNS: Well, I admit that I like the fact I have never done without.

UNIDENTIFIED: (inaudible)

MS. DOWNS: Okay.

UNIDENTIFIED: No private individuals are, there are no residences. (inaudible).

[not transcribeable - no microphone - many people talking among themselves]

MR. ROBERT YANITY: Basically, it's a rate we have, not many people use it. But if you are willing to do things, you know, off peak hours, there is some kind of break. I truthfully don't know a whole lot about it because I am not in the rates department. Call customer service, I think they could probably tell you about it.

MR. ALAN STUART: Are there any more questions on the Lake level at this point? There may be a little bit more time at the end after Alison gives her presentation.

(No response)

MR. ALAN STUART: We do have a break scheduled. I am open to suggestions, if you want to take the break, we can. If you don't, we will go ahead with Alison's presentation, and try to get out of here early. I leave it up to you guys. Move on? All right, very good. While Alison is putting this together, Alison is a licensing coordinator with Kleinschmidt Associates. She has been pretty much heading up the preparation of coordination of the Exhibit E, and the environmental reports for the Draft Application. I think she will give you a very informative and educational presentation.

MS. ALISON GUTH: Good evening. Good to see familiar faces and new faces, as well. Those of you who are in Resource Groups know me very well. So, I think I have the easy presentation tonight because I don't have a thing about lake levels in it. So, I think it's the easy one. In light of the Draft Application being issued the November timeframe, I thought I would go through what the Draft does with you guys, and gives you hopefully a better understanding of what you are going to see. And I will go through some of the contents, so hopefully you guys will already know when you see it. A few of my discussion points, I am going to be going over a few of the past milestones for a few of the new faces in here. You will know where we have come from. And

I will also go over the purpose of the Draft, the contents of the Draft Application, as well as what we are going to see in the future, and how you can issue public comments on the draft, as well. So, let's get started. These are the past milestones. Seems like a long time ago, but April in 2005, April 29th, we issued the Notice of Intent and this little consultation document to ICD. The Notice of Intent is basically the formal announcement by SCE&G that they are seeking a new license for the hydro. And the initial consultation document is a large document, it contains a wealth of information that helps stakeholders, focus issues, and just a good idea of a lot of your project information before the process kicks into high gear. The Joint Agency Public Meeting began, was held on June 16th, and it was basically our first Quarterly Public Meeting that was held, and we have been having them every few months since then. And the Resource Conservation Groups, and Technical Working Committees, refer to those throughout our RCGs and TWCs. Those have been occurring almost on a monthly basis, and more in the months for the past 18 months or so. You guys may recognize this. Alan said this at the very first, and it's our timeline that we developed for the Federal License Application. And you can see we are right about here right now, and we are looking good. We are a couple of months off, but we are pretty good on schedule. So, it is looking good. Once the Final License Application is issued in 2008, FERC will extending release scope and documents, and that sort of thing. The Mission Statement that we developed at the beginning of the process, I'm not going to read this to you. I know that you all can read for yourselves. But, it's basically in light of the enhanced traditional process that I will talk about in a second. SCE&G will manage the process and the relicensing, stakeholders, and resource agencies will play a few roles in helping to address and resolve issues.

As I mentioned before, the enhanced traditional three stage process is the process employed by SCE&G. Stage One consisted of the issuance of the ICD, and the Joint Agency Meeting. It also consisted of the site visit, and the comments on the initial consultation document are also filed during this Stage One. We are in Stage Two right now with holding the Research Conservation Group. Studies have been completed and we are still working on a few studies. And the Draft Application is issued in Stage Two as well. Stage Two is when the applicant files the Final License Application. The purpose of the Draft Application in a nutshell, basically is to allow, a period of time for additional comments to be considered as the Final License Application is being prepared.

So that is it in a nutshell. There are a lot of components that go into this License Application, and I will touch on the major ones here that appear. This is the License Application. Project Details, it consists of a lot of project details. The results of studies that are being requested and performed by the TWC. Information from the Initial Consultation Document is in it, as well, as well as Issue Resolution Agreement. The correspondence, the thousands of e-mails that have gone back and forth in the process are included in it, as well. And any information requests. I am going to walk through the contents of the Draft

Application. You will see here it's a whole alphabet, and I will try and explain it a little bit. It will contain general information and also consists of an initial statement, which basically includes information for the FERC, the FERC, such as address the project contacts basic information. And then we have the Exhibits. And these Exhibits are essentially the chapters, or the sections. Exhibit A is Project Description; it contains descriptions of the project structures, as well as Reservoir Chapter. And if you are familiar with the Initial Consultation Document, you should be pretty familiar with these. Exhibit B consists of Project Operations --- and capacities. Exhibit C is Construction History, the original construction or if any modifications were made. Exhibit D is actually not going to be included in the Draft Application, it is cost and financing. But it will be included with the Final. Exhibit E is the one that is near and dear to most of us. It is the Environmental Report, and will contain the results of all the studies that the TWCs have been working on, and a lot of the information that is familiar to many of the Resource Agencies and stakeholders. Exhibit F and Exhibit G, they will not be in the Draft Application, they will be in the Final. It's the project location map for Exhibit G, and the design drawings, and supporting design reports, Exhibit F. And you will see CEII, that's Critical Energy Infrastructure Information.

Basically, for security reasons that is information that is available only to the FERC. And NIT is non-internet public, is available to the public, who requested the FERC, but it is not to be published on the internet for security reasons, as well. And the last one, Exhibit H consists of information such as alternative power sources, and the applicant's ability to manage and operate the project. I am going to talk a little bit more about Exhibit E since that is the one we have been discussing, the information for many of the relicensing meetings. Includes the descriptions, as I said before, of cultural, historic, land use, and recreational resources, among others. You will find in there the study results of many of those studies, or all the studies that we have been working on in the TWCs. And they will be, the entire study reports and plans are included as appendices to Exhibit E. And there are some more of set up, it's similar of the ICD, like I said before. So, it should be familiar to many of you. This is just a brief listing of the sections of Exhibit E. You will notice that Section 1.0 is missing, that's general information, consists of general information about the project. But you will see water use and quality, aquatic resources - that's going to be all the fisheries information. Wildlife resources, botanical, historical, and land use and management - that will have a link back to the shoreline management plan. And I think Alan said before that's going to be coming out in 2008. So, you will see that then. Part of the enhanced traditional process contains a lot of collaboration between the applicant and SCE&G, and a lot of the Resource Groups. And often these type of processes include the Regulation Agreement between the parties and SCE&G. And the Resource Groups are currently in the process of finalizing studies and still reviewing issues. So, any issue resolution agreements will likely be filed; it is our goal to have

them filed either before or with the filing of the Final License Application. So, it talks a lot about the Draft. So, there are several ways you will know when it comes out for public comment. It will be posted through our relicensing website. And if you are not familiar with it, I encourage you to go there, www.saludahydrorelicense.com. You will find a plethora of information there. It will be posted. Those of you who are on our Resource Conservation Group, e-mail distribution list, I will be sending e-mail letting you guys know it's on the website for downloading. We did develop a service list with our initial consultation document. And those of you, if you received the CD copy of the ICD, you will receive a copy of the Draft License Application, as well. And, although it is of, all be it, difficult to navigate at times, it is posted on --- it will be submitted to the FERC and posted to the FERC-E library. And I will talk about that in a second. This is a screen shot of the FERC-E library web page. I have the link directly to it up above, but you go to scat.gov and you look in the upper righthand portion of this thing, you will see the E-Library. You click in that, and you fill in the appropriate information that can give you --- click on this link right here, hydro; it's a little bit easier to find what you need to. It is a little difficult to navigate, but after a few times you get used to it. But our website is a lot easier to navigate through. So, if you need something, I would suggest going to the saludahydrorelicense.com first.

If you type in the docket number, if you type t-516, which is the project number, it will also bring it up that was, as well. If you have public comments on the Draft License Application, you have an SEO mandated 90 days from the date that it is issued to provide your comments. I think that puts it in the February timeframe. There will be a cover letter with the Draft License Application, which will contain the information on how to submit your comments and form. And we encourage you to consider the project nexus to the comments I think Alan mentioned in one of the very first public meetings. He told a story about a woman with coyotes in her yard; and although it was a problem to her, it may not have had a project nexus to the operation of the project. You guys have seen this slide before if you have been to the other meetings. I think this was at the very first meeting after the initial consultation document was issued. It is basically the Federal Code of Regulations for your --- requests. And I will have this slide posted to the website, if you need to come back in with that, it will be posted to the website.

But it is basically things, demonstrate how the study requests is related to the project, and operation, and maintenance of the project. I talked a little bit about the draft, but here is a little bit of the information and how you will know when the Final License Application has been submitted for comments, which will be in the August timeframe. It's a lot of the same information that was on the Draft, how the Draft License Application be submitted for comments. SCE&G will twice publish Notice in the local newspapers that the Final License Application has been submitted. They are to be posted to the relicensing website, and copies will be distributed to those on the service list. It will also be

posted on the FERC-E library, as well. There are some future milestones coming up. As I said before, the Draft License Application is due out in November, so you guys should be seeing it around that timeframe. For the Final License Application, it must be submitted to the FERC two years prior to the expiration of their license. Their current license expires in 2010, so the Final License Application will need to be submitted in August of 2008. I know I have breezed through this really fast. Are there any questions?

MS. PAT SCHEETZ: Pat Scheetz, I am a member of the Lake Murray Homeowners Coalition. I am new to this, so I don't know, how long is the license that they are granted good for that we go through this process every how many years?

MS. ALISON GUTH: Between 30 and 50 years.

MS. PAT SCHEETZ: Is this the first time it is getting relicensing?

MS. ALISON GUTH: No, I think the last time we was in '77 --- '77. And '84 is when it was renewed.

MR. BILL ARGENTIERI: The FERC issued our second license in 1984 retroactive to 1977. And then is our third, whenever we get this one it will be the third license for this project. The project was originally licensed in 1927.

MS. ALISON GUTH: Any more questions?

MR. STEVE BELL: Steve Bell, with the Lake Murray Homeowners Coalition. Alison, I am on some of these committees in the relicensing team, and I am wondering how in the world we are going to have a Draft Application ready in November because, you know, I haven't seen any of the stuff. Are y'all actually putting that together on your own, and then we will review it? Because I know you have to --- Exhibit E has to be done in consultation with, you know, the resource agencies and things like that. So, I was just wondering when you would get together with the resource agencies to develop this because so far they haven't been involved with putting it together.

MR. ALAN STUART: To answer your question, Steve, it is not the resource group's responsibility to put the Draft Application together; that's SCE&G, or us as their consultant. What the Draft Exhibit E will detail are all the efforts of the RCGs up to this point. So, your opportunity to comment will be during the comment period, once it comes out. It basically will encapsulate all the work that we have done, where we are in the process, to make sure we have actually scoped all the study needs, and for those studies or information requests that we get to address, we have actually put in place holders to say that where it is, if it hasn't been yet addressed that it will be addressed in the coming months. So, that basically is what Exhibit E will have.

MR. STEVE BELL: I just thought that you were aware of the need that has to do with being in consultation with the people ---

MR. ALAN STUART: And that's what we have done. We have established the Resource Group, that is the consultation process with the stakeholders. That's why you get that 90 day comment period. Yeah. One big difference we have - and Alison

touched on it - is, we have what she called the enhanced process. Under the old traditional three stage, basically what you did is you prepared the initial stage document, and you sent it out to the State/Federal Resource Agencies; you got their study request; and basically that was the end. The licensee will go off and do the study, come back, prepare the draft application and send it to the agencies, get their comments again, do any additional followup studies, and then send it off to the FERC. The enhanced portion is the establishment of all these Resource Groups and Technical Working Committees; and that is what SCE&G has proposed to do because of the complex nature of the project and the many diverse interests in the entire project. So, as I said before, the Exhibit E portion, or the Draft Application, is SCE&G's responsibility to prepare, to send out to everybody to comment. Yes?

MR. ROBERT YANITY: Robert Yanity, of the Public Affairs. I was just going to give a quick plug to the relicensing website. Being in public affairs, I do get a lot of calls from the general public about lake levels, and things like that. And there are loads of great presentations from the past Quarterly Meetings that I know that people sometimes come to, sometimes miss. But, two presentations that I often refer people to is one, we are talking about the Reserve Sharing Agreement. There is a great presentation on there about how we operate Saluda Hydro and our Reserve Sharing Agreements. I would offer that up to you to look for that on the website. And the second one is, there is a great presentation on the hydrology of the region in South Carolina in general. And it tells you where every raindrop that falls in South Carolina ends up. And it is a good presentation as to why we are getting rain in one region, it's not impacting this region, so on and so forth. So, I really recommend that you go out to the website if you need some more information on it.

MR. ALAN STUART: That's a good point. And something else to follow up on, actually the website contains all of the Minutes of the Technical Working Committee, and the RCG, the Resource Conservation Group meetings we have had. It is a very user friendly website. It is divided up by Resource Groups, Fish and Wildlife, Water Quality, Lake and Land Management Operation, Safety and Recreation. It is a very, very informative website. You'll probably learn a lot of things that you didn't know about the Lake, some things you may not normally know about the Lake. So, I encourage you guys to go. It is a very, very user friendly website, and it contains quite a bit of information. Probably will help answer many of the questions that you may have.

MR. STEVE BELL: Alan, when is the Draft Application going to be published, public notice?

MR. ALAN STUART: The Draft does not have to be Public Notice. The Final Application, when it is submitted to FERC, has to be Public Notice.

MR. STEVE BELL: When will the Final be public notice?

MR. ALAN STUART: Well, when it goes out. It has to be public noticed once it is submitted, out for public review.

MR. BRIAN MCMANUS: Brian McManus, counsel of the

Company. The Commission's procedure generally is to acknowledge the application has been filed, and just say it has been filed. The next step will be that it has been reviewed and accepted for filing. And will then put it out for public comment and intervention. It is sort of a two step process.

MR. ALAN STUART: What Brian was referring to is the Final Application, not the Draft Application.

MR. BRIAN MCMANUS: Correct.

UNIDENTIFIED: Once the draft has been --- how many days do you have?

MR. ALAN STUART: Ninety days, on the Draft. Ninety days on the Draft.

MS. JOY DOWNS: What would the Final be?

MR. ALAN STUART: Well, depending on the completeness of the application, FERC may come back with what they call an additional information request. If there is something that they felt we did not include or something that we did not address, and they will ask you for that. Then there will be possibly a ninety day period where you have to get that turned in. Typically, is it sixty days or ninety days after they issue ready for environmental?

MR. BRIAN MCMANUS: Ninety days.

MR. ALAN STUART: Yeah. About ninety days after it identifies it ready for environmental analysis. Basically, FERC takes the ball and goes with it then. And they will have to issue, you know, orders, public notices through their website. And that's the best way to keep up with it at that point.

MR. STEVE BELL: (inaudible) --- does not need to be (inaudible) on the application, to file the application?

MR. ALAN STUART: No, no.

MR. RANDY MAHAN: To put things in perspective, Randy Mahan, SCANA Services. And by the way, you noticed my voice isn't any louder because I am talking to this, because the only function of this is to get the message up here. Anyhow, to put things in perspective, we filed our last application in 1975. We got our license in 1984. Okay? So, although theoretically it's a two year process, we should file our license application in 2008, and get a license in 2010 depending up whether there are a lot of additional study requests that may be granted, or a lot of additional requests for information by the FERC, and so forth. The process can actually extend for years. It is our hope, and I think it is also the FERC's hope because they have come up with new licensing processes. And even though this isn't their brand new process, it really is modeled very much after it, that the two year period can be adhered to. And we would hope and expect to get the license in 2010, but I wouldn't be terribly disappointed if it slipped to 2011. If it slipped beyond that, I would be disappointed. And what happens at the end of the expiration period for the current license, we'd just get annual licenses until we get the final license. So, in the one we filed in 1975, license expired in 1977; we got annual licenses until 1984. And basically, the annual license or the conditions with which SCE&G will operate the project will be under the existing license conditions.

MR. STEVE BELL: Steve Bell, with Lake Murray Homeowners Coalition. You know, the only thing I would like to say is that we can probably get an application approved by FERC if we all work together and put together a license, this adapted to serve the public interest. If we play around too much, we are listening to the private interest and being overly concerned about those aspects, we are going to run into problems and it is going to go to FERC, and it could go for an extended period of time. So, we hope that we will all do the right thing, as you pointed out one time to us. Thank you.

MR. ALAN STUART: The goal is to try to reach agreement. I mean, that is what we went into this to do. You know, FERC as good as they are, a lot of times they are disconnected because they are in Washington. They don't really have a good hand along the project. And that's where most licensees now 'adays try to do, that's why they use these enhanced processes to try to get local input, resolve the issues on the local lever. Once it goes to the FERC, typically what happens, nobody is happy. The licensee is usually not happy, the stakeholders are usually not happy, and I don't think anybody wants to go that route. It can be very contentious, and it can cause quite a long delay in any project enhancements around the Lake and the River. Other questions?

MS. PAT SCHEETZ: Pat Scheetz, Lake Murray Homeowners Coalition. I had read on the SCE&G --- and this may be off topic, and if it is just tell me where to direct the question. I had read on the SCE&G website that as of January 1st all of the loose foam billets were supposed to be removed from all of the docks, and you had to have the ones that were encased in the black plastic and would not break down. And that seems to not be being enforced. And I was wondering is there a reason why that is not being enforced? And does that matter to anybody besides me?

MR. TOMMY BOOZER: It matters to SCE&G, or else we wouldn't enforce the regulation. There is approximately four hundred docks that are not in compliance, and out of those four hundred docks we have got probably --- we sent out registered letters to those folks, and these are to remove the docks out of the Lake, they have got contracts with existing dock builders; or there is about a hundred that we have got to get in touch with. So, out of a little over ninety-five hundred docks, we have got less than two hundred that are not in compliance. And we are working with those people right now to bring them into compliance. Tommy Boozer.

MR. ALAN STUART: Does that answer your question? You have got a puzzled look on your face.

MS. PAT SCHEETZ: (inaudible) --- still reach those docks in the water (inaudible) --- more docks. And you didn't lift a finger to fix the existing docks and they are all breaking away. So, really they haven't done a thing with SCE&G making them do it better.

MR. TOMMY BOOZER: --- will be removed, that's the process. The new docks are in, when you float those and once it's all in then the old ones are moved out. It takes some time for a transition. I don't know which marina you are talking about. I am

assuming it's south shore.

But he is in the process of re-aligning his docks and putting new ones in, and taking the old ones out. If you will look around the corner, there is an whole stack of old docks on the bank over there that he has already taken out. So, we are working with him, giving him time to make the correction. Just like we are doing with all the marinas.

MR. ALAN STUART: That was Tommy Boozer with SCE&G.

MS. ALISON GUTH: Are there any more questions on the Draft License Application?

(No response)

MS. ALISON GUTH: If not, we have time for public comments and open forum. And Mr. Ward actually contacted me, noting that he had a few things to say. So, I will let him come up and speak.

MR. CLYDE WARD: Thank you. I am Clyde Ward. I am undergoing a skin crisis right now, so I never look very good, but I look worse than normal tonight. My wife and I built a house in Prosperity adjacent to Lake Murray. We built the docks the maximum length that SCE&G would allow us. We installed the boat lift where SCE&G told me where I had to put it --- install two jet ski floats, for SCE&G told me I could put them. In the last six years, we have been able to use those facilities one full summer, one full summer in six years we have been able to use those facilities. That's why I am here tonight. One of the reasons we selected Lake Murray in 2000 was it used to be a well managed Lake. If you look at the last decade from 1991 to 2000, the Lake was brought up to 350 feet every year, plus or minus a few inches.

358 feet for ten year --- eleven years in a row, actually every year. In the last '90s there were some drought years in there, didn't matter, it was brought up to 358 feet. The Lake was lowered during the winter, it was brought up four to eight feet every year. Four to eight feet every year from 1991 to 2000. And some of those years were drought years in the late '90s. Now that the weed eating carps have been introduced in the Lake and maintain a reasonable lake level, it is certainly easier than it was in the past. However, SCE&G has brought up the Lake 358 feet one time in the last six years. Ten years in a row, they brought it up; the last six years one time. I know others are not speaking about SCE&G's mismanagement of the Lake in the last few years because of fear of retribution from SCE&G. And for me that fits, I am going to take that risk of retribution from SCE&G because I think it is out weighed by the potential to improve lake management for everybody who lives around the Lake and everyone who would like to use the Lake. The Lake levels for five of the six years have been detrimental to mariners and guides who depend on the Lake for their livelihood; detrimental to the people who live around the Lake, and all those who like to use the Lake. We have had one good summer in the last six years. Three of those bad summers were a direct result of mismanagement of the Lake levels by SCE&G.

In those three years, SCE&G brought up the Lake an average of two feet between January and June. Ten years in a row it brought up between four and eight feet. Three out of the last four years have brought it up about two feet. Compared to forty-eight feet

between January and June for the last decade. If you look at this year we had some good rain in January; in early January the Lake finally came up about 357 feet the first time in over a year. We were all thrilled. What did SCE&G do? They dumped more than two feet out of the Lake in January, took it back down to 356 feet. During that time they proved that they could dump a foot of water out of the Lake in six days. We got some good rain again in March. In March no one was predicting a wet spring, so we were glad we finally got some rain in March. What did SCE&G do? They dumped over a foot and a half of water out of the Lake, took it back down to 356 feet again. They proved they could dump a foot of water out in less than a week, six days. So, what are we worried about? Why are they keeping it four feet below full pool in March when no one was predicting a wet spring? What makes it even worse, they knew at that time they had unpublicized agreement with a bunch of kayakers from out of state that they knew was going to require dumping a half a foot out of the Lake in July when historically the Lake has gone down during July. And yet knowing they were going to have to dump that half a foot out for four days, they went ahead and dumped out over three feet in the winter and the spring. They dropped the Lake a half foot to keep the kayakers happy for four days to the detriment of everyone else who wanted to use the Lake for the rest of the year. That demonstrates SCE&G's priorities. I had to take both of my jet skis off their floats in August, thanks to kayakers. I had to take my pontoon boat off its slip in August, thanks to kayakers. In September, early September, the first week September, I had to take both jet skis and the boat out of the Lake because there wasn't enough water at the end of my dock to float any of those, either the jet skis or the boat. So, thanks to mismanagement of the Lake level by SCE&G and the priorities, which I believe were wrong for SCE&G. We sure could use that three and a half feet that they dumped out in August. We could have used that three and a half feet in August, September, October, November; lord knows how long it is going to be before we have reasonable Lake levels again.

They will give you all kinds of excuses, I am sure, for why they had to dump out three and a half feet of water, and why the Lake level is as low as it is right now. But they are just that, excuses. Of course, you didn't see any information on Lake Greenwood. Lake Greenwood is the closest lake to Lake Murray. No information on the level of Lake Greenwood tonight. No pictures of Lake Greenwood. You saw a lot of pictures of lakes in Alabama, North Carolina, and Georgia. Okay? No pictures of the closest lake, no pictures of the lake, the closest one upstream to Lake Murray. That's a well managed lake, by the way. Well managed like Lake Murray used to be. SCE&G brought the Lake level up to 350 feet every year in the '90s when it was much more difficult. They brought the Lake up four to eight feet every year in the '90s. And in three of the last four years, the best they could do was two feet. Apparently, they had made all kinds of unpublicized agreements with many different people, groups, organizations, agencies, and entities that affect the Lake level; but none with the people who live around the Lake, none with the people who make

their livelihood depending on the Lake, and none with the people who would like to use the Lake, would in a couple of months every year. What do we do to remedy this sad situation? I request that SCE&G be required to do three things to help maintain the Lake level. First of all, I request that SCE&G be required to maintain the Lake level, which means 356 feet of 359 feet year round, if at all possible. And to make this commitment to the people who want to use the Lake. Secondly, I request that SCE&G be required to post on their website a summary of every agreement, with every person, group, organization, agency, and entity with respect to the Lake level so we know what we are up against, why our priority is always last. Thirdly, I request that SCE&G be required to post on their website within a hour every time they take the outfall above seventy-three feet and state why it is above seventy-three feet, and how long they expect that to last. It is totally unacceptable for SCE&G to mismanage the Lake as they have in three of the last four years when they did such a good job in the decade of the '90s. Hope that these suggestions and others will be implemented to provide us a better than one good summer out of six. Thank you for your time and good consideration.

UNIDENTIFIED: (inaudible) three feet? I'm not quite sure I understand ---

MR. CLYDE WARD: The USGS outfall from the Lake. Right now it is at seventy-feet. That's the outfall from Lake Murray. So, it's just relative to the gallons per second, but I don't know what that is. It's called the (inaudible) rates near Columbia, South Carolina, is with the USGS website. So, that is what I am going by. The four days for the kayakers, there is the rest of the year for everybody else.

MR. ALAN STUART: Looking for three feet. We are through unless there is any other comments. Karen?

MS. KAREN KUSTAFIK: Karen Kustafix, City of Columbia Parks and Recreation. I appreciate your heart felt frustration with not having water in your --- no doubt. However, Alan's hydrograph speaks quite eloquently as to the actual amounts of times that releases for passage to the River, that's not a State, actually International. It is a prestigious event and brought millions of dollars, and great, great attention to the Columbia area, which was worthwhile. The other releases were study related, I think, Alan. So, I think you misrepresented the effects that two day of releases had on the Lake. I understand your frustration ---

MR. CLYDE WARD: --- why that was done, they knew that in May --- knew that in March when they dumped the --- put the Lake, they knew that in January when they dumped two feet out of the Lake. And if they had had the foresight, I understand that they wanted to have that water for kayaking, which is useful. It's a very good use for the water. And they kept that water in January --- March, either one. Then no one would have a problem and everyone would be happy. But you dump water out in January and March over three feet, you know you are going to have a (inaudible) in July. That's what I am complaining about.

MR. ALAN STUART: There's one thing that --- while I understand your interest in the Lake, and it's primarily the Lake,

this is a multi-purpose project. It includes both recreational opportunities on the Lake and on the River. And that is what SCE&G is responsible to have to address. Are there ways to meet all the needs? At times, there are. Are they going to be conflicts? Absolutely. That's something that the Lake folks need to consider. There are balance issues that have to be addressed.

I can't say anymore than that. We will be doing that as part of this relicensing process. We have gotten requests for recreational flows, to promote kayaking, canoeing, some other activities on the Lower Saluda River. They will be given their just consideration and balanced in this entire process of Lake levels. One thing I do want to point out, I had heard you mention three out of the last --- or, two out of the last three years they have not met the Lake level. Does that include the remediation work? Or, did you include those years when they were doing the ---

MR. CLYDE WARD: Three out of four failed the last four years, you have not flooded up to 358 feet; and that's ten years in a row you have brought it up to 350 feet. [not transcribeable - many people speaking simultaneous, no microphones]

MR. ALAN STUART: --- before we start issues. So, although an anomaly, those were included in that two to four year period. That's something that SCE&G was ordered to do, they didn't do it out of the goodness of their heart, I can't believe.

MS. JOY DOWNS: Alan, Joy Downs, Lake Murray Association. Lake Murray Association, what I am about to say may not fit our image. The Lake Murray Association has stressed, pressed and pushed for 354 minimum lake level for fourteen years, at least 354 minimum lake level so that you would have a higher pool to work with when the spring comes along; and the idea is obviously the same as this gentleman, is to keep the Lake higher.

We did not feel that the summer testing and so forth was particularly noticeable, except that we were in a drought. I think the concern was in March when those levels were released, in hindsight I think it's really too bad that that happened. However, if it takes six days to drop the Lake an inch, if you have a wet water shed, if you have water coming in for a week or two, then you don't have as much. I think that's the concern that SCE&G had. It's too bad that it didn't work out that way, I guess.

But I really think in all fairness to SCE&G, I believe that was what was on their minds that they might not --- that they might get into a dumping situation or a lot of generation; and when they do that, downstream people have problems with that, with lots of water coming out all at once. So, we are sorry it happened and hope it doesn't happen again. But I do think that in this particular instance there was a reason because it jumped up two feet in such a short period of time.

MR. ALAN STUART: Well, one thing on this hydrograph, I think it is important to note that I didn't mention. This is where the Lake could have started without SCE&G's commitment to try to target 354. That's the reality of it.

MR. BOB WARD: Bob Ward, the Lake Murray Association. We talk about the water that was in the release for

the kayakers, what most people don't understand is that commitment was made two years prior. So, it was not something that just happened this year. This was a long term commitment, we didn't know that we weren't going to get the rains that we normally expect.

MR. ALAN STUART: Very good point.

MR. STEVE BELL: Steve Bell, Lake Murray Homeowners Coalition. Alan, I think everybody has to understand that, again, we are going --- the Lake Murray Homeowners Coalition has asked that 356 minimum be put in the model for consideration. So, we don't know --- until we run the model, we don't know what the outcome is going to be; and we could have Lake levels anywhere from hopefully 354 up as a minimum year round. But the gentleman, Mr. Ward, I believe, is that his name? I think everybody is frustrated by the fact that the decision was made in March to release all that water. And you are basically low on the dice that you are going to get the water in to take care of all these events, and the kayaking, and all that. And if we had kept the water in there, nobody would be complaining about the kayakers. And so, the bottom line is, I am glad the kayakers had their event, and I think everybody supports that. I just think that people are frustrated that all that water went out unnecessarily, you know, because of that concern. Thank you. MR.

RANDY MAHAN: Randy Mahan, SCANA Services. You used the analogy of rolling the dice; that's exactly what SCE&G is not in the position of doing when it comes to public safety, and when it comes to the potential for the Lake to get above the 360. If you will notice in the March timeframe, although the colors don't show it very well, we had more inflow. We were generating as hard as we could generate and the Lake was still coming up. Still coming up. So, yeah, in hindsight you can say, "We made a lousy decision." Now, if we had continued to have those rains in the upstate feeding the water shed, and we had rolled the dice, as you say, and held onto that water, and we had had to open the spillway gates and let water down the River, and we had flooding downstream, those people who would have gotten out would probably say, "You made a lousy decision. You rolled the dice and you lost." No matter what we do, somebody is going to say, "You didn't do it the way you should have," with 20/20 hindsight.

MR. STEVE BELL: Alan, I do agree with your evaluation as we look at a lot of this data, and we believe that you could have had the (inaudible) with the three foot fluctuation without any problem. And so we will be (inaudible).

MR. ALAN STUART: One thing to keep in mind, as Steve pointed out, this guide curve is existing today. That guide curve also exists with a minimum flow release requirement of 180 cfs from the Dam. That number will go up, I can assure you. The State, Federal Resource Agencies, who have mandatory conditioning, are going to require flows higher than that to protect the aquatic habitat in the Lower Saluda River. So that is something that will be factored into this, and they do have mandatory authority and conditions. And FERC weighs their decision-making very heavily. That if something --- as Steve pointed out, it will be in the model, and it is part of this entire balancing process. Yes,

Brian?

MR. BRIAN MCMANUS: Brian McManus, counsel of the Company. When Alan speaks of mandatory conditioning, that is the condition that will be imposed in the license, whether or not the FERC likes it. The FERC has no option to mitigate, change, reject that condition. That condition is going to be in there.

MR. STEVE BELL: What kind of condition did NOA reject (inaudible)?

MR. ALAN STUART: Did NOA?

UNIDENTIFIED: Yes.

MR. ALAN STUART: I have no idea. Oh, that was rejected from this point forward. Is that what you are talking about?

MR. STEVE BELL: Yes.

MR. ALAN STUART: That is from now til the end of the year. This area, I think it was projected to the

MR. STEVE BELL: In the beginning of 2007. How far do they project? I mean, there is a projection there from October to January.

MR. ALAN STUART: Yeah, I don't know. Following my presentation of today, looking forward, I didn't ---

MR. STEVE BELL: That should have been something you could have looked at though to see if you could draw the Lake down a foot and a half in six days.

MR. ALAN STUART: Well, you know, projecting is just that. I mean, they project --- I don't know how many active hurricanes that we should have already seen, and we haven't seen any of them. So, I mean, a projection is just that. I don't know -

--

UNIDENTIFIED: The drought was not on there.

MR. ALAN STUART: I mean, I don't know. I know that SCE&G uses a hydraulic flow forecasting model in trying to help manage the Lake level. It takes into all precipitation days, a very advanced model. It's not just a bunch of bones thrown on the table and say, "Let's flip these switches today or tomorrow." So, they are using the most sophisticated and available tools that they have at their disposal to manage the Lake.

UNIDENTIFIED: Actually, if we use that model in March and dump the water according to (inaudible).

MR. ALAN STUART: Basically, we use it all the time. (inaudible)
(people speaking with no microphone - not transcribeable)

MR. ALAN STUART: Yes?

MR. JERRY KELLY: (inaudible) --- have to draw out, draw down, whatever it is, for the kayakers and then about a month later they had another draw down to study the habitat in the Lower Saluda. And I was wondering why can't they correlate these things like kayaking, do the studies at the same time?

MR. ALAN STUART: Please state your name.

MR. JERRY KELLY: Jerry Kelly.

MR. BILL ARGENTIERI: A very good question, Jerry. One of the reasons is because the flow requirements were different for those two events. The kayakers required a steady flow of 7500

cfs, and the actual testing that we did both before and after had different flows other than the 7500, and they were fluctuating flows. So, the events could not be held at the same time. And that brings up a very good point. This whole year SCE&G has done a very --- we have spent a lot of time trying to combine events when we could, when the flows would match up for the different events so that we would minimize the number of releases. But every one of our studies that were required for relicensing required different flows, and different fluctuations of flows. And when an organization comes to us for a recreational flow, they usually like to have a steady flow. But that is a very good point. Yeah, we do spend a lot of time trying to coordinate those things.

MR. ALAN STUART: And one other thing on it is, on top of that, we had postponed all of the required River studies until this year. We postponed them from 2006 because SCE&G wanted to try to get the Lake up. And based on time constraints, with having to file this application, we had no other choice but to do them this year. And Bill said, you know, because we were involved with most of the studies that were done, and certainly there was very little overlap between the studies because of timing, or volume and duration, and such things, to where we could piggy back some, we certainly did.

MS. KAREN KUSTAFIK: Karen Kustafik, Columbia Parks and Recreation. I would like to say, too, on some of the arranged flows the release for the wild water event came out at 7500 and the initial request was for a larger flow than that. It shortens the race course because of the drought and because of not bringing the Lake level down more. I think the fire department had requested conditional training, and they (inaudible). So, some of the releases that were requested were actually brought down to a lower level, or postponed to another time in order not to draw the Lake down any further. Give and take on both sides.

MR. RANDY SPENCER: I don't know whether this is part of relicensing or not, but is it possible that SCE&G could adapt, or adopt a plan for docks that took into consideration the slope so that people, such as myself, who live up in the cove are permitted to have a longer dock so that they can keep water for a longer period of time? Randy Spencer.

MR. ALAN STUART: Tommy, do you want to handle that?

MR. TOMMY BOOZER: Tommy Boozer. Part of the problem with that, any time you are dealing with the back of a cove most of those cove areas are very shallow and very narrow. So, most of the docks have to be relatively short, if not they are going to impact everybody else around them. And that is what we have to look at. And we try to permit docks as long as you are because we don't want to come back out for additional requests. We want to try to give you the maximum we can. But back in coves where you have got shallow water, seasonal water in a lot of cases, you can only go out so far without impacting the adjoining property owners and navigational issues. You see the slide that we had up there with all the docks? You know, our program allows people to follow the water out with their docks, their floating docks. A lot of people disconnect them as the water goes down, they will follow

them out. That works perfectly well as long as you don't cut somebody else off. And so, in the back of the coves like this you are kind of restricted on just how far you can go out.

MR. RANDY SPENCER: We have questions where the cove is quite wide, quite shallow. And they have got (inaudible) further without impinging on the water that

MR. TOMMY BOOZER: How do you evaluate docks, a lot of cases? We will go up there, and if somebody says, "Hey, I'd like an extension to my dock," if an extension of ten, fifteen to twenty feet will give them two or three feet of water, that's something we would look at, if it's five feet. But if twenty-five feet only gives them three inches of water, we are not going to put that additional structure in the Lake for that. So, that is how we evaluate the docks.

MR. ROBERT HILTON: I am Bob Hilton, I am just a homeowner, I don't actually belong to an association. I did read Steve's article in the paper earlier in the year, in the Lake Murray News about --- you know, he was lamenting about the water that went out early. And we did pay for it all summer long, but that's just kind of the way it goes. I understand you don't want to flood anybody downstream. I also stood on the banks of the Saluda River and watched the kayaks, I thought that was great. I enjoyed that, and I think we need to be able to do that kind of stuff. I have also participated in Canoeing for Kids, and gone down the Saluda on a whitewater raft. And I was thankful that the power company was able to turn the water loose. I know this year they only did two runs instead of three, it saved a little water because we were hurting. And I think you all are really trying hard. I am a little concerned if we are going to start having to let out more water every day to protect the fish downstream, and that kind of stuff. Which, is great, I love that, too. That maybe we really ought to consider that higher low pond level, and maybe the 350 ought to kind of go out the window. And I kind of like the 354 as the minimum, and 356 as a normal minimum. That would be great. Thanks.

MR. ALAN STUART: One thing that I did not mention is there will be what we call a drought contingency policy developed with respect to Lake levels. The easiest way to say it, there may be target levels that are established; but if there is a drought like we are experiencing today, as you can see here when there is more water going out than is coming in, that level can't be met. So, that's one of the things that we will be evaluating as a drought continues, to plan the Lake level. Under normal years, the target level may be 354 and it may be do-able. In times like this, 354 is unrealistic and there needs to be a ban to account for that, or some latitude there. Whatever the number may be. I think once we start balancing some of these interests, you are going to see that it's going to be very tough. There's not going to be a lot of water to go around to meet everybody's interest. Are there any other questions?

(No response)

MR. ALAN STUART: I appreciate everybody coming out, and see you next Quarterly Public Meeting in January.

END OF PUBLIC MEETING.

Saluda Hydro Quarterly Public Meeting
July 19, 2007
Saluda Shoals Park – Rivers Conference Center
10:00 AM & 7:00 PM

Meeting Agenda

- 10:00 – 10:05** **Welcome and Introduction of First Speaker**
- 10:05 – 10:30** **Presentation – Land Rebalancing: How To Allocate Future Development Lands for a New License Term – *Alison Guth, Kleinschmidt Associates***
- 10:30 – 10:55** **Presentation – Instream Flow Analysis for the Lower Saluda River – *Jeni Summerlin, Kleinschmidt Associates***
- 10:55 – 11:05** **Break**
- 11:05 – 11:30** **Presentation – Flow Release Study: Obtaining Dynamic Flow Routing Information on the Lower Saluda River – *Bret Hoffman, Kleinschmidt Associates***
- 11:30 – 12:00** **Presentation – Lake Murray Boat Density Study – *Alan Stuart, Kleinschmidt Associates***

Adjourn



SALUDA HYDROELECTRIC PROJECT RELICENSING

FERC PROJECT NO. 516

Joint Agency & Public Meeting

July 19, 2007

10:00 o'clock A.M. Session

(Transcribed from recorded cassette tapes of Proceedings)

Capital Video
405 Timberpoint Court
Columbia, SC 29212
803-781-6747
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QUARTERLY PUBLIC MEETING**July 19, 2007****10:00 o'clock A.M.**

ALISON GUTH: Can everyone hear me okay? I am kind of soft spoken, so I will try to project. Welcome to the Quarterly Public Meeting for Saluda Hydro Relicensing. Many of you already know me, my name is Alison Guth, I am with Kleinschmidt Associates. And just a couple of housekeeping items, if you do have a question at the end of my presentation there will be a time for questions. And Ginny will be going around the microphone that is actually hooked up to George O'Day, the camera guy in the back, his equipment. And so, he is going to be recording this, and if you could state your name and who you are with he will be able to get that to the transcriptionist. Coffee and donuts are over there if you get hungry or thirsty; and bathrooms are at that direction out the door.

Today I am going to be talking to you a little bit about the land rebalancing exercise that was performed by the Lake and Land Management TWC. They are in the process of this right now; they have gotten through the major points. And I am going to talk to you about how they did it. You might be wondering what land rebalancing is. And first I kind of give you a general definition, but I will go into that in a minute. It is basically how to allocate future development fringe lands that are under SCE&G for a new license term.

The general definition is basically the TWC's review of the SCE&G on future development land. They are going to review them and make recommendations for possible classification changes on some of the properties. My sample of this would be they may have a future development land that is high in natural resource value, and they may make the recommendation that that be changed to a natural habitat area or a conservation area. What basically brought this process about was the request of stakeholders, such as the Land Murray Association, Lake Watch, and the SCDNR. And they have made those recommendations in their ICD comments originally; and they also made those recommendations in the Resource Group Meetings. The DNR actually provided this comment in their ICD comment for the initial consultation documents. And they requested that the developmental and the non-developmental activities be balanced during the new license term. Similarly the goal of land rebalancing as defined by SCDNR during one of the rebalancing meetings on November 21st was basically the same but in a little bit different wording. It's to protect the public resources through the rebalancing of the shoreline classification changes. So what lands are we talking about? We are talking about the SCE&G owned future development land, and mainly most of the lands are these fringe lands that you see I have circled, below the project boundary line, above the buffer zone. So how does one go and determine the value of a parcel of land? That's a difficult question because each parcel of land has two conflicting values.

It has the economic value of the land to homeowners and to the back property owners, to SCE&G, and also to the local government. And it also has the natural resource value, the habitat values. So how did we accomplish this process? There were two sub-committees developed during the November 21st Lake and Management TWC Meeting. And this is one of many meetings in order to evaluate the future development land. And this group split up into two smaller subcommittees: the Natural Resource Subcommittee and the Economic Value Subcommittee. And these Committees worked independently of each other throughout the rebalancing exercise. This basically is the time line of how many meetings we have had to this date on the land rebalancing exercise. You can see it started in late October of 2006, and so far we have gone up through early April.

So, you can see the first two meetings are the collective meetings of the TWC; and then they split up to the separate groups to develop their own individual work plans. And in January they came back together to discuss their work plans and submit them to each other for review. And once the work plans had been okayed they split back up in order to evaluate, do the actual evaluation process. This is basically the same as the other side. It just gives a little bit more information on what happened during the meetings. And all of the meetings are available on the website, if you would like to go through and see exactly how this is done and the ins and outs of it. You can see the actual evaluation process was late February/early March for the Natural Resource Group; and for the Economics Group it was early April.

First I am going to review the Natural Resource Group. You can see it's a mix of agencies, NGOs, and SCE&G. And I am going to review a little bit of the criteria they developed in order to score each piece of land. They developed eleven pieces of criteria. And for each parcel of fringe land they looked at, they would give it a (1), (3), or (5) for each land use criteria, I am going to review. And that's the end, the complete score is totaled. And that gave the value of the fringe land.

The first three: fish spawning habitat, length of shoreline, mean width. For fish spawning habitat they would go through, and if it was a shallow area or if they are looking for certain vegetations, it would go to high fish spawning habitat score. Length of shoreline, obviously more is better. And mean width is essentially average depth. For waterfowl hunting opportunities, if there is a house right behind the shoreline obviously you don't want to be shooting off a gun right there. So that would not be a good thing. But regional importance, if it's the last piece of land left in Lexington County, it would be regionally important to the Natural Resource Group. Land use is basically, "Is it naturally forested?" "Is it selectively timbered?" Recreational values, "Would it be good to have a walking trail?" "Is it next to a park?" For adjacency, it is also, "What is it near?" "Is it near a high development area?" Or, "Is it near a park?" And environmentally sensitive areas, "Is there any environmentally sensitive areas on the property?"

The last two, unique habitat. Unique habitat, unique habitats is one of the items that sets a piece of land apart from the others; and that if it has a bald eagle's nest, or gum swamp, it would score high; and that would help if fall out higher than the others. And terrestrial wildlife is another word for basically the acreage, the more the better for the larger wildlife species.

So, what happened during the rebalancing exercise? What happened during the actual meetings where we sat down? Well, Orbis which is SCE&G's consultant that does their land mapping and their shoreline mapping came in and projected the shoreline up onto the screen; and the group went through each one of the parcels of land, which was a long process but we got faster as it went along. And we collectively rated each parcel of future development land according to each one of the values that I just went through, a (1), (3), or (5). (1) being "poor"; (5) being "good". And during the exercise I was actually the one they got to enter all the data into an Excel Spreadsheet. And I managed that. Also, the spreadsheets are passed out to each one of the members, and they put the data down, as well. And also, some parcels that were close in proximity were combined if they are right next to each other; they were combined and scored together if the group thought that was best.

This is an example of the spreadsheet that I entered the data on. As you can see, over here is the name of the tract. Then we have the information as total acres; that was already entered in there. And also the parcel numbers are right here.

And I couldn't include the whole spreadsheet on one screen; but you can see right over here beginning with the fish spawning habitat, and you see some scores are already entered into that. Here is another example. Towards the end you can see the final score as being scored. And right here under "Unique Habitat", you notice this area has the bald eagle's nest. So, it received a (5).

To the Economic Values, TWC. It included, as well as SCE&G, individuals. It also included County individuals, County Representatives, as well as NGOs. So, it was a nice mix. They have actually twelve scoring criteria. The first three are the same as the others: mean width, mean depth, or average depth acreage shoreline footage. Dock qualifications, it's worth more economically if they can have a dock on the property and there is not ESAs in front of it. Also, the economic interest to SCE&G to the back property owners and to the local government. And the local governments were there so they could weigh in on how much it was economically worth to them as far as tax based potential. The proximity utilities was whether it is existing, planned, or unplanned. And the proximity to road access, if there was a County road there obviously it was worth more economically. And amenity has to do with how close is it to schools? How close is it to fire stations, and grocery stores? The last two, water use abilities? Can you get your boat in there, you know, twelve months out of the year? Nine months out of the year? Six months out of the year? And market value.

Here is the scoring sheet for the economics group. It's basically the same as the others, but with the different scoring criteria. You can see it's got the dock qualifications, the economic interests. And the scoring sheet is huge so I can't show you all of it on one screen. Okay, so the groups I have already gone through, and they have rated it, and we have entered all the ratings in for all of the parcels of future development land. So, what happens next?

Well, I went through and I sorted the properties from highest rating to lowest rating. And, I also compared the natural resource group score to the economic group score on each parcel of land. You can see right here, this is actually the sheet for the natural resource group; and here is the rating highest to lowest. You will notice there is multiple number 2s and multiple 3. That is because some pieces of land rated the same; and you don't want to give one a 2, one a 3, one a 4 when they are all the same. You can see that the number 1 parcel of land for the natural resource group was actually the number 16th for the economics group. So, that's not a bad thing, you will see in a minute. Here is another way I sorted them out. The same colors were the ones on the same parcels, actually on each group. See, Parcel 121 ranks up here on economics, but it ranks down here on natural resource.

Important items to note, the same pieces of land were rated in each group. A parcel may have received a high score in the natural resource group, a lower score in the economics group.

And essentially that is what you would want; however, there are some conflicts, there are some pieces of land that rate high in both groups. And that is what they are going to have to come back together and discuss.

So, the next steps. The TWC is actually going to meet in the Fall of this year to start making recommendations and start discussing the results of the scoring. They are going to center around the top rated parcels of land. We are probably not going to worry about the ones that rated low, or that neither group was really concerned about. And then a recommendation is going to be made back to the TWC on possible classification changes to the top rated future development lands.

Okay, any questions? I know I went through this kind of fast, Randy.

RANDY MAHAN: Alison, how many parcels did we look at?

MS. GUTH: We looked at around --- Tommy, you are going to have to correct me, is it 350?

TOMMY BOOZER: No, it's 360.

MS. GUTH: 360 was the process.

MR. MAHAN: How many acres was that?

MS. GUTH: How many acres? Tommy might have to answer that.

MR. BOOZER: It was about a total of about 1200 acres.

MS. GUTH: 1200 acres. Also, I'm sorry, just a reminder, just for George back in the back, if you could state your name and who you are with, or if you are just a private citizen. Steve Bell.

STEVE BELL: I am Steve Bell with the Lake Watch. Alison, I just wanted to kind of clarify something. You know, I believe that the Natural Resource Group also looked at the recreation values. And of course, that's one of the criteria; but we looked at natural resource concerns and we looked at public recreation concerns on all those tracts. And we rated those, you know, according to whether the public --- they had high public values for recreation, too. And so, it's kind of, you know, we did two things there.

MS. GUTH: Yes. That's true. Tony Bebbler was actually there and he helped us with the recreation value.

MR. BELL: Are the scoring sheets on the website?

MS. GUTH: The scoring sheets are not on the website. I sent them out after they were finished to the TWC, or the Subcommittee members. And they have those right now. I wasn't going to post the scoring sheets until after the process was done because nothing is finalized; it's just a bunch of numbers at this point. Brian.

BRIAN MCMANUS: I'm with the company, Brian McManus. How many of the parcels all came out on top? How many are in that top classification that we have to look at?

MS. GUTH: The top groups, I'm trying to think. In the top ten there is probably about --- I think there is a few more in the natural resource group in the top ten than there was in the economics group. If that makes any sense.

But I think it was, you know, less than 50. I think it was around 40 for the econom --- I have to go back and check. But I think it was around 40 for the natural resource group and maybe about 30 for the economics group.

MR. MCMANUS: How many ---

MS. GUTH: Actually let's go back to that slide. I know this is just a partial screen shot. But these are, you know, the top rating parcels, and how many is that? 7 or 8?

Over that? Wasn't quite as many as I thought there was going to be.

MR. MCMANUS: Thank you.

MS. GUTH: Sir, could you state your name, please?

MR. MCMANUS: Brian McManus.

MS. GUTH: Any more questions? Yes, Regis.

REGIS PARSONS: Thank you. Regis Parsons, landowner. So, at the end of it you said, your presentation you said so now you will have to get the two groups together to discuss how this might affect certain high scoring properties, vis a vis future development. Can you clarify a little bit more?

MS. GUTH: How they might affect the future development land?

MR. PARSONS: Lands that are currently rated future development. The fact that they get a high score jeopardizes that, or puts some incentive towards maybe changing that. Is that right?

MS. GUTH: Change? I'm not understanding your question?

MR. PARSONS: What's the consequence of a high score?

MS. GUTH: Well, nothing as of yet. They haven't talked about it, and the TWC is just going to make a recommendation. There are not that many properties. If they are high scoring in the natural resource side of things, they may end up being, you know, a natural habitat classification. But it is nothing final until the TWC discusses it. So, I really couldn't give you a final answer of what is going to happen yet.

RANDY MAHAN: Randy Mahan, SCANA Services. All of the properties that we looked at already are classified under the current system as future development; meaning they can be used for any and all purposes up to and including development. The objective of this exercise is to determine which of those properties need to be, or can be, or should be reclassified to a more restrictive classification. If nothing is done, then they stay future development. It doesn't necessarily mean they are going to be developed, but it means they could be developed. If we had a parcel that is raised very high for natural resource value, and very low economical value, my guess would be --- we don't want to predetermine this because we haven't met yet, my guess would be that we would say, "We need to reclassify that property," okay, "into something more restrictive; put it in a conservation classification, put it in the forest management, or something of that sort." On the other hand, if we have one that is very high economic value and very low natural resource value, that simply means more than likely it is going to be left in the future development classification.

Again, it doesn't necessarily mean it is going to be developed, but it means that it would have the potential to be developed sometime in the future. Where you have got one that is very high economic value, and also very high natural resource value, that is where the hard part, that's where the hard decisions come. What are you going to do with that? Because it has both economic and resource value, and how do you strike that balance? What is the appropriate balance for that piece of property? What is the appropriate balance overall when you consider all the property that is left? And again, that's the hard part. So, ---

MR. PARSONS: But, what is the process, Randy? What's the process? So that we already know, for the folks that are here from Two Bird Cove. We already know. I mean it's been telegraphed to us. Tommy told me himself, "Hey, you can expect high scores for both of those things on Two Bird Cove." So, it's not a surprise. I don't see it up there, but I'm not surprised that it would be high. What I am trying to get at is, okay, so it comes back to SCE&G. SCE&G has got to make a decision at some point. Where is that point at which it makes a decision as to whether or not it's going to change that designation? When is that going to happen? It's sometime between now and the time you put out the shoreline management plan. Right?

MR. MAHAN: It will be sometime between now and when we file the application, yes. We will have the draft application ready --- the goal is this Fall. This late Fall.

ALAN STUART: --- It will not contain the recommendation for rebalancing. The rebalancing will occur -- or, the recommendations will occur around the time the final application is filed in late Fall. (inaudible)

MR. MAHAN: There is going to be a lot of negotiation because, you know, if it were black and white answers, there wouldn't need to be any negotiation; we'd all know what the answers are upfront. We all have --- there are competing answers, competing desires, competing values. And so you have to make some choices. We want to get a new license, we would like to see SCE&G retain some economic benefit from the properties that it owns. Also, recognize that we need to see some change for some of these properties to be sure that the high resource values are maintained. We recognize that it's all done in the context of a reservoir that has been under development basically since 1930, although the real development didn't start until the '60s. And two-thirds of the shoreline approximately had already been sold down to the three-sixty. And so what we do is in the context of what has already been done and what might be done in the future. I don't know what the answer is. We hope that we can achieve consensus, we can achieve a settlement, which means that maybe we don't necessarily believe, agree, that this is the best thing for SCE&G. Others may believe that it's not the best thing for their interest. But it's something that going forward, we can live with. And that is what we are trying to achieve. We would like to have everybody agree, "Not exactly what

I want, but I can live with it."

And so, if we can have that sort of process and that result when we go into preparing the license application and our shoreline management plan, and all these things, and final form to go in with the application. We hope we can have as close to agreement as possible.

MR. PARSONS: Well, my question was really directed towards the timeframe that you would be putting it in. From what Alison --- it sounds like it would be Fall of 2008?

MR. MAHAN: We will have it ---

UNIDENTIFIED: (inaudible)

MR. MAHAN: Right.

MR. STUART: That's not to say there won't be a number of meetings prior to that (inaudible).

MR. PARSONS: Subsequent to the (inaudible) So, sometime between now and Fall of 2008.

MR. MAHAN: Yeah.

MR. PARSONS: Okay. Thank you.

MR. STUART: George, I just wanted to make sure we understood your question. Did you say you wanted to know how this would affect the designation of Two Bird Cove? Or, the properties that surround Two Bird Cove?

MR. PARSONS: Well obviously, ---

MR. STUART: Will not affect the designation of the Cove, the water per se.

TONY BEBBER: Tony Bebber of South Carolina Parks, Recreation and Tourism. Just a couple of points, I think we did only look at SCE&G properties. Is that correct?

MS. GUTH: Yes.

MR. BEBBER: Okay. And then the other thing is that in the natural resource category, or team, there were, I don't know, maybe a hundred little properties that we just said, "Not applicable," because they were already surrounded by developments. We just skipped over them because unless they had an environmental sensitive area on them or something like that, we didn't even look at them. So, there were, I don't know, quite a few of them, I can't remember. And they were usually just a hundred foot of shoreline or less in some cases, I think, or maybe two hundred up to that. But they were already surrounded. We just kind of ignored them and went on because there were so many properties to look at.

STEVE BELL: Steve Bell, Lake Watch. I just wanted to say that when I read the FERC Regulations, you know, what I am seeing is that the FERC wants us to put together a license application that best serves the public interest. And how you take that guideline and use this information to determine what we are going to do, and rebalancing is kind of difficult, but I think overall we have to make decisions based on the public, the overall public good. And that's all I had to say.

MS. GUTH: Any more questions?

(No response)

MS. GUTH: Well, with that I am going to pass this on to Jeni Summerlin with Kleinschmidt Associates. She is going to tell you guys a little bit about the instream flow studies that were just performed on the Lower Saluda. So, thank you.

MR. STUART: Can everyone see the screen?
We need to dim the lights? No? Yes?

MS. JENI SUMMERLIN: Good morning. My name is Jeni Summerlin, and I am with Kleinschmidt Associates. Today I will be discussing the instream flow analysis for the Lower Saluda River. All right, to start off I am going to give everybody a little bit of terminology that I will be using throughout this presentation. I find these were incremental instream flow methodology. Basically what that means is examining the River at different flowing currents and defining the physical characteristics such as velocity, depth and substrate to determine suitable habitats for specific targets issues in the Lower Saluda River. PHABSIM stands for Physical Habitat Simulation Model, and this model will be used to quantify flows that meet habitat requirements to support a balanced aquatic community. Mesohabitat is a commonly occurring habitat type, which basically means that a group of species that occur in the same habitat. And I will discuss this a little bit more in a few minutes. A guild is a group of species that occur within the same habitat type. The purpose of this study is to provide data quantifying the effects of flows on aquatic habitat suitability in the Lower Saluda River for target species and lifestages.

Now, the overall objective of the study will be to balance habitat inflow requirements for selected target species, lifestages and guilds to the Lower Saluda River. And we met with resource agencies to discuss management objectives for the River; and we developed a list of target species, which is what you see here. Now, these are the target species that were chosen for the study. And just to list off a few: American shad, shortnose sturgeon, and brown and rainbow trout. Now, as I mentioned before many species occur within the same habitat, and the target species are categorized into four guilds. Here are two of the guilds: deep slow guild and deep fast guild. Now, as you can see an adult northern hog sucker would occur in a deep slow guild; whereas, a spawning or a young in year fry or northern (phonetic) hogsucker would occur in a deep fast guild. We will model each of these guild categories instead of having to model each individual species. Guild categories are: shallow fast guild and shallow slow guild. And you can see a spawning --- well, this redhorse would occur in a shallow fast guild; whereas the young in year robust redhorse would occur in a shallow slow guild. Now, certain species are designated as stand alone species because they are deemed important enough to be separated. And this is because of endangered species such as the shortnose sturgeon; or, you have important sport fish species such as striped bass or brown and rainbow trout. So in order to tie in habitat to the chosen target species, we next had to identify (inaudible) habitats on the Lower Saluda River.

So we filled that habitat, to do any of the relative quantity and spacial distribution of each habitat type in the study area. Typical habitat types include riffle, run, and shoal. And to give you an example, this is a picture of a riffle, and it is categorized as shallow with moderate velocity, and can have high turbulence. A fish species that would most likely occur in a riffle would be a spawning (inaudible) sucker. Next we have a run which is defined as moderately deep to deep, well defined non-turbulent flow with low velocity. A species that would most likely occur in a run would be a juvenile or adult spotted sucker. Next we have a pool which is categorized as deep, low velocity, and a well defined hydraulic control of the outlet. And you would most likely find an adult redbreast sunfish in this area. And finally, we have a shoal which is described as shallow with moderate to high velocity, turbulent with eddies and shoots. And you definitely must find an adult striped bass in this area.

So, once the mesohabitat format, we then had to establish --- the Technical Working Committee selected 21 transects along the Lower Saluda River. And these transects represented typical or unique habitats. And the Technical Working Committee chose transects that would represent suitable habitats for the target species that were chosen. And just to give you an idea of where some of these transects are located, each red dot represents transects. If you notice the transects are kind of clumped together in areas. And this is because a stream normally has a repeating channel pattern such as riffle, run, pool.

Now, the Technical Working Committee identified a fifth passage through shoals as a critical habitat concern, specifically at Millrace Rapids where the old demolished dam is located. And basically what this means is that fish species such as striped bass may have a difficult time passing through areas with low flows, which is this would be the area that the Technical Working Committee chose. And we'll be using the PHABSIM model to help determine a flow that will allow these fish to pass through this area.

The field data was collected during the first week of June, and throughout the month of June this year. The field data was collected at three flows, and it was used to simulate depth, velocity, substrate, and cover conditions. The three calibration flows included low flow, mid-range flow, a high flow. Stream, bed and water elevations were surveyed to the nearest tenth of a foot; and standard optical surveying instrumentation methods were used.

Now, this diagram will give you a better representation of what elevation measurements were taken at each transect. Starting from the headpin, we measured elevation from the top of bank, the toe bank, edge of water. We also took water surface elevations; and we also measured elevation along the stream bed. And heading up to the tail pin, the toe of bank, bed to water toe bank, and top of bank were also measured. Depth velocity and substrate were collected at each transect.

All right, the model will be used to quantify flows that meet habitat requirements, so score balance aquatic communities based on model results representing selected diadromous, aquatic fish species and resident fish species. And in addition, we will use the model to output flows needed for fish passage at Millrace Rapids. Data developed from the study will be used as an information resource during discussion of relicensing issues with agencies. And a draft report will be submitted to the Technical Working Committee in the Fall of 2007.

With that, I will take any questions.

ROY PARKER: One endangered species, would you tell us what the idea was --- condition for that one --- Roy Parker with The Lake Murray Association.

MS. SUMMERLIN: Yes, sir. Shortnose sturgeon is an anadromous species and it migrates up fresh water rivers in the Spring to spawn; and usually water temperature is triggered for migration, and they will go into warmer waters to spawn. So, we are just basically looking at possible habitat requirements of shortnose sturgeon to see what kind of flow requirements they have. Oh, the question was to explain shortnose sturgeon --- or species, the habitat requirements. Yes, Steve.

STEVE BELL: Steve Bell, Lake Watch. Did ya'll find any shortnose sturgeons in the Saluda River?

MS. SUMMERLIN: No, sir, we did not.

STEVE BELL: (inaudible)

ALAN STUART: Absolutely not because they are (inaudible) sturgeon that live in the Santee Lakes. They have migrated up as far as --- I know up the Rosewood Boat Ramp. They have got some that are tagged with acoustic tags. And I want to say some of them have moved up the Broad, they have not moved in the Saluda. And we are doing a shortnose sturgeon field study, and also looking for spawning activity. Actually we tried to collect eggs to see if there is any activity in there. We just finished the first year and did not find any sturgeon.

MR. BELL: Alan, could you explain the Fish and Wildlife Service role in protecting that species and what, you know, could they actually require a condition in the new license to protect that species?

MR. STUART: Actually, the group or organization that protects or is in charge of protecting the shortnose sturgeon is the Noah Fisheries. They can prescribe mandatory flow conditions for that River to protect certain species if they so desire. That's about the way I can --- does that answer your question? Again, you know, a lot of it comes out in discussions on management, what they are trying to accomplish with the sturgeon. We will have those conversations with that organization upcoming. Right now we really don't know what they have in mind. They have been --

UNKNOWN: Quiet.

MR. STUART: Quiet. Thank you. I didn't want to use the word secretive, but ---

MS. SUMMERLIN: Any other questions? Yes, sir.

JIMMY CROOKS: Jimmy Crooks, a landowner. I notice you have smallmouth bass.

MS. SUMMERLIN: Yes, sir.

MR. CROOKS: There is no smallmouth bass --- there in the Saluda? There is large mouth bass in the Saluda River.

MS. SUMMERLIN: Yes, sir. I don't know if they actually occur in the Lower Saluda River, but I documented them up the Broad River near the Columbia Fishway. So, smallmouth bass do prefer colder water, so a possibility. But I don't know if there's any. Has Harold caught any?

MR. STUART: Yeah, as far as actually documenting one in the Lower Saluda, I don't think there has been. It's the contention of the Natural Resources Department that if they reside in the Broad River eventually will go in the Saluda.

MR. CROOKS: Well, how about the largemouth bass?

MR. STUART: What about them?

MR. CROOKS: I mean, is that not in the study?

MR. STUART: I don't believe that was one of the target species. I believe it would fall in one of those guild categories. The smallmouth, I think, preferred a little faster velocity; but I think their depth criteria is almost identical. So, I feel pretty certain the largemouth would be covered, you know, through this.

MS. SUMMERLIN: Any others?

(No response)

MS. SUMMERLIN: Thank you.

BRET HOFFMAN: Good morning everyone. My name is Bret Hoffman, I am an engineer with Kleinschmidt Associates. And today I am going to speak with you about a flow release study that was conducted on the Lower Saluda. We are obtaining data for what is called a dynamic flow routing. Basically that looks at different flows at different locations. River systems are very complicated, it is not a linear process and dynamic flow routing is just how they term that. The purpose of our study was, first and foremost, this was part of a downstream recreation flow assessment study. That final study plan is available on the website, if you need that website location just ask any one of us in a break and we can give that to you. Specifically what this study was doing, what the level of our study was doing for the downstream recreation flow assessment was to determine different parameters at different flows, such as rates of stage change, arrival or travel times, and total stage changes. And I will go through a couple of terms here in a moment. We wanted to study different flow releases from the Saluda Hydro at different locations along the River. We'll also be using this data to calibrate what is called the HEC-RAS model, many of you are familiar with some previous presentations in meetings. There is an Operations Model called HEC-RES; well, HEC-RAS actually models the River. It is sort of the younger brother to the HEC-RES. I will go over that later in this, as well. And if possible we may be able to use some of the data we get from this to enhance safety systems on the Lower Saluda.

Terminology: "Stage" is simply what we use to define the depth of the River at any location. It's just what we call depth. Rise is change in stage and feet. A rate of rise, we are just looking at how long it takes for the River to climb from one level to another. That changes over the course of any flow release. The rate of rise from a base flow to 100% is much different than the rate of rise to base flow to say 80% stage. So, we are actually looking at different percentages of stage and the rate of rise between them. We are looking at those in feet per minute. You have to be careful not to extrapolate that; you might say, "Well, you know, point one feet per minute," you could say, "Well, over six minutes it would do this," or, "Over fifty minutes it would do this." Well, that's not necessarily --- it may not go up say two or three feet in one location at a certain flow. So, we like to keep that in feet per minute. Arrival time is just basically when you release water from the facility, from Saluda Hydro, how long it takes to get to one of these locations on the River. All the parameters we are studying are specific to a location and flow.

I want to go over the primary purposes of releases from Saluda Hydro. One of them is obviously lake level management. Most of you are familiar with Winter draw downs. Typically that happens in a facility to make room for Spring rains. Usually these are scheduled events. Sometimes they are not in the case of a tropical storm system, they may have to make a short term call that, "Hey, we have to go ahead and release water from the Lake to create some storage."

These are long duration flows, several hours. Sometimes several hours over the course of many days.

Reserve generation, many of you are familiar with this, as well, of their presentations on the website about this. If SCE&G has a situation where a plant falls offline, they have to replace that power within a certain period of time, and that's what they use Saluda for. It can come up to replace that power very quickly. These flows are very short duration flows. They are less than two hours. Usually they are about an hour, an hour and a half.

And then there are recreational releases. If anybody has been on the River this week they will see an example of that. I believe from Sunday to Thursday, there were releases --- Monday to Thursday there were releases for an international competitive release. These are planned events, it's duration is several hours also.

Data collection locations, Resource Conservation Groups met and determined areas of interest along the Lower Saluda River and selected eight locations to collect this data at. The locations they selected represent various channel widths; they represent rapids areas; they represent very narrow areas where it is a stream line flow. And then there is one down at --- there is an island down around Oh, Brother Rapids where we actually put one on either side of the island. So, it captured a good range of the Saluda River.

Hope this isn't too hard on the eyes. This map is actually something that I think DNR created this map, and we just put points along it where we have got individual locations.

You can see the first one is an area referred to as Sandy Beach, up just maybe a mile or a mile and a half below the Dam. Then there is one at the downstream tip of Corley Island. This is the first one up by Sandy Beach; there is the one at Corley Island. Gardendale, that's put in that SCE&G maintains for public access. There is the dual channel around Oh, Brother Rapids where the island, there is a split of the channel on either side of the island. And then there is Stacey's Ledge, Millrace Rapids, and Shandon Rapids below the Zoo. Anyone that has been on the Lower Saluda River knows that it can be a challenging environment in certain locations. This was a difficult task to install to this equipment. A lot of hard work by a couple of individuals to accomplish this. There is fast moving water in a lot of these locations, substrate variations. It can be mud in one spot and a quarter mile away it can be nothing but bedrock. Trying to put the equipment in this is challenging. And then under higher flows you have situations where you may have a lot of vegetation float downstream and give you some debris loading that would tear anything up you want to put out there. Accessibility is always a problem. If it is hard to get to a location, you need to minimize the amount of equipment you are carrying out there. And then the last thing obviously we want to draw attention to what we are using, so it doesn't need to be a substantial structure.

What we use for these is called level loggers. We have got one here, it's about the size of a cigar. It's just a little steel device. It is a self-contained pressure transducer. It has got a time stamp in it, a long board clock, it synchronizes with the computer. And like I said, we put eight of them out there. It collects data. We set them to collect every single minute to collect stage. And all it is doing, it is checking the pressure every minute. So, over the course of a flow, the flow will increase the pressure and it will measure the depth as it increases, every single minute. We also have a barologger that is basically the same thing but it collects atmospheric data so that the pressure changes in the atmosphere can be removed from the study.

Here is the equipment we ended up using. We just took a five fence post. There is the level logger, and the PVC cap that actually comes with it, and suspend it just for wire time. That PVC cap, you just take a two inch PVC pipe, perforate it, and suspend that right in it, and it locks that cap down to prevent anyone from removing it. There is a special key for that. So basically we were just driving these fence posts into a substrate. Gave us a light weight set of equipment to carry around. That way if we had a remote site to access, it was something that we could get to without reasonable manpower.

Typical Site Installation. This one here is at downstream tip of Corley Island. Just throw that one right in the substrate. That was a easy one. In comparison this one was on the

Ocean Boulevard side of Oh, Brother Rapids.

That one was very difficult to install. We actually had it break loose on us and had to go out and re-install it. During the study we collected data from the sites weekly and just checked them to make sure they were okay, and if we had any failed sites we replaced them right then. And we did have two sites failures during our study. Didn't lose any data, though. Some of the locations where we had a site failure, that particular flow, the data, you know, the fact that it moved negated us using that.

Flow Events Released. SCE&G scheduled a set of flow releases for us, twelve of them over the dates that you see there, January 22nd to February 15th. 1,000 cfs increments all the way up to 6,000; and then 2,000 cfs increments all the way up to plant capacity of 18,000. The durations of these releases varied greatly. We thought initially we would just do reserve call which would be a hour and a half, or two hours. Well, there are other interests at the same time that SCE&G was balancing such as, I believe there were some slip water rescue training that was going on. So, there were some high flows that were released for long durations. Those obviously mimic, you know, Lake Level Management or planned events.

Evaluating Data at each of these locations. Say all of the flows at a particular location, that's one graph you can look at. And another graph you could look at would be individual flow events at all the locations to see how the flows get to each spot. And then the easiest way to do this is obviously to graphically just look at the data.

Here is an example of one location, all flows. This is the level logger at Ocean Boulevard. I picked this one actually to show you, there is where we broke free. We had a site there, you can see where it started to move around and then the curve changes, the level logger broke free. Went out and found that. We looked at the rest of the data that happened between that and the time we collected it; and all the curves looked fairly well. And that is really what you are doing is just looking at the shape of the curves to see if there is a problem with it. So that data right there, most of it we can't use that single flow if that's in the location. But, you know, that's what happens with a study like this, and actually we are pretty happy that we only had two events where they broke free.

You can see when they released, when they started releasing from the plant is right here. It's a eight hour duration graph, just to show you. These shorter release flows you see here, those are very close to what would happen during a reserve call. These longer release flows are what would happen during a Lake Level Management. You can see it's difficult to see what the maximum stage would be of some of these lower flows.

Here is an example of one flow at all locations. 5,000 cfs. Again, if you look you could probably pick and say, "Hey, you know, at this location I can probably guess what the maximum stage is going to be." You just continue that curve up a little bit. But when you get downstream it is going to be difficult to project that out.

Calculated approximate rise at each location for each flow, as I went over earlier. Arrival times for different flow events, that's a difficult thing to capture. I will go over that in a moment. But, it's step wise, as you would imagine, and a flow release should show up, you know, downstream in subsequent locations, as you would guess. We wanted to consider the differences between the sites. What affects these rates of rise? Do they make sense? What do the travel times look like? Should it show up here this long after it showed up a quarter mile upstream? This stuff should make sense, and that's part of the QA/QC process. And total stage, as I went over, sometimes it is very difficult to determine, based on how long they release water.

We had some results that weren't as expected. We had some travel time problems. And what we found out was we were using some start times that when they obtained full flow from the plant, and what we wanted to do was use start times when they first started the plant up. So we had to re-do some data there. And that was flushed out during the QA/QC process. And then, as I went over earlier, we had to check for the Errant Data when we had a site failure. And we basically would eliminate that flow from our data assess.

Stabilization. How long does it take for the River to reach a maximum stage at a given location? First of all, there is no such thing as a stable river. If it rains, you have changed the maximum stage.

If you are checking a location close to the confluence with the Broad, and the Broad is running heavy, you change the stage. So, stabilization is a term to be taken with a grain of salt.

Duration of the releases. Obviously, as you saw on the other graph, it greatly affects the maximum stage reach. If they do a reserve call, the water does not come up as high as if they run it for six or twelve hours. It also takes a lot longer to recede if you fill the River up for twelve hours than it does if you do a reserve call. So, the rate for receding was something that was really difficult for us to capture on this study.

Selecting arrival times, I will go over that in a second. But, there is continuous stage fluctuation at every point on the River. And to pick when the water shows up is difficult. The water is going up and down all the time just a little bit. But when did it actually show up from the flow from the plant? Here is an example of that. If you look at this graph you can see that this is a drop, a natural drop, in the stage. Where does the water actually start to go up? You know, you might pick over there, you might pick right here in that little low section. The difference between that can be easily more than fifteen minutes. I had someone check a data set and they picked an arrival time, and then I looked at a data set and picked an arrival time, and I think it was nineteen minutes apart. So, it is difficult to just look at this and pick when water shows up.

Again, find maximum stage. How can we do that with this? And this is a short duration flow. In some locations, you know, that are upstream, you can find that. Like right here, you'd probably take five and a quarter feet, probably be about where that went to. But these other locations, you can't extrapolate those out visually and figure out what they are going to be.

All these parameters that are difficult to obtain, if durations affected them, these durations are very real. Saluda operates like that. They have, you know, a short duration call. They have long duration calls. So, it's not an issue of running all these studies for the same duration. We actually did capture how the plant operates. And that makes it very difficult, you know, to obtain accurate data, to obtain accurate conclusions on how high the River is going to get, how long it takes to recede. And then one of the other things, how we account for precipitation. We had rain events during this study. How do we account for that?

What we decided to do with this is use the HEC-RAS model, which I went over earlier, mentioned earlier at the beginning of this. It's a River analysis system. Again, it's sort of a partner to the reservoir operation system. And we set up all these locations in the RAZ model, and we calibrate the River model to the data we collected from the study. After we do that, we can run that model at an hour and a half, or six hours; and we can get data that would say, "Okay, if you actually ran this 5,000 flow instead of an hour and a half, if you ran it for twenty-four hours, this is the stage you would see."

Assuming a baseline flow that's continuous and no rainfall. We can't do that with real world data, we don't control Mother Nature or a lot of the other parameters that throws you a curve ball. The data we see is not subject to human interpretation. As I said earlier, we had something where two people picked something nineteen minutes apart, if we use outputs from this model the flow will arrive at a given time.

As I said, we can run the model for a multitude of scenarios, such as flow durations. It can account for the precipitation we saw. I actually collected that data from the USGS and submitted it to the guy who is running the model; and he can remove that from the data sets we collected, and we can yield consistent travel times, arrival time, stages. What we are planning to do is run up a one and a half hour, that was the reserve call. Six hours, that's probably what is representative of a recreation flow. And then twenty-four hours you can see if they ran a long term; Lake Level Management what would be these maximum ends of the parameters, stage, and rates to recedence. We can check this data for its actual field collected data, just sort of a final view, see to make sure they kind of line up. And then we'll get all the parameters we need that were outlined in the study plan for the downstream recreation assessment. With that, any questions?

(No response)

MR. HOFFMAN: Okay. With that, I am going to turn it over to Mr. Alan Stuart.

MR. STUART: I received a message from Al asking if we wanted to take about a ten minute break. I will leave it up to you guys, if you want to get up and stretch.

I am the last presentor. I did want to leave some time at the end for questions or anything you have on the overall relicensing. So, if we can met back about twenty-five after, I think we will still have some time to ask questions.

(Off the record - break)

MR. STUART: We thought it would be timely to come in and give you an idea of how some of the information was gathered and just some of the background on it. The purpose of the study was to identify area available for recreational boating on Lake Murray by segments, assess boating densities occurring under normal (weekend) and peak (holiday) use conditions; and, examine whether recreational boat use of Lake Murray are currently above, below, or at a desirable or optimal level. Optimal is defined as affecting unacceptable values, recreational values.

The method of usable boating acreage was calculated. We used boat count estimates, and we determined recreational boating capacity. I will touch on each one of those and give you an example. What we did is we took some photographs, aerial photographs, that SCE&G had contracted in 2001; they were done over a period of weekend dates, and those three holidays: Memorial Day, June 30th, then around the 4th of July weekend. And actually did count the boats that were observed on the Lake upon those photographs.

To determine optimal boating acreage, we used the theory of a parameter. We used multiple use of water areas. What that meant, was the Lake suitable for various activities which include jet skiing, sailing, motor power boating, fishing? I believe that was the primary one. We looked at shoreline configuration. Irregular shorelines tend to inhibit the available acreage for boating or on-water activity.

The amount of open water. What we did is we evaluated in terms of how many islands were in the area. The amount of facility and shoreline development. And also looked at crowding. Crowding was determined based on our 2006 recreational survey; we conducted survey of the number of boat sites, or boat launches. And asked questions on people's perception of crowding at various locations along the Lake.

Here is the segments of the Lake that were used. As again, I said earlier, each one of these was broken up during the flyover. I believe there was twelve total flights.

The example I am going to use today just to try to get you to understand how we determined some of this will be this segment right here, Segment #1. What we did is we estimated a total acreage of 5,740; that was based on GIS data. After that we subtracted islands. And we also established a 75 foot buffer around the shoreline. The point of that, what we did is while some activity can occur like fishing is within a 75 foot distance from the shoreline, we wanted to give a conservative estimate.

We did use kayaking and canoeing in the total acreage because that typically and most frequently happens within 75 feet of the shoreline. That's why we did do that. All the other activities, which I will show you in a minute, we used the estimated usable acreage. For that segment we estimated 45,440 acres of usable acreage.

On the boat count from the photographs on the weekend days, we totaled 784 boats, average 112 boats per day on a weekend day. Holidays, slightly less as a total number, 727. But the average was much higher because of the fewer days that were surveyed, 242. So basically, these are the two numbers that you will see come back in just a few minutes.

For our exercise, I am going to pick on power boating here. These numbers, these 0, -5, and 5, I have highlighted those in blue because I will be talking about those in a minute to try to relate all this back together. What you can interpret from this table here is at a base case needed for power boating, 9 acres was estimated as the base case needed for power boating; 1.3 for kayaking and canoeing; .5 for angling; 12 for jet skiing; 4.3 for sailing; and 12 for water skiing. They are based on industry standards and study data collected from other relicensing.

This is almost counter to it. It says, "Low", but just means that 18 acres is required for the low area and 3 for high. I will explain that in just a minute.

How did we come up with these, -5, 0, and 5?

If you recall we went back and we talked about the multiple use. That's the segment of the Lake that can support kayaking, power boating, fishing, sailing, all those parameters. Every segment received a -1. That means it supported every single use. And if you went back to the previous slide, more acreage is required for the segment to support all those activities.

Shoreline configuration. Also, every segment received a -1. The reason is because almost every segment in the Lake has an irregular shoreline. There are no standard type shorelines versus long and continuous. Every one of them, is irregular. So, each of those 12 segments received a -1.

Open water, for Segment #1 received a 1; plenty of open water in that segment. Available recreation. There was quite a bit of available recreation access and development in that segment, so it received a 1.

Weekend crowding received a 0, based on survey data. Most people said that it was moderate crowding in that segment, which gave us a total of 0. That goes back to this base case. So, what we have assumed is that for power boating, 9 acres in that segment would be required based on these parameters we did.

What we did is we also took the survey data on an activity that was surveyed during the 2006 survey. We asked people what they were doing during that year survey. 26% of people surveyed for weekend use said they were power boating.

So, what we did is we took the 112, which was the average weekend usage, and applied 26% of it. And that's how we developed - out of that 112 that we estimated on weekend days - 29 power boaters were on the water in that segment.

For holiday use we did the same kind of process. The 242 for holiday use, it was like 25% of people were power boating on holidays. So, we took 25% of that.

To determine optimal use we took the 26% because we are looking for optimal use. So we took 26% because obviously more people were power boating, or 26% on weekends. Had this number been 35%, we would have taken that number as opposed to the 26%. Any questions?

(No response)

So, what we did is we took the calculated useable areas of Segment #1, which is 5,400 acres. The use factor, you remember that was the 0, the 9 acres required for power boating that we calculated based on those 5 categories. Based on this understanding, a total of 604 boats for power boating could use Segment #1, optimum. Just power boats, now.

Okay, since we do have more activities than just power boating, based on our survey - the 2006 survey, we applied the 26%, which was the optimal percentage that we surveyed. That gave us a boat activity for power boats, optimal power boats, if 158 power boats for that segment. We did that same kind of process. We looked at kayaking obviously when we were out there and did the survey; was no kayakers.

Angling, as you can see that was one of the highest activities that was conducted on the Lake. We went through and calculated the same process, assigned the values, and came up with estimate 660 boats, based on the scoring criteria. Also, for jet skiing. Sailing, we did not get any, and water skiing. That is how we estimated the optimal boating use for that segment.

Now, it's important, this is not an exact number; it's not a magic number. Please understand that. It doesn't mean if 917, everybody is going to crash. That is not what it means. It's not a magic number, and that is really what is important to get. We are trying to get an estimate of capacity. Something else, you know, we did use the 2006 survey. If for instance something say ten years from now people say they were --- I am going to use this analogy. 10% were using submarines. All these numbers would change. And that is what you need, that is the biggest thing to understand. If on any given day say there were 200 power boats, that number goes down because it's less acreage a boat. But this is the big thing, we had to get to a number; and this was the best way to go about it using scientific methods.

Optimal boating capacity, we say there was 916 boats. If you recall, we had 112 average right there. Percent capacity on weekends of that total optimal level, we are at 12%. That is what we estimated for weekend use. Holidays of that 242 boats that we estimated total in that segment on holidays, based on our numbers we say it was 26% is at capacity. If there are questions, this may be

very difficult. Questions? Yes?

ROY PARKER: You are talking about in a 25 period, are we talking a minute, or we talking an hour? I mean, can you --- 222 boats in that for what length of time?

MR. STUART: That would be the optimal number. It could be any time. That's what we estimated. It could be at any given moment. Then again, it may be 24 boats at any given moment. But that's the maximum that we could, or estimate, based on the actual people that were using that segment based on those visual photographs. Does that answer your question?

MR. PARKER: Yes. Thank you.

MR. STUART: This is the estimated capacity uses for all segments of the Lake for weekend use. As you can see, the range is anywhere from 25 up, here at Segment #2, which --- Tommy, help me out. That's the Irmo side? Irmo side of the Dam?

TOMMY BOOZER: Chapin.

MR. STUART: Or, Chapin. Don't want to offend anybody. And then the Lexington, is that what we call this part, Tommy?

MR. BOOZER: Yes.

MR. STUART: Okay, 12%; this is the 12% I showed you the example a minute ago. That's how, as you can see, it varies. For holiday use, you see 26% That was the 26% that we used in the example. You can see here it went to 25%. It jumped 3% from weekends to holidays. This one, this Segment #10, it increased from 15% to 23% for whatever reason. That's what people were doing that day, there were more people there. And then up to 24% in Segment

#12.

As a Lake topper poll, I believe for whatever use, it was estimated for the entire reservoir, averaged out at about 12%. For holidays, I believe it averaged 16% capacity. Conclusion, based on this, Lake Murray is currently used at levels well below its estimated boating capacity. Based on, projected up to 2030 future use, can be accommodated. We did 2030 because realistically that's about as far out as we can look. I mean, we could take data and keep on extending it out, but it starts to get issues if you try to extend it too far out. Results can be used in future recreational planning activities. What I mean by this, if there are certain areas that are nearing capacity, if there is interest in establishing a boat ramp at some point in the future, you may use this information in sighting that boat ramp. You don't want to put it in a congested area, or an area that is already congested by adding additional development there. With that, I will take questions.

STEVE BELL: Steve Bell, with Lake Watch. Alan, do you think that you could use that information to actually restrict access because of the potential congestion and crowding rather than add more? How do you look at, you know, considering in 2030 we could have a lot of boats out there, could you juse that information to actually restrict access and not add anymore access points?

MR. STUART: No. As you may or may not know, under the Federal Power Act the waters of lake Murray are waters of the State and the residents for public recreation.

In my experience, I have never seen a FERC project where any type of recreational boating has ever been restricted. I don't. It's basically against the law. What you can do is what I --- the last bullet I used is use these types of studies in planning to try to alleviate any potential crowding in the future. I mean, it's not to say, you know, if you built a boat ramp up in Saluda County that those people may not go all the way down to Segment #12 or Segment #8 that was really crowded. But it is less likely that they would do that because it's so far to drive. And, you know, that's honestly the best way that I see to use this type of information. Again, it's not an exact number, and that's one of the most important things. It's more for planning purposes. And just to give people an idea, you know, we had to start somewhere. And is it 12%, or is it 80%? And that is why we are trying to use this.

DICK SOMMER: Dick Sommer, I am a landowner. I am questioning about the entrance and exits as far as the boat ramps on the Irmo side and Lexington side. As far as on Irmo, you have three. Between the holidays the traffic is backed up both ways. Is there anything we can do about that?

MR. STUART: We did look at crowding. We counted boats during our recreational survey. I know there were some areas that were nearing capacity or close to it, or something. I don't remember, you would have to talk with Tommy. He has got a better handle on that than I do.

TOMMY BOOZER: The impact there is because of the proximity of that park. There's a lot of activity here in Irmo, and a lot of homes. And it's easily accessible. And we can only carry a certain capacity in that part. So, once we reach a capacity and our parking places are filled up, we actually have to close the park until somebody leaves. The only way to solve that problem is to possibly have some other type of facility that should take that overflow. And that is one of the things that we will be looking at.

TONY BEBBER: Tony Bebber, with South Carolina Parks, Recreation and Tourism. Also, just to note on the study you did on the public access areas, we did not look at the folks that have docks and piers where they were boating really. So, that's why on one of those charts there was no sailing identified because most of those folks are already docked at a private place, or something like that. And from the air photos, it was difficult to tell whether it was a sail boat or a jet ski, or whatever. You could just tell it was a boat usually because you could see the wakes and that kind of thing. So, that's why in some cases it may have come out smaller than somebody may have noticed, there should have been a few of those out there that day.

MR. STUART: That's a good point. The plane, or the photographs, were taken at an elevation of a height of about 3,500 feet. And the detail was not --- like Tony pointed out, efficient enough. We did try to determine, but it was just impossible. So, going back to the survey data was our fallback plan. Any questions?

(No response)

MR. STUART: Right now I would like to just kind of open the floor. Does anybody have any questions on the general licensing timeline? Anything else that is currently going on that you have seen, or heard about, or read?

(No response)

MR. STUART: All right. I have one other request. Is there anything that people would like to see during these public meetings? I don't think I have asked this, and we have had six or seven. If there is certain pieces of information or presentations, or whatever your desire, please let us know. Sometimes we are struggling to find information to get to you guys, and we want to get stuff meaningful, and we want to make it worth your while. So, if you have any suggestions, please let Alison know, or myself. You can get us through the Saluda Hydro. www.saludahydrorelicensing.com website. Send in a comment and we would certainly accomodate you in any way we could. We will bring in what we need to in order to make you happy. Tom?

TOMMY BOOZER: Alan, I don't want to rush you or anything. Someone asked (inaudible), if you develop a property, it's a little over 1800 acres in the future development property, but it's a little less than 1200 in the 75 foot stepback. So the total future development acreage is 1800, a little over 1800; but there is a little less than 1200 inside the 75 foot stepback.

MR. STUART: Yes?

RANDY WALSTON: Randy Walston, Lake Murray Vacation Rentals. Is the (inaudible) at all in the land management (inaudible) that shows the weeds from other (inaudible)?

MR. STUART: There is a plant management plan being developed as part of the Lake and Land Management Technical Working Committee. Tommy is working with Chris Hayes to develop a plan, and I believe soon.

MR. BOOZER: We do a plant management survey every year. We started in September, and we looked at the (inaudible) and also the yellow primrose, and any other species out there. And we get a report. We place that report on our web page. It's done by consultants, Cindy Smith who does that for us.

MR. WALSTON: And y'all (inaudible) certain areas?

MR. BOOZER: I think the problem you see with the yellow primrose is because of the draw down (inaudible). It has allowed the primrose to crawl a little bit in deeper water, (inaudible) and higher elevation. And we are seeing that primrose in the deeper water. It's spreading out and not being reproducing quite as fast as the one closer to the shore. The yellow primrose is down in Lake Murray, the yellow primrose and an algae, have been around Lake Murray forever. And the only difference in the extent that the plants are very similar biologically. Well, actually they have got some difference, but one has a yellow flower and one has a white flower. They grow traditionally close to the shore in shallow water. But because of draw downs you can see them kind of creep a little farther out into the lake.

But we are seeing now that the Lake elevation is kept up, they kind of go back to their natural habitat.

MR. WALSTON: It's okay for homeowners to pull that manually?

MR. BOOZER: You are allowed to pull the weeds and --- I was at Lake Murray the other day and there was a little lady who was up in age, and she was going around her dock and just pulling all the weeds out of the dock. And we encouraged her to do that because we don't want anyone to do it if it kind of hurts our people or anything like that.

MR. WALSTON: Once a weed is pulled along this time of year, in that particular area was pulled, do you see it reproduce?

MR. BOOZER: --- clear it this time of year, they stay clean. They are 80% or 90% water, so once you pull them out (inaudible).

MR. WALSTON: Thank you. Randy Walston, with Lake Murray Vacation Rentals.

MR. STUART: Who is next?

STEVE BELL: Steve Bell, with Lake Watch. Alan, are we doing anything or addressing the inter-basin transfers where municipalities are pulling water out of Lake Murray, and the water is ending up at Edisto or the Savannah River, or the Broad River? Are we addressing that issue in the relicensing? And, I guess, can we?

MR. STUART: To my knowledge there are no inter-basin transfers. Everything is in the water shed. So, I don't think it's possible to transfer.

MR. BELL: Saluda County just did one.

MR. STUART: We have not had any request by anyone to do that. No, we have not. If there are no other questions, we stand adjourned. We will have the same presentation, if you didn't get enough this round, we will be having another one at 7:00 o'clock. Thanks to everyone for coming out.

PUBLIC MEETING ADJOURNED.

SALUDA HYDROELECTRIC PROJECT RELICENSING

FERC PROJECT NO. 516

Joint Agency & Public Meeting

July 19, 2007

7:00 P.M. Session

[Transcribed from recorded cassette tapes of Proceedings)

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SALUDA HYDRO QUARTERLY PUBLIC MEETING**July 19, 2007****7:00 o'clock P.M.**

ALISON GUTH: Welcome to the SCE&G Quarterly Public Meeting for the Saluda Hydro Relicensing. Two housekeeping items, drinks and refreshments, and if you get hungry there is a few snacks over there. And bathrooms are straight out to the hall to your right, and to your left. We will have a break in the middle, so if you need to get up and get something. If you have questions there will be a chance at the end of all of our presentations for questions. And we actually have a microphone. Jini has one that we are going to be passing around; if you could state your name and if you are with an organization or you are just a landowner, if you could state that. And it will actually be recorded. George O'Day back there is recording it. And you may not hear yourself on the microphone, but it is being recorded into a system for the transcriptionist.

I am going to lead us off today. I am giving a presentation on your Land Rebalancing Exercise that was performed by the Lake and Land Management Technical Working Committee. And land rebalancing, the definition is actually on the front page; and I will give it to you in a couple of slides as well. It tried to allocate the future development lands that are under SCE&G for the upcoming license term. The general definition is basically the Technical Working Committee's evaluation of the SCE&G on future

development land for a possible classification changes and modifications. An example of this would be you have a future development land that is high in natural resource value; they may consider a classification change from future development into a more protected classification such as a conservation area, or a natural habitat area. Now, what is this process about? There were a few requests during the --- after the ICD, the initial consultation document was issued back in 2005, that the results have been requested during resource group meetings. There have been requests from Lake Watch, and DNR, as well as the Lake Murray Association, as well as a few others. And DNR actually provided the following comment in their ICD comments: they are basically saying that they believe the developmental properties and the non-developmental activities should be balanced for the upcoming license term.

DNR also provided the goal of land rebalancing during one of the Technical Working Committees that we have. And I have basically outlined it here. Basically they want to protect public resources, and according to the Federal Power Act through shoreline classification modification. And just to make one point, this is SCE&G owned future development lands that we are talking about.

When we are talking about what lands are involved, I have encircled the fringe land above the 75 foot setbacks. That is mainly the lands that we are talking about. This map actually helps me figure a lot of things out in the office; so, I found it very helpful.

So, when we are talking about these future development lands, how do you determine the value of a parcel of land? Especially when there is two conflicting values? There is the economic value. The economic value of a parcel of land, what it is worth to the back property owners, what it's worth to SCE&G, and what the tax base potential is for local government. And on the other side there is the natural resource value, the habitat value, the shoreline value. So, how do you determine the price of land when you have these two separate, very different values? Well, in our Technical Working Committee, which is a division of the Resource Conservation Group; and then November 21st, 2006, Technical Working Committee split into two subcommittees: the Natural Resource Value Subcommittee and the naturally the Economic Value Subcommittee. And these two subcommittees worked independently of each other through the evaluation process.

There are quite a few meetings that we had, eight total so far. We started back at the end of October and we worked up through April. And the first two meetings which you see I have TWC under it, we collectively worked as a whole group. And then November 21st we split up and each had a separate group meeting to develop their own individual work plan and their own criteria for how to essentially give a parcel of land a value. They met back together in January and approved each other's work plan, the QA/-- of each other's work plan. And then we split back up and actually had the evaluation process in the end of February for those natural resource groups. And then the beginning of April for

the economics group.

And I will get a little bit more into what happened with that in just a second.

This is basically just an outline of what happened during the meeting. You can go to the relicensing website, and all of these meetings are on the relicensing website. So, it will give you a better idea of what's going on if you are a little more experienced, or it's a little bit hard to understand from my presentation.

The first group I am going to talk about is the natural resource group. You can see that they are larger numbers from SCE&G, from the Agencies, as well as from the Lake Murray Association, and Lake Watch. So it was a good mix. And we take about eleven criteria from which to rate a single parcel of land.

And each one of these, for each one of these criteria it received a 1, 3, or 5; 1 being poor, 5 being good. With these first three, fish spawning and nursery habitat we listed a piece of land in very shallow water, or if there are certain type of vegetations it would receive, you know, a 5 for fish spawning habitat because that is obviously a good thing. Length of shoreline, that is self-explanatory. Mean width is basically the average depth. Waterfowl hunting opportunity, if there is a house right behind the property, you don't want to shoot a gun off. So, it wouldn't receive a high rating for that if that was the case. Regional importance, that's a case if the last piece of property left in a huge expanse of land, it might be regionally important as far as natural habitat value. And land use, is it naturally

forest wood? Is it possibly timbered? Is it completely developed?

They also looked at recreational value. A member of the South Carolina Parks/Recreation Commission was on this committee, and he actually gave good input on the recreational value of a parcel of land. The adjacency had to do with what it was close to. Was it close to a development? Or, was it close to a park that could actually be developed? And, too, may be a natural area. Environmentally sensitive areas and conservation areas. Are there any ESA's on the property? Unique habitat, is there an eagle's nest? Is it on a swamp? Terrestrial wildlife is basically acreage.

Now that I have bored you with that, we have some rebalancing exercise. Orbis, which is SCE&G's consultant that does all their shoreline mapping and the fly overs came into the group committee, and they projected on the screen the actual land shoreline map. And we went after about 360 parcels of land, and rated each one of them according to the natural resource value. And we did the same thing in the economics group. While this is happening, we rated of course each one 1 through 5, 1 being poor and 5 being good. And I was able to enter all the information onto an excel spreadsheet during the exercise. And each member of the group also had an excel spreadsheet that they could physically write in the data if they so chose. Some parcels of land that were close together were actually combined and scored together.

This is an example of the excel spreadsheet that I entered the data into. You can see right here the property names

and the parcel numbers. And we had information such as total acres after the 75 foot to the 100 foot shoreline feet.

And the screen was so large I couldn't fit very much in here, but you can see right here was where we started to enter fish spawning habitat. And some received 5. I think this slide you can see the final score right here, was being scored. You can see this one for the unique habitat, it actually has a bald eagle's nest. So it received a 5 for that.

For the economic value subcommittee, you can also see that there is a good mix of SCE&G. There is a present landowner on that committee. There is Saluda County and Newberry County was also able to give away on that. They had 12 scoring criteria: shoreline footage; acreage; mean width, which is the same as the other group; the dock qualification, it's worth more if you can have a dock on that property; and the economic interest to SCE&G for back property owners; and see the local government. The proximity to utilities, how close is it, is there planned utilities there, is it unplanned, is it existing, is there a road nearby, is it county roads? And also the proximity to amenities also has an economic value to it. That's how close is it to the grocery store, how close is it to schools, to the fire department?

Direct water useability has to do with can you have a boat in there, and can you get your boat in there twelve months out of the year? Can you get your boat in there nine months out of the year? And, of course, market value.

Here is the example of the economic scoring sheets.

Basically in nature the same as the natural resource group; it just has the different criteria up here that it was scored with. So, we have all these parcels of land and we have given them all a score. So, what happens next? I actually was able to go through and I sorted out the parcels of land from the highest ranking to the lowest ranking, and compared a parcel of land from the natural resource group side and from the economic group side. Here is just a snippet of the excel spread sheet I came up with. And you can see this certain parcel of land rates number 1 for the natural resource group, but only ranked number 16 for the economics group.

And you can there's several number 1, several number 2, several number 3. That is because a lot of the parcels rated the same. And you have lots of 47, lots of 45. And you have to give them all a 2, give them all a 3, because they are worth the same.

This is another sheet, part of the sheet, that was developed. You can see the top parcels in each group; and I have them colored out because as you can see number 121 falls up here in the economics group, and it falls right about here. So there are a few conflicts in the top groups; not quite as many as we thought, but there are a few. So, important items

to note. The same parcels are rated in each group. We went through the same exercise in both groups. And I think out of 360 parcels, we were able to narrow it down to scoring about 120ish, 150ish, because a lot of them were able to fall out because they are just little pieces of land that the group didn't feel it was appropriate to rate. One parcel may have received a high score in the economic group, or the natural resource group, and a low score

in the other group. And that's essentially what would be nice if there would be no conflicts between the scale. But there were certain parcels that rated high in both groups.

And that's when discussions are going to have to take place.

What are the next steps? The TWC is going to meet in the Fall of this year and discuss the results. Discussions are mainly going to center around the top rated parcels of land. And once they have discussions and reach a conclusion about which lands that they think should be maybe classified in the more natural classification or a conservation habitat, or which lands would be better left as future development. They will make a recommendation to the RCG. I know I blew through that pretty fast, faster than I did this morning. Are there any questions or clarifications I can make?

(No response)

MS. GUTH: Must not have gone through it too fast. If you have any questions, feel free to talk to me afterwards. But, with that I am going to turn it over to Jeni Summerlin. She works with Kleinschmidt Associates with me, and she is going to be talking about the instream flow studies that were just performed on the Lower Saluda.

JENI SUMMERLIN: Thank you, Alison. Good evening.

My name is Jeni Summerlin, and I will be giving you guys a brief update on the Saluda Instream Flow Analysis. To start off I am going to give you guys a little bit of terminology that I will be using throughout this presentation. IFIM stands for incremental instream flow methodology. And basically what that means is

examining the River in increments, in different flow increments, and defining physical characteristics such as substrate, velocity and depth to determine suitable habitats for specific target issues. PHABSIM stands for physical habitat simulation model. And this model will be used to quantify flows, to meet habitat requirements, to support a balanced community for the Lower Saluda River. Mesohabitats are commonly occurring habitat types, which I will get into a little bit more detail in just a few minutes. And Guild is a group of species that have similar ecological resource requirements, which basically means they may occur in similar habitats.

Now, the purpose of this study will be to provide data quantifying the effects of flows on aquatic habitat in the Lower Saluda River for target species and lifestages. And the overall objective of the study will be to balance habitat inflow requirements for selected species, lifestages and guilds for the Lower Saluda River.

We met with the Resource Agencies and we discussed the management objectives for the River and developed a list of target species. And here is the list of species that were chosen to be studied. And just to list off a few, spotted sucker, robust redhorse, and the saluda darter. Now, as I mentioned before, many species occur within the same habitat, and so we categorized target species into four different guilds. Here are two of the guilds, deep flow guild and deep fast guild. And as you can see in the deep flow guild you have an adult northern hogsucker, and in the deep fast guild you will have the spawning northern hogsucker,

or a young deer, (phonetic) northern hogsucker.

The other two guilds are shallow fast guild and shallow slow guild. And as you can see in the shallow fast guild, you will have a spawning robust redhorse, and in the shallow flow guild you may find a fryor (phonetic), or younger deer, (phonetic) robust redhorse.

Now, certain species are designated as stand alone species because they are deemed important enough to be separated. And this is because endangered species such as the shortnose sturgeon, they are important sport fish like the brown and rainbow trout.

Now, in order to tie in habitat to the (inaudible) and target species, we had to identify Mesohabitats along the Lower Saluda River. We field mapped Mesohabitats to delineate relative quantity and special distributions within the study area.

A typical type of mesohabitats are riffle, run, shoal and pool. And to give you some examples, this is an example of a riffle; and it is categorized as shallow with moderate velocity, and turbulent with high gradients. And a fish species that may occur in a riffle would be a spawning spotted sucker.

Next we have a run, which is categorized as moderately deep to deep water, well defined non-turbulent lamellar (phonetic) flow, and the fish species that you would find in a run would be juvenile or an adult spotted sucker.

And a pool is deep with low velocity, with a well

defined hydraulic control at the outlet. And you would find an adult redbreast sunfish in a pool.

And finally we have a shoal, which is defined as shallow with moderate to high velocities, turbulent with shoots and eddys. And you would certainly find an adult stripe bass in a shoal.

Once mesohabitats were mapped, the Technical Working Committee selected 21 transects that represented typical or unique habitats along the Lower Saluda River. The Technical Working Committee chose habitats that were suitable for target species. And to give you a better representation of where these locations or transects are located on the Lower Saluda River, each red dot represents a transect. Now, as you can see the transects are locked together; and this is because a river normally has a repeating channel pattern such as riffle, run, pool.

Now, the Technical Working Committee identified fish passage through shoals as a critical habitat concern. Specifically at Mill Race Rapids where the River descends through the old demolished Dam. And this was determined to be the critical zone. And basically what this means is that fish species such as, say, stripped bass may have a difficult time passing through this area at low flows. So, we will use the PHABSIM model to determine a flow that will allow a fish to move upstream through this area.

Field Data Collection began during the first week of June of this year; and field data was collected at three flows and was used to simulate velocity, substrates, and cover conditions.

The three flows represent a low, mid-range, and high flow. Stream bed and water elevations were surveyed to the nearest tenth of a foot; and optical surveying instrumentation methods were used.

And to give you an idea of what elevation measurements were taken during the study, starting from the head pin, we measured elevations from the top of bank, the toe of bank, edge of water; we measured water surface elevations. And we measured all along the stream bed here. And heading back up to the tail pin, we also measured the edge of water, toe of bank, and top of bank to tail pin. Depth velocity and substrate were also categorized at each transect.

Now, the model will be used to quantify flows that meet habitat requirements, to support a balanced aquatic community based on model results; representing selected diadromous resident fish and aquatic (inaudible). In addition to this, the model will output flows needed to determine fish passage at Mill Race Rapids.

And data developed from the study will be used as an information resource during discussions of relicensing with agencies. And a draft report will be prepared for the Technical Working Committee in the Fall of 2007. If you have any questions, I will be happy to answer. Hold on just a second, sir.

GEORGE DUKE: My name is George Duke, and I have been on some of these committees, and not on some others. And I represent Lake Murray Homeowners Coalitions. This isn't a question of this is my question. Is it true that these fish are coming all the way from the Atlantic Ocean, up the Saluda, to the various Rivers to breed? Is that what a migratory fish does?

MS. SUMMERLIN: Yes, sir, an diagermous fish species such as say a striped bass migrates up fresh waters to spawn. But can you repeat? What was your question?

MR. DUKE: My question is, these are true diagermous fish, they don't start in the Atlantic and come up through Charleston and up through the River system, do they?

MS. SUMMERLIN: Well, yes, sir, they start in ---
Steve, please help me here.

STEVE SUMMER: Some of the fish it shows were not migratory fish, the northern hogsucker ---

MR. DUKE: I'm not concerned about those. I am concerned about the stripers and the sturgeon. First of all, I have never heard --- the first time I have ever heard about a shortnose sturgeon is these little girls got beat up by them in the Savannah River. I don't know if you heard that or not. They jump out of the water when they get to breeding, and they are very dangerous.

MR. SUMMER: There is a population. I am Steve Summer with SCANA Services. There is a population of shortnose sturgeon that are (inaudible), and do migrate up the Santee, Congaree system, come up into the Congaree River. We don't have any indication whether they made it up into the Saluda. We don't know whether those fish are always in the Santee Cooper Lake, or they are somehow getting in and out ---

MR. DUKE: So, those fish may or may not be migratory.

MR. SUMMER: May not. The striped bass that are here are mostly not coming from the ocean ---

MR. DUKE: So, they may or may not be migratory.

And the trout also are not migratory.

MR. SUMMER: (inaudible - Mr. Duke keeps speaking over Mr. Summer)

MR. DUKE: I just wanted to clear my own mind. That we really don't have any migratory fish, any proof of any migratory fish that come diagermous or ---

MR. SUMMER: Well, we know that we have a few fish, the American Eel that do make it up into the Saluda. These samples stipulated that. So, that eel is a pretty resourceful fish. He can enter the places that other fish can't. There are some fish that quite possibly can make it that far.

MR. DUKE: The shortnose sturgeon, which an endangered species.

MR. SUMMER: Well, the shortnose sturgeon, DNR has done some tracking stage where they inserted transmitters in the shortnose sturgeon, the Santee lakes, and track those fish up as far as the Congaree River, I think it is, near the Granby Lock Dam, maybe a little further than that. I don't know that we had any of them transmitted fish showed up in the Saluda River or the Broad actually. They came up to the fish ---

MS. SUMMERLIN: I think, yeah, they made it.

MR. SUMMER: (inaudible) about as far as you can go. Now, whether or not that's just something that happened this year, where they can only come from further if they had the right flow conditions ---

MR. DUKE: Are they coming from the ocean?

MR. SUMMER: Shortnose sturgeon are not really an ocean

fish, but a fish for their life stage they stay in that area between the salt water and the fresh water.

So, right at the coast a land sturgeon more of an ocean going fish that comes in, shortnose probably doesn't get into the salt water quite as much. But I don't really know where those fish are getting up, coming up and leaving it up to the locks or the fish that they are Santee Cooper lake can get in a area ---

MR. DUKE: Thank you very much.

MS. SUMMERLIN: Thank you, Steve. Any other questions?

MR. REGAN NORRIS: On the striper though, they can be considered a migratory species because they move from Santee Cooper lakes up our river systems, the Wateree, Congaree water systems. Wouldn't that still be classified as migratory fish? They are coming up to spawn.

MR. SUMMER: Yes. The migration in that system, striped bass eggs close to water or bass on the bottom. And they need a certain length of temperature flow time to develop. So, the fish in the Santee Cooper lakes in the land lock there can come up into Congaree, spawn, and in days drift back down, and by the time they hatch out and they reach the lake they are little small fish, and part of the population and self-sustaining, then they migrate to one of the lakes up near the Columbia area.

MR. NORRIS: And historically they had come from the Atlantic before the three ---

MR. SUMMER: I'm Steve Summer again, SCANA Services.

MR. NORRIS: Regan Norris. Thanks.

MS. SUMMERLIN: Any other questions?

(No response)

MS. SUMMERLIN: All right, thank you for time.

MS. GUTH: Since we don't have any further questions, we are moving fast enough to go ahead and make another presentation now. So, if there are no objections we will keep on going.

BRET HOFFMAN: Good evening. My name is Bret Hoffman, I am with Kleinschmidt Associates. And I am going to discuss with you this evening a Flow Release Study that we conducted. We are obtaining what is called Dynamic Flow Routing Information; and basically that's different flows at different locations on the river. It's a dynamic system, it's fairly complicated. I am going to go through this information with you tonight.

The purpose of our flow study was to primarily provide information for the downstream recreation flow assessment study. This study is on the website; it's a final study plan that was put together by the Recreation RCG and TWCs. The purpose of the flow study we did for the recreation study was to determine these parameters you see here: rates of rise, arrival times at different locations on the Rivers, and total stage changes at different flows. We looked at different flows on various locations of the River, and we are going to use some of this information as much as possible to calibrate a model of the River system. If possible we can use this data as well to enhance some safety systems on the River.

Go over a little bit of terminology real quick. This may seem simple, but when we refer to stage we are talking about river

depths; when we refer to rise we are talking about change in river depth; rate of rise, we usually are talking about in a single minute how much the river can rise in feet. It is important to note that if it comes up a tenth of a foot in a minute, that doesn't mean it can come up ten feet in that location. So, we just use a one minute increment. Arrival time, or travel time, is how long it takes for water once it is released from Saluda Hydro to get to a certain point on the River. And all these parameters were studied specific to every location.

Want to go over the reasons that releases occur from Saluda Hydro. One of them is Lake level management. Many of you know that they draw the Lake down a little bit in the winter to create storage for spring rains. Usually these are scheduled events and they occur over long periods of time, several hours; sometimes several hours over the course of several days. Another reason that they release water is for reserve generation, we reserve to as a "reserve call". If a power facility trips offline and they have a loss of generation on the grid, they have to replace it within a very short period of time. Saluda Hydro provides them the opportunity to do that within fifteen minutes. And these flows are typically very short duration flows, a hour and a half, less than two hours. Then there is recreational releases, which if anyone has been out on the River this week they will see plenty of those with the International Kayak Event going on. These are planned events and the duration is several hours.

We had Resource Conservation Group members give us locations of interest on the Lower Saluda. We chose eight

locations; they are primary at areas of recreational use. They represent a wide range of the Lower Saluda River.

Some of them are in rapids areas; some of them are in narrow channels that are fairly streamlined. And we also had level loggers, or data collectors, at the boat sites of Oh, Brother Rapids on the Ocean Boulevard site and on the Oh, Brother Rapids site around the Island.

Got a map of those locations for you here. You see that one right there is in an area referred to as Sandy Beach. This one here on the downstream tip of Corley Island, that's about a mile downstream of Hope Ferry Landing, or James Metts Landing, I guess it is now called. There is the Gardendale put-in. We had a data collector there. And there at the two sides of Ocean Boulevard Rapids and Oh, Brother Rapids. And we put a data collector at Stacy's Ledge, at Mill Race Rapids, and down at the Shandon Rapids closer to the confluence.

Field installation was challenging, to say the least. Fast moving water , varying depths, rapids areas, the substrate change. You might go to one area where it's mud. The next area you go to less than a mile away might be pure rock. So it was a challenging installation for us to do. The debris loading was an issue. And there is areas where if you get some aquatic vegetation, it will try to tear out anything you install. Accessibility is always a problem. If you can't get to an area fairly easy, you need to make whatever you install very light so that you can carry it. So we minimized our equipment, and one of

the other things was obviously trying to avoid drawing attention so that no one would vandalize the equipment. What we used for the data collection is called level loggers.

This little device here, about the size of a cigar. It's a self-contained programmable pressure transducer with a clock in it. We set them up to record data every minute; and they just take a pressure reading once a minute. And what that translates to is depth. They also happen to collect temperature. We don't really have a use for that data in particular right now. Then we had what is called a barologger also which records atmospheric pressure; and we were able to remove that because it varies slightly over the course of, our study was approximately a month.

We were able to take out the atmospheric changes so that we have accurate data for every location.

Here is the typical equipment we used for a site. Like I said, we tried to keep it something that we could handle when we were traveling to different remote access points. This is just like a five foot fence post, two inch piece of pvc pipe, painted black and perforated, put some hose clamps on it. And these level loggers, they come with these little caps that lock right into the top of a two inch piece of pvc pipe. And they have a specialty key to lock them down so that nobody else can pull them out if they find them.

Here is two site installations we have. This one here is downstream of Corley Island; it was pretty much mud and we just drove the stake down into the ground, installed the equipment. It was pretty easy. This one, on the other hand, was on the Ocean

Boulevard side of that island; and it was bedrock for substrate. Can't really drive into it very well; and we actually had an equipment failure at that location, had to go back and reinstall it.

We checked the sites weekly to see if they were still there, and downloaded data off of them; simply a laptop connected to these level loggers is all you need to collect the data.

Two site failures during the study. We were actually pretty happy with the fact that we only lost two of them. We found the level logger so we didn't lose all the data, but those two events where they came loose and fell, that data is not useful to us. Just those two flow events. The releases that SCE&G scheduled for us, we had twelve different releases between January 22nd, February 15th; increments of 1,000 cfs all the way up to 6,000, and then 2000 cfs increments up to 18000, which is the plane capacity. And then the durations of these varied. At first we were thinking that we would just mimic reserve calls, typically an hour and a half, or so. What happens is SCE&G also had some other people interested in some of these flows. Swiftwater Rescue wanted to do some training, so some of these heavier flows they released for longer durations of time. The longest one was approximately a six hour duration flow; and that mimics a Recreation release or maybe a Lake Level Management.

We looked at all the flows at each location. In other words, as you see here, the 1,000, 2,000, 3,000 all the way up to 18,000 at a single location. Just graph that and look and look at those flows. And then we looked at individual flows, say 10,000

cfs at all the locations that we installed a level logger. We graphed the data, that's a easy way to look at it. Here is an example of a single location, all flows. This one, site #5 was in fact the Ocean Boulevard site.

And you can see where we had one break free. You can see the curve starts up, and what happened was some vegetation built up on the device, and then tore it down. And we found it laying there later on. But that flow, that's a 12,000 cfs flow, that one we can't use that specific flow at that location for that data. But, that's the only one we lost at that location. So, this is kind of what it looks like. You will see here, these are the long duration flows they did; and you see how different it is, you can see that it starts to crest and you can probably project that maybe it would -- it crest out maybe at 4. Some of the lower flows they did were shorter duration. They are very difficult to see where that stage would actually peak out. Here is a single flow at all locations. And again, what is interesting here is the top location. This is 5,000 cfs and that was released for an hour and a half, or two hours. Most upstream location, you can see it's planing off pretty well, and you could probably project where that would top out. But some of these locations further downstream would be very difficult to do that with a short duration release.

For QA/QC, we approximated rates of rise to certain percentage of the stage, the maximum stage that we saw. For instance, how long did it take to get to 80% stage? How long did it take to get to 90% stage? We looked at arrival times for different flow events. They should move downstream in order, and

that would make sense. We looked at some of the differences between the sites. You know, if this one has a faster rate of rise than that one, why? Is the River narrow in that section? Travel times and total stage, basically does it make sense?

Did the data we have that we draft out, did it make sense?

We did have some results that were not as expected. We had some arrival time problems where we found out that we were using the initial start time. We were using the time that Saluda reached their generation capacity. What we wanted to use was when they first started bringing the units online. So, we had to go back and adjust that data, and redo the start times. But this one of the things we flushed out in the QA/QC procedure. The two sites that failed, we had to look at all the sites to see if we had any data that was obviously errant, you know, like you saw on that one curve that you can tell that there was a problem with that. So, the failure points are noticeable.

The results of this, as I was kind of pointing out, are very complicated. The stabilization, how long does it take to stabilize a river? Well, you can't stabilize a river. If it rains, change your stage. If you look at an area that is very close to the confluence with the Broad River, and the Broad River is running heavier one day, well, then it's not going to be stable; it's going to be different than yesterday and tomorrow. So, there is no such thing as true stabilization. The duration of these releases, as you saw, obviously impacts what we are looking for. Total stage, for a short duration you can't project what that would be if you had done that for 24 hours. And that also would

affect the time to recede, the curves taper off much differently if you filled up the River than if you just turn the plant on and off for an hour and a half.

Arrival times, that's another thing that is difficult to select just looking at this data. Here is a station's ledge, 10,000 cfs. The River goes up and down all the time at every location just a subtle amount. Well, we had somebody look at it, and somebody picked, "You know what? I think here is a low part. And I think the flows actually start to arrive right around here." And then I looked at it and said, "Well, maybe it's a little bit more over here." And when we compared our data, the worst we did was actually 19 minutes apart from arrival time. It is difficult to pinpoint when flows reach a certain location.

Again, going back to this graph, how do we find maximum stage? How can you tell me where Gardendale, this yellow line here, can you tell me when that's going to peak out if you ran that flow for 24 hours, not based on this graph? So, it's difficult to tell what the total stages, the times to recede, and the arrival times are depending on how long they run the plant. These represent real operations. I went over those three earlier. They do run the plant for an hour and a half, they do run the plant for six hours. So, these variations are very real. Shouldn't just do one duration and base everything on that. It's not reasonable for them to run a 24 hour event of every single one of these flows, then run an hour and a half event for every single one of these flows. It's exhausted. Then the other thing is there is no

way we could account for precipitation with true raw field data.

So, what we are going to do with this is use the HEC-RAS. You know, there is an operations model called HEC-RAS, and it's Army Corp of Engineers software.

The HEC-RAS is sort of the step-child of this, and is a river analysis system. It's already being developed as part of the relicensing process. And what we can do is at all these locations, we will calibrate, we have cross sections of the River at those locations, so we can somewhat model what it would do with different releases for different durations. And we can calibrate the model to accurately reflect what we found in the field. And the model can also account for precipitation problems. And if we do this with the model and we run, say, a 24 hour flow and we look for arrival times, it will show up very defined from the model. It is not subject to human error like the real data is, it is not subject to interpretation. Like I said, we can run that model, we can run a multitude of scenarios, durations, the primary thing there. We can run the exact same flows that they released for any duration. Like I said, it accounts for precipitation, and the arrival times would be constant. The stages that you reach, if you say, "I am going to run 5,000. What does it get to at this point on the River?" Well, it will give you a defined answer. It won't be affected by precipitation.

What we are planning to do here is run it for a hour and a half to limit reserve, 6 hour flow to mimic maybe a recreation event, and 24 to mimic a very --- you know, that would be, I guess that would be an extreme Lake Level Management flow. We will

check the results versus actual data, just sort of look at it and say, "Did it make sense versus what we saw in the field?" And then we will pull out those parameters, the maximum stage, rates of rise, time to recede.

And calculate rates of rise from those. With that, do we have any questions?

REED BULL: Once you get this program running and all, what is going to be the end result of this? I mean, what are you going to be able to do with it as far as, you know, how will you use it after the study is over and done the relicensing period?

MR. HOFFMAN: Well, the purpose of this one, like I said, this is actually a part of a larger study, the downstream recreation study. So, this data was being collected in support of that. In the future SCE&G could use this information if they wished to know, "How long do we want to run flows to set up an event?" And they have a pretty good feel for that now, as you have seen this week. But they would know maybe when to start a plan for a recreation event. They would also know, "How long does it take for the water to get out of here?" And as I also mentioned, with this data if we find that we can, they could certainly use this maybe to enhance some safety measures if they install some more of them on the River. So, those are some of the possibilities with it. But, primarily this was to look at what are the maximum stages, the rates of rise, rates of receding, and those hydraulic parameters at locations of primary recreation interests.

REED BULL: I'm Reed Bull. I'm supposed to mention my

name. And also, I guess you predict the high water possibilities along the Saluda River for safety purposes, and a lot of other events. You know, what the range of possibilities are.

MR. HOFFMAN: Yes. At all these locations you can see what certain flows are going to reach, or what stages they will reach at those individual locations on Saluda Shoals Park, for instance. There is a fair amount of people that go there, and it's an interest to see what happens when you release a certain amount of water. You know, how high does it get there? And, how quickly does it climb? So, that's the purpose, that's one of the purposes of this information that will be provided into the recreation study.

MR. BULL: One other question. Can that be used with like the dissolved oxygen studies and all, to look at fish spawning periods and things? I mean, is there a way to integrate that, looking at water levels and stuff, the grid optimal conditions?

MR. HOFFMAN: Well, the stripers are having a serious problem in spawning in the Saluda River, for many reasons.

MR. HOFFMAN: Reed, as an engineer, I will have to pass your question to a more experienced individual in that area.

MR. STUART: (inaudible)

DAVE LANDIS: I'm Dave Landis, with the Lake Murray Association. And, Bret, I would like to know the temperature, number one. I have two questions, actually. One is about the temperature. Do you find that --- I mean, if you use for generation, does it --- is the temperature hotter coming out, or

colder, because it's coming out of the lower part of the Lake, at the front? And is it anything to do with the habitat? Does that affect the habitat? Or is that much of a variation of the temperature that seems to have an effect?

MR. HOFFMAN: You know, when they are running, most of the flows they are drawing off the bottom of the Lake. So, I would say in general anywhere up to a little bit more than half plant capacity, you are usually pulling off the bottom of the Lake. So, that's comparable to low flows. There are subtle variations, but you know, based on what they release. There are subtle variations in temperature, but I can't say that they would impact a habitat one way or the other, because that again is a question for someone in biology.

MR. SUMMER: I would say probably in general in the summertime it's a very low flow in the River, and tends to warm up downstream (inaudible) --- you tend to get cooler water downstream. In the wintertime, it might be opposite. Shallow water in the wintertime cold, as slow water coming down, might be a little warmer in the wintertime. So, really it's seasonally dependent.

MR. LANDIS: Thank you. The second question is, did you document the Lake level, if that had any effect on your different flows? I know you might already have this data, but when you do releases how does it affect the Lake in your particular samples? I know you are studying the River, but how is the Lake affected by your releases?

MR. HOFFMAN: The releases that we had, I would have to go back and look. But I don't believe that we had a significant level of impact. I think we calculated before this study that if there were no inflows to the Lake, I want to say that it was four inches would be the max that we --- if there was no inflow into the Lake, this entire study we roughed out would cost four inches out of the Lake. And I can assure you that there were rain events during the study.

MR. LANDIS: Thank you.

RICH ROBERSON: My name is Rich Roberson. Is there currently a minimum flow requirement for Saluda Hydro?

MR. HOFFMAN: Saluda Hydro has an agreement right now, as I understand it, with DNR, sort of a gentlemen's agreement.

MR. STUART: With DHEC.

MR. HOFFMAN: With DHEC, yeah.

MR. STUART: --- ground 180 ---

MR. HOFFMAN: 180.

MR. STUART: That's the minimum flow. However, in the summertime because they do vent, (inaudible) levels in the Lower Saluda, the turbulent must efficiently vent, which means provide oxygen to the water going to the River at around 4,500 cfs. That's why you see the 4,500 cfs.

MR. ROBERSON: And you are in the relicensing period now? Is that what this study is geared toward? Or, do you anticipate a minimum flow requirement being part of the new license?

MR. STUART: Absolutely. If I had to venture a guess, it could be a three period flow.

MR. ROBERSON: So, it will be seasonal, you think?

MR. STUART: That's probable. What it could very well turn out to be is a transitional wintertime flow to a higher spring type flow possibly. And then tapering off to a lower flow during the summer dry months. Then taper back particularly at another transitional flow back to the ---

That's possible. I mean, that's typically what I think.

Now, that doesn't necessarily mean that it is going to happen in this case, but I know in times provided by the DNR, in the initial stage document, they insinuated that they would like to see (inaudible).

MR. ROBERSON: Will your studies recommend, or try to come up with recommending minimum flows for those different events?

MR. STUART: Yes, sir, timeline study continue to discuss. That's what that study was designed to determine.

MR. ROBERSON: Okay. One other question on the fish. I noticed, I didn't hear anything about migration of shad or herring. I don't know --- I know shad come up. But can you just elaborate on that?

MR. SUMMER: I was entering myself a note down here. We didn't get asked at the intermission that. We do have American shad that do --- in limited numbers, looks like right now they get up as far as the Saluda, we have seen them there on occasions, and may have had something to do with the fish live in Columbia this year. Those fish are coming from the ocean, so they are making it up the Santee system through the lake, through the locks, and the

fish live down there, and up into the Congaree, up into the Wateree River, up the Congaree River and up. So, we do have some fish. We haven't seen the blueback herring come this far up. I mean, there is some question in my mind whether they will come quite that far up, even if the conditions were ideal. American shad, some of them make it up here. I think there are some others that think that a lot of the American shad kind of lose their way in the Lake system because they are kind flow oriented, and they get up there and it's hard to pick up (inaudible). So, for some reason the number of fish that enter the lakes don't (inaudible).

MR. STUART: The majority of shad probably close to 100% that are in the Lower Saluda particularly gives the shad --- the migratory species that Steve is talking about (inaudible).

MR. ROBERSON: Okay. Thank you.

GEORGE DUKE: George Duke, again. Just a really simple question. When we have things like the six hour recreational releases, are you guys using that to generate electricity?

MR. HOFFMAN: Everything that goes through the plant generates electricity.

MR. DUKE: So, you just don't create ---

MR. HOFFMAN: It's not a --- for a better term, it's not wasted in the sense that, yes, everything that is released goes through the turbines and generates electricity.

MR. DUKE: Okay, thank you.

MR. STUART: At the same time that (inaudible) is not available for suitable reserve. So that would be pulled from other sources.

MR. HOFFMAN: The reserve capacity, they still have to have ---

MR. STUART: Still have to have the 200. So that means (inaudible)

MR. HOFFMAN: They have to allocate it from another resource.

TOM STOKES: My name is Tom Stokes. I understand that we have to maintain water flows in the Lower Saluda, that we have to maintain water levels in the Congaree Swamp. And we need to pass water into the Santee lakes. And I understand that. And my question is simple. It is, how do you do that when you can't maintain the water levels in the Lake Murray so as you have got water to release? You have a difficult time over the past couple years in even getting the Lake levels back up to normal levels. And so, what obviously

--- well, to make it simple, in 1999 and 2000 South Carolina Electric and Gas didn't have any problem maintaining the water levels high during the winter because they were afraid of the millennium and the uncertainties of that. But since they drew the Lake down five years ago, and they pulled it down last year in January, it hasn't come back to 358 yet. So, obviously if you are going to be dumping water out of Lake Murray to maintain these levels, you have got to have water in Lake Murray to maintain those levels. So, the question is, is what is being done --- what will be done to maintain the water levels high enough in Lake Murray to dump this water into the Lower Saluda, to the Congaree,

and into the Santee lakes?

MR. STUART: There is an operations model that is being prepared that will actually take input of lake levels and input of reserve call generation needs, and any middle flow proposals. It will actually determine how it impacts the Lake, if there is enough water. There may not be enough water. And I could probably tell you the initial proposal from some of the resource groups probably will have it pronounced at take home lake levels.

MR. HOFFMAN: There are a couple of presentations that have been given on hydrology and the operations model. And again, that is an Army Corp of Engineer program; it has been around for decades, and it is used to balance these types of things. You know, what is reasonable for Lake level fluctuations? How much water do we have within this range? And what are the requirements for the downstream interest? And that full balancing act is being performed during this relicensing.

MR. STOKES: Why do we have confidence that South Carolina Electric and Gas can maintain the appropriate levels to satisfy the downstream needs?

MR. STUART: There will be license requirements in the new licensing that have limitations on additional Lake levels, and flow requirements. That's their license, they are bound by that license. Right now Lake Murray can be fluctuated from what is normal operation 358 all the way down to 345. That's what they are licensed to do, that's what their permit says they can do any year from now until a new license is established. That's what they can operate to. They typically, because they use Saluda for reserve,

it allows them to typically operate from 358 to 350. However, that number may change. That's what this whole operation is about. So, I'm sorry.

MR. STOKES: One would certainly hope so.

MR. STUART: Again, you know, you have different interests. And I know obviously your interest is the Lake. There's just as many as ones here that have interests on the River. Those would have to be evaluated and try the best revised.

MR. STOKES: I have one other question. Is there historical data or projections on what the flow, average flow, in the Lower Saluda River? Or, minimum flow would have been had the Lake not been there if the drainage basin was just operating and the River was going through?

MR. STUART: There is historical data on flows. Actually you can look at what has come out of the Lake because we are not creating water. So you can actually just look at what's come out of it over the last hundred years. And that tells you, if you look at that on an average daily basis, you can look at what your daily average flows are through the River system. So, absolutely there are average daily flows, and they change throughout the season.

MR. STOKES: Does evaporation from that large impoundment have some impact on how much comes out the bottom?

MR. STUART: Yes. It doesn't have how much comes out the bottom, it has how much is its useable storage. And that operations model, it accounts for evaporation. And, Bill, you had

200? What is the evaporation rate?

MR. ARGENTIERI: On good July, August, summer days, approximately six inches in a week, the Lake will evaporate without any lowage. We haven't had very much of it recently.

MR. STUART: This summer you didn't release anything?

MR. ARGENTIERI: (inaudible)

MR. STUART: Any other questions?

(No response)

MR. STUART: Do you want to break, or do you want to keep going? Open to suggestions. I am the last presenter. I am going to present on Boat Density Study. I will leave it to you guys. We will keep going. Since I didn't get to --- I just kind of walked in, I have been outside with Bill Mathias. I am Alan Stuart, I am with Kleinschmidt Associates, as well. I am going to present on the boating density study. I know many of you probably saw the article that Tim Flack (phonetic) prepared in The State newspaper. And I am going to try to run through some of the methodology that was utilized in that report and try to answer some of the questions. I am not a recreation specialist, I am a Senior Licensing Coordinator. I am filling in for one of our recreation specialist. So, if I cannot answer your technical questions, I will certainly put you in contact with somebody who can, but I think I can answer probably 99% of them.

The purpose of the study was to identify areas available for recreational boating on Lake Murray by Lake segment, The entire Lake was evaluated and we will go through that. Assess boating densities under the normal, which we call weekends. And

peak holiday use condition. Also, we wanted to examine whether recreational boat use of Lake Murray is currently above, below, at a desirable, or optimal level. Optimal level in this case means the amount and types of boating that begin to have an adverse effect on social values. It does not mean the total number of boats we can support. It means the point at which boating affects social values. That is important to understand. Anybody have a question with that? Steve?

STEVE SUMMER: Seems to me when you get to the point where it's not fun anymore.

MR. STUART: Exactly. When it starts to make people mad. The methods. We used the usable boating acreage. I will go through how we determined that. Boat count estimates. And recreational boating capacity.

We took boat count estimates back in 2001. There was a series of flyovers conducted for SCE&G. The weekend dates as you see were these here. We also did holiday dates. We did Memorial Day, we did one right before the 4th of July, we also did the 4th of July, which is considered one of the peak recreational holidays. What we did, we took those photographs and that is what we used for the basis; they were conducted in 2001, and we did adjust to 2006 numbers based on population estimates. It is not based on number of registered voters, or anything like that; it was based on strictly population estimate growth.

To determine optimal boating acreage, the Technical Working Group to develop the study plan came up with these five criteria. Multiple use of the water area; what that means is,

"Does it support multiple types of water activities", which would include things like kayaking, jet skiing, sail boating, power boating, fishing. Pretty much all of the activities that are known to us that occur on Lake Murray.

We looked at shoreline configuration. Irregular shorelines have a tendency to limit usable water area. Amount of open water. We took into account the number of islands in the segment. Was it wide open with no island?

Or, was it limited because there was a number of islands in there? The amount of facility and shoreline development was incorporated in there. Each one of these was assigned a value from either a negative one, zero or 1 based on a series of criteria which are in the report. The report is available on the website, by the way. Also, we evaluated crowding. We conducted a 2006 recreation survey, and asked individuals their perception of crowding. And the zero, 1; and negative 1 were each given a value based on responses from those groups.

Here are the 12 segments of the Lake. As I said, that is the entire Lake. Exercise we are going to run through, we are just going place a sign on Segment #1. All the information in the report are broken down by segments. Segment #1, we estimated a total useable acreage of 5,740. This is based on GIS data. We subtracted islands. We also established a 75 foot buffer from the shoreline. All the water activities with the exception of kayaking and canoeing were based on the 5,440. Because kayaking and canoeing is typically done inshore, it was based on the 5,740 because it is done typically within 75 feet of the shoreline.

Power boating, fishing. Typically fishing is performed within 75 feet of the shoreline; however, to provide a conservative estimate we used a 75 foot buffer for that.

The boat count segments. The weekend days totaled 784. We established 112 boats per Segment #1 for the weekend. For any weekend day. That's what we estimated. Just for Segment #1. Holidays, there were 727, which averaged 242 boats.

As I said before, we established these base acreage. These were obtained from a series of reports. One was done by --- I believe it was the Bureau of Reclamation or Corp of Engineers. Catawba, Wateree, the Duke Power Projects, and I believe the Intergy (phonetic) Project out in Arkansas. This is where these acreage for activity are derived. To explain this, power boating for instance. And I will get into the low, the high --- the base and the high in just a minute. For a base case, power boating on Lake Murray we are estimating will be 9 acres. Kayaking and canoeing would be 1.3. And I will get to how we determined whether it would be 18 acres or 9 acres in just a second. Does anybody have any questions on the base acreage? Yes, George.

GEORGE DUKE: When was that base acreage data gathered in?

MR. STUART: Depending on which one it is, I believe the Catawba, Wateree was in the last few years. The Bureau Reclamation or the other source, I think is a little bit older than that. And that is why we tried to update it with most recent data. I want to say it was in the '80s. I might be wrong, it may have been as

early as the '70s. But it is standard, it is industry accepted standards. In the report there is a table that outlines this, and it does cite the sources, and those sources are cited in fact.

Getting back to, and this is how we determined whether it is a -5. One thing I need to point out. If, for instance, the score was we will say -4, this number was adjusted. I want to say it was by a factor of 1.8. And you know, it was within 16.2. If the score came out to 3, -3 it would have been --- what's the math, 14.4 or something like that, and so on and so forth. And the next slide is going to determine.

Multiple use. All segments received a -1 for multiple use. All segments in Lake Murray were determined to support multiple use. Does that make sense? Shoreline configuration. We assumed for conservatism that every shoreline in Lake Murray was irregular, which would limit usable area. This is Segment --- these two would apply, -1 was applied to every segment. For Segment #1, the amount of open water, it was a very wide open segment with few islands. So it received a positive 1. Recreational access. There is fairly good access. It received a 1.

Weekend crowding rating, again that was derived from the 2006 rec survey. That received a 0, based on the score. I think it was somewhere around a 3. Again, all of these are in the report. So, you can check. Which ended up a total value of 0. So, for Segment #1, for power boating received a 9. We determined that 9 acres would be required for power boating in Segment #1 based on those five characteristics.

In evaluating the photographs, we could not determine --

- the photographs were taken from about 3,500 feet. So, we could not actually determine what activity was going on. So, what we did is we took the activity from the survey data we conducted at the public access ramps to determine the percentage of activity for the Lake. A couple of things I need to point out, it does not account for Lake homeowners because typically they don't use public access. And it does not account for sail boating. Typically people do not continually ramp sailboats in and out of a public ramp. So, that is something that is a limitation. Yes?

UNIDENTIFIED: (inaudible)

MR. STUART: We did not survey commercial ---

UNIDENTIFIED: (inaudible)

MR. STUART: I'm sorry?

UNIDENTIFIED: (inaudible)

MR. STUART: It was only public access. When I say public, SCE&G public access. So, based on our survey data, we determined that 26% of people were power boating. That is based on the year long survey we did. So, what we did based on the 112, the 112 was the average number of boaters for Segment #1 during the weekend, we applied 26% of that and came up with 29 boats. Based on the 52%, again there were no kayakers or canoers at the public ramp --- when we did the survey, there were no --- so, that value was 0. It could have been 2% based on homeowners, or something like that.

UNIDENTIFIED: Your 112 number is an actual survey of the segment rather than just public ramps?

MR. STUART: No, the 112 is based on the flyover, the

counts of number of boats that we counted based on all those weekends. That was the average.

UNIDENTIFIED: (inaudible)

MR. STUART: That number does account for anybody that used the Lake during that period. The only thing, this number --- this percentage, you know, there may be a little slightly higher percentage of Lake homeowners who ---

UNIDENTIFIED: (inaudible)

MR. STUART: So what we did, this is the same kind of process. You see 25% of power boaters were on weekend, or on power boats. And the number, there is 242; 25% of that is 61. That is just showing the difference in the two. So, what we did is we went back, took that usable acreage that we calculated based on the 75 foot buffer, and reduction for any islands, applied for power boating only. Applied that base nine factor. Basically we divided the 5,400 acres, divided by the 9 acres that each power boat would need for that segment. Okay. That would be a maximum number of 604 power boats only for that segment. However, we know that only 26% of the people, based on our survey, were power boaters. So we adjusted it to that mix for power boater only, would have been 158 for the optimal number. What we did is, we went --- that is where the 158 comes from. We went through, obviously again, there were no kayakers because there was no kayakers at that location. There were anglers. We estimated, based on the --- if you go back, we went through that same exercise where we assigned a -1, a 0, or a 1; and came up with an acreage, estimated at 660 boats for angling. Sailing, again we did not

calculate sailing because it was not part of the percentage. Water skiing, that total --- that became 916 boats. That segment, the optimal number before there would be potentially social impacts would be estimated at 916 boats. Yes, sir?

MR. STOKES: Just a quick question to make sure I understand. Section one is down by Jake's Landing on the Lexington side of the Dam. And I understand that in that little segment you are saying you could put 660 people fishing?

MR. STUART: Yes --- No, I said --- Yes, that is the optimal ---

MR. STOKES: That's my question. Is 660 boats fishing in that little area there by Jake's Landing?

MR. STUART: In that entire Segment #1. It covers, I think, a significant bigger portion than what you are talking about.

(Not transcribeable - everybody talking simultaneously)

MR. STUART: It's 5,400 acres. I think the cove you are talking about at Jake's Landing is slightly larger than 5,400 acres.

(Not transcribeable - everybody speaking simultaneously)

MR. STUART: The most important thing to understand, that is not a magic number. It is not a definite number. It is an estimate. On any given day, if that number goes up to 200 then obviously that number is going down. If there is 50 in here, then that number is adjusted accordingly. That one, that one, so forth and so on. We are just looked, based on the activity that we surveyed, that is where the estimate came up. It is subject to

change. One of the things that Bill pointed out, you know, this power boating, if it's a cigar boat it may need more than 9 acres, I don't know. If it's a pontoon boat, it may need less. A pontoon boat and a jet boat were assigned equal value.

MR. DUKE: This also is the boats that could be there, not the boats that are there.

MR. STUART: It's the number of boats that theoretically begin to affect the social value of the recreators. It does not mean the total number of boats it can support. It could probably support significantly more boats, depending on activity.

MR. DUKE: I disagree with the process, but that's not what we were talking about. The philosophy of it is, if the Lake is full so what? Who is going to --- what's the action? I mean, why are you doing this exercise? I understand all the purpose and all that. But, okay, so what? You guys going to tell people they can't put a boat in the Lake? You going to tell people who live on the Lake they have to get rid of a boat? What is the purpose of the study? I don't understand.

MR. STUART: The purpose was it was requested by members of the TWC. It has been our experience that we typically don't do carrying capacity studies because the information it can use, you typically use it for. And I will get to that at the very last slide. One of the major things is, is potentially siting new recreational facilities. You don't want to crowd more recreational facilities on top of already busy sections.

MR. DUKE: So, is that the ultimate purpose then?

MR. STUART: That's one of the primary usable purpose we have. It is not to restrict who can and who can't get on the water. It is not within SCE&G's authority to do that. I mean, by law I don't --- Brian, you help me out. I don't think they can --
-

BRIAN MCMANUS: --- is allegations that the Lake has reached its capacity. And the Commission likes to have the information, whether or not the Lake has reached capacity when someone comes in the commercial marina, owner wants to expand, put more docks in. Can the Lake sustain that? And what is the impact? And a study like this gives the Commission some sense of what is going on at the Lake. As Alan says, to a great extent this is hypothetical, it's an estimate, and it is something that at least the Commission can look at if it wants to make a reasonable judgment on whether or not to approve the application. And that is what you are dealing with. We get those allegations that are challenges here at Lake Murray where we try to put in a commercial marina, people come and say, "Can't have any more. It's too crowded. It's too crowded at this cove. It's getting too crowded on the Lake." Well, what does the Commission know? This helps to reach a reasonable decision.

MR. STUART: That answer your question, George?

MR. DUKE: Not really. Does the Commission have to (inaudible), they can't put a marina in?

MR. SUMMER? Yes. They can.

MR. STUART: They can deny the permit.

STEVE BELL: Alan, one thing, I am glad you did this study. It shows that the anglers, which are representing Tom also, we should get a pretty good --- because it seems like we are in the high percentages as users of Lake Murray. Right?

MR. STUART: Absolutely. Lake Murray, is the number one activity of the survey based on the recreation study we did. That doesn't mean you get any more or any less credit but that is what it is. So, what we did, and this is where some of the capacity estimates came up, for optimal boating capacity we determined based on the percent of activity, 916 boats. Remember the average peak weekend uses 112, virtually simple math; divided, came up with 12%. That's 12% on the weekends based on the total number that segment theoretically could support, it was at 12%. For holiday use, it was 26%, that's what it was estimated.

Here is each breakdown for weekend by segment. Again, there is the 12% that was calculated for weekend use for Segment #1. 22% for Segment #2. I mean, you can see how it goes up, the variance as you go through the river segments. Steve?

STEVE SUMMER: Steve Summer, SCANA Services. That's not to say that a small piece of a segment out in front of somebody's house might appear or actually have a higher or lower percentage there. So, we are really looking at that whole segment.

MR. STUART: That's correct. There may be a place, Hurricane Hole Cove, for instance, a prime example, you may find 100 boats at Hurricane Hole Cove. I think that is kind of what you are looking at. It just looks at the segment as a whole.

There probably are locations that are, I would say, congested at

times. I am sure most of you can attest to, use the Lake and attest to that.

Here is the same estimates for holiday use. Again, these are not absolute numbers, these are estimates. I believe as a reservoir hold, I want to say it averaged about 12% on the weekend and, I believe, 16% on holiday use. Percent of holding carrying capacity, as you want to call it.

BILL MATHIAS: Alan, does that mean 12% is the most that the Lake can support of any (inaudible) and more boats? 12% of capacity and certain times more boats can be accommodated?

MR. STUART: Depending on the activity. Remember, if there are more power boater, if there is a shift --- let's say instead of angling, power boating became the predominant activity; then obviously, that number is subject to change. Because power boaters need --- for that Segment #1, if you recall, we estimated 9 acres for power boat. Well, I think for fishing it was somewhere near an acre, or a half an acre, or something like that. It was significantly less. So, yes, to answer your question, I don't know if there is an answer to your question. It just depends on based on the activities and the current usage, based on activities, yes, it could support, you know, 88% more boats per each category, we will say. Could you say your name for George? It's Bill Mathias.

I don't want to speak for you, Bill. Sorry about that. Reed?

REED BULL: Reed Bull. Alan, quick question. This

projection, that is based upon projections of boat users? Follow population growth, or what? This study, how do you arrive at that? When you project those, like you say, between 30, is it based on population?

MR. STUART: It is based on population; it is not based on voter registration. I want to say we did evaluate voter registration, and I think if I am not mistaken, actually voter registration was highest in Saluda County, not Lexington or Newberry County. And it specifies in the report, we did evaluate that.

MR. HOFFMAN: The report is available on the website.

MR. STUART: It is on the website. You can go home and get it tonight and read it 'til your heart's content. If you have questions, you know, each one of the segments you will see how we rated them with the -1, 0, or 1, the number it received. If you have questions, please don't hesitate to give us a call. I am not the one who prepared the report, David Anderson is, and he will certainly walk you through any questions you might have. Anybody can get in touch with me or Alison, and I will get David to call you or whatever. Yes? Charlene.

CHARLENE COLEMAN: American Whitewater, Charlene Coleman.

915 boats in a average square footage over that much acreage, how many boats you got? I mean, do we just build a dock?

MR. STUART: I don't understand your question.

MS. COLEMAN: If you put 915 boats in area #1

MR. STUART: In the 5,400 acres.

MS. COLEMAN: A boat is so many square feet.

MR. STUART: Well, you have got to remember we estimated that that boat needed 9 acres. That boat is not 9 acres in size. We talked to you about the ---

MS. COLEMAN: Well, you can't put 916 boats in that area.

MR. STUART: In 5,400 acres? We are estimating --

MS. COLEMAN: Well, I mean, at some point --- I mean, way before 916 a lot could be anything. 660, I think would probably be ---

MR. STUART: You have got to remember the 660 was angling. If that number went down to 300 and the number of power boaters went up to 400, then the whole dynamics change. It is not a linear relationship. If we will say, the number of power boaters went up to 158, if it went up to 300 you probably are going to have enough area for about 10, 15, or 20, whatever your number is, fishing. Because your 9 acres, your power boaters are taking up for every power boat you have, you are taking up 9 acres. So that number starts to shrink.

MS. COLEMAN: I don't see exactly what was proof really in a realistic form or fashion for anybody's use, as far as the --

MR. STUART: It's exactly what Brian said. The FERC typically likes to see carrying capacity studies so they can make rational decisions.

MS. COLEMAN: That's not rational.

MR. STUART: I never said FERC made rational decisions.

GEORGE DUKE: You have got --- now you are in a heap of trouble, boy. The breakdown between power boating and canoeing, and angling, was done based on your survey?

MR. STUART: That is correct.

MR. DUKE: And your survey was didn't include the 10,000 to 20,000 people who live around the Lake?

MR. STUART: No, it did not.

MR. DUKE: Then I would say that your breakdown that you are basing this on is horribly flawed.

MR. STUART: Can you elaborate? Are you saying that you think the Lake homeowners are power boat users, or what is your --

MR. DUKE: I am just saying that angling is overstated by a factor of 10.

MR. STUART: You don't think ---

MR. DUKE: I don't think --- I think the people who bring boats to the ramps are anglers, but the people who live on the Lake are not. There is very few anglers. Hell, I got four kayaks myself.

MR. STUART: You can't say it's zero.

MR. DUKE: I am just saying it's flawed. That data, there is not that many anglers out there, except maybe Saturday morning at a tournament.

MR. STUART: 660 is not --- that is the optimal number of anglers that area could support. The actual number of anglers for that segment was only 58.

MR. DUKE: --- that's the point, I think that's a

horrible ---

MR. STUART: Okay. We estimated 26% of the people --

MR. DUKE: --- bring the boats in. If you don't base that mix on the entire population, you have skewed it toward the anglers.

MR. STUART: What we all need to understand is waterskiing is not boating.

(Not transcribeable - everyone speaking simultaneously)

MR. STUART: I will tell you what, George, if you can provide us with empirical data, we will re-run the numbers.

MR. DUKE: I already offered that once, and you turned me down. I had a survey from a boating magazine, you guys blew me off.

MR. STUART: Well, Tom, you might be able to help us. You were involved in that. What, is it the Lake Murray Homeowners Association ask the question?

MR. DUKE: They designed as their own survey and they asked (inaudible).

MR. STUART: Do you recall what the use numbers were?

TOM RUPLE: We had a very high percentage (inaudible). Tom Ruple, Lake Murray Association. Both fishing and jet skiing, and water skiing. Very high usage. The things that you call --- in addition to that, we have an enormous number of people that go through diving exercises, which I had no idea that there were divers out on the Lake. But when you talk about water skiing and fishing, you come to my end of the Lake and you are either PWC (phonetic), water skiing, or fishing.

MR. RUPLE: --- confusing water skiing ---

MR. STUART: Yes, this is what they consider water skiing. So, I mean, if you have got some additional data, we can put --- you can run your own numbers and have your own estimate. But as far as I know angling is the predominant activity on Lake based on everything I have heard. I am not an expert, I tell you what is right or wrong.

DAVE LANDIS: Alan, Dave Landis, LMA. Didn't you say earlier that they did the aerial shots at 3,500 feet?

MR. STUART: Yes, I did.

MR. LANDIS: And when they did the aerial shots, that includes everybody that is out there. Doesn't matter where they came from. Homeowners or whatever.

MR. STUART: Doesn't matter where they came from, that is correct.

MR. LANDIS: Right. And the distribution was done by just the people off the public dock.

MR. STUART: Right. We actually attempted to try to determine what activity was going on, and we just could not. We couldn't differentiate between a power boater or a jet skier. You know, we could tell very close what a jet ski was versus a boat. But it still wasn't sufficient enough. We couldn't tell if it was a fish boat or a small boat, or a jet ski at times.

MR. LANDIS: And on your survey effort you wanted to take any number if you wanted to and apply it to see if they would handle it. If we are assuming that it takes nine acres for a power boater, and it takes one acre, or whatever, a half an acre for a

kayaker, we can determine what each one, each section will hold by the square acreage.

MR. STUART: Right. You've got it.

MR. LANDIS: Right. That is the maximum. Now, and then you can just move those numbers around if you are going to have more or less anglers, or --- so, it doesn't really quite matter.

MR. STUART: No.

MR. LANDIS: What we want to know is probably this is more information better than how much can --- what is the capacity of it, how many it can hold. And then if George thinks that there is more of another type out there, just change the numbers to see if it will fit by the numbers. And then you will come up with ---

UNIDENTIFIED: (inaudible)

MR. LANDIS: Say it is all power boating, how many power boaters can be out there? If each one takes 9 acres, divide 9 into the 500-whatever.

MR. STUART: Well, we determined that. It was 604. And that's where we took the 26% of 604. We estimated 604 power boaters could use that space.

MR. LANDIS: And nobody else, nobody else would be out there.

MR. STUART: We put it on the board, is the point that begins to affect the social value of the experience. It may be a (inaudible), but it could support that many before theoretically it begins to affect social use of that segment. Yes, sir?

CARLISLE HARMON: Carlisle Harmon. With the technology we have, why did you use such lousy resolution pictures when you

can pinpoint --- with the technology today, you could pinpoint exactly what everybody was doing with no problem.

MR. STUART: Those were taken in 2001, and it was basically a cost saving exercise. We didn't figure we would get any better work data for the money, to be honest. Other questions?

MR. LANDIS: If you got parameters when the lake is drawn down now (inaudible).

MR. STUART: You know, somebody mentioned about the anglers, you have got to remember we excluded the anglers on that 75 foot buffer around the Lake. We could have easily increased the acreage. Basically every information is in there you can take and rearrange the numbers any way you want to. George will be around in some form or fashion, I have no doubt. He will be somewhere around this Lake. Other questions?

(No response)

You know, I encourage you to read the report. If you do have questions, let us know. We will be happy to do what we can, we will circulate it to everybody on the distribution. We have the e-mail. We want to get the information out if you have questions.

Anything else?

(No response)

A couple of closing things. Does anybody have --- I asked this question this morning. Are there any topics that anybody here tonight would like to see in future public meetings?

We try to cover a diverse number of things, but if there is something specific let us know. We will try to accomodate you in

any way we can. Yes?

UNIDENTIFIED: I would like to see estimates or guesstimates, or something about where future public access points are being considered.

MR. STUART: There has been --- to my knowledge, there has been no --- you talking about SCE&G public access, or any ---

UNIDENTIFIED: Well, any. Except that I guess this situation ---

MR. STUART: At this point, I don't think based on the Rec survey, I don't think there has been a recommendation from the TWC on any new recreational development.

UNIDENTIFIED: If there was development, we could have that as one of our topics.

MR. STUART: Yes. There will be a recommendation from the TWC on either facility enhancements or potentially a new site if it is needed. At this point, based on the Rec survey that was done, there are a couple of sites that are reaching capacity, but I don't think there has been any indication that a new site is needed at this point. I think expansion was potentially at this point of being available.

UNIDENTIFIED: Question. If everyone who doesn't work for Kleinschmidt and SCE&G, SCANA or one of their subsidiaries, please raise your hand.

MR. STUART: What? Does not?

UNIDENTIFIED: Does not. Two, three, four, five, six, seven, eight, nine, ten, eleven, twelve. Just about half. And the

point I am trying to make, I know you guys did a bang up job advertising this thing. I am really disappointed that 15 people from the public showed. Was it any better this morning?

MR. STUART: There was a number. I don't remember. We had about 8 from the Two Bird Grove Group.

UNIDENTIFIED: It's just an observation, and it's pretty sad that --- it's a meeting that has been advertised in every newspaper, and as I said we have got 6,000 people living around the Lake and this is what shows. I mean, not that this isn't a marvelous group, but I don't know how you would do a better job.

MR. STUART: That's what we are trying to get. We advertise everywhere we possibly can.

(Not transcribeable - everyone speaking simultaneously)

MR. STUART: Again, if you have something you would like to see, please let us know. We have got probably a half a dozen more public meetings coming up before the final application next year. And let us know what kind of topics you would like to see. Other questions? Are there any general questions on the relicensing process, or anything that somebody has seen on the website that they don't understand? Yes, sir. Please state your name.

TOMMY RAWL: Tommy Rawl, just call me Tommy. On my property, a little red survey tape. And I have asked SCE&G who is doing that? I have had a certain line 360, a little --- you know, the red survey tape.

MR. STUART: Are you on the Lake or the River?

MR. RAWL: I am on the Lake.

MR. STUART: On your property?

MR. RAWL: Yes. It seems like it's a representative group of different organizations here that have an interest in it. But I have noticed a survey tape with some little numbers written down. And I don't know who is taking the survey.

UNIDENTIFIED: [no camera/no mike] We were doing archaeology around the Lake.

MR. RAWL: Is that available? I mean, is that information, what you found available? Or, do you have certain sites that you have designated as --- I don't know, Indian archeology, or something like that?

UNIDENTIFIED: [no camera/no mike] --- around Lake Murray. It is entered on our website to locate it. Your property, I guess that's what it is.

But if it is not public information because ---

MR. RAWL: Well, it's on my property, it ought to be my information. And the markers appear to be within the --- below the 360, but I am just curious what that means. What that means for my property that is behind it. Somebody requested permission to come on the property, but I denied it.

UNIDENTIFIED: [no camera/no mike] It's not in the 360.

MR. RAWL: Right. Of course, you know, it's a good number. I just need to talk to you in private then. Thank you. I didn't know how that impacts --- that's one of the reasons I come to these meetings is to see how that possibly impacts my property.

MR. STUART: As far as private property, I don't think it would.

UNIDENTIFIED: [no camera/no mike] If you didn't give us permission to come on your property, anything was done is not exactly property owned.

MR. RAWL: I'm just curious, I would just like to know what my neighbor is doing.

MR. STUART: Well, good, I am glad they solved that mystery for you. Anybody else?

UNIDENTIFIED: Y'all keep referring to the website. What is the website?

MR. STUART: www.saludahydrorelicensing.com. I think you can go Google it, saludahydro. Anything else?

(No response)

MR. STUART: Well, I appreciate everybody coming out. If you have questions or anything, let us know.

PUBLIC MEETING ADJOURNED.

**Saluda Hydro Relicensing
Quarterly Public Meeting**

Meeting Agenda

April 19, 2007

10:00 AM & 7:00 PM

Saluda Shoals Park – Environmental Education Center

- **10:00 to 10:05** **Welcome - *Alan Stuart***
- **10:05 to 11:00** **Discussion on the Recreation Assessment Study for Lake Murray and the Lower Saluda River – *Dave Anderson***
- **11:00 to 11:15** **Update on the Progress of the Relicensing and on Upcoming Studies – *Alan Stuart***
- **11:15 to 11:45** **Final Questions and Close – *Alan Stuart***

Adjourn



SALUDA HYDROELECTRIC PROJECT RELICENSING

FERC PROJECT NO. 516

Joint Agency & Public Meeting

QUARTERLY PUBLIC MEETING

April 19th, 2007

10:00 o'clock A.M.

Recorded by:

Capital Video

405 Timberpoint Court

Columbia, SC 29212

(803) 781-6747

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PUBLIC MEETING:

MR. ALAN STUART: Welcome. I see a lot of familiar faces that I typically see here, and appreciate y'all coming out. This is our Second Quarterly Public Meeting for this year. On the Agenda, we had just wrapped up the recreation study that was conducted this past Spring and Fall. So, we would like to have Dave kind of give you a presentation on some of the results, and go through and let you know what some of the some next steps are. There will be an Addendum that the Technical Working Committee has been working on that will supplement some of the information in this study. So, that's basically going to be the gist of our Quarterly Public Meeting. I will give an update on some of the major milestones that are going to occur between now and the next Quarterly Public Meeting. But, one housekeeping item, don't forget if you have questions or something, Alison is going to be walking around with the, quote, "dead" mike; it's the one that patches through to George so he can get your comments. You know, please state your name and who you are with. And with that, I am going to bring Dave up.

MR. DAVE ANDERSON: Good morning. I usually don't use microphones because my voice is loud enough as it is. Is that loud enough up there? My name is Dave Anderson, I am with Kleinschmidt. Allan asked me to come in today and speak a little bit about the Recreation Assessment Study that we conducted last year. You have been to these Quarterly Public Meetings, you have seen me talk about this from a study plan perspective; but now

that the study is completed, I am happy to come up here and tell you a little bit about what we found out.

Just kind of a refresher, the purpose of the study was to characterize existing recreational use of SCE&G's recreation sites. This was accomplished by a number of tasks, including identification of recreation points; an inventory of the services and facilities offered at each site; and a general assessment of the condition of the site. Then we also identified patterns of use at the site.

The second goal was to identify future recreational needs relating to the public sites at the project. This was done through an estimation of future recreational use, and identification of user needs and preferences including perceptions of crowding, and identification of any future needs that may need to occur around the project.

We did, I believe, this is 15 sites on Lake Murray from the Dam site and Park site right at the base of the Saluda Dam all the way up to Kempson and Higgins Bridge. Just to give you an idea of where these sites are located in case you are not aware. The Dam is obviously there on the right side of the image there; and Higgins Bridge is well up the Saluda River. Pretty good spatial pattern. You know, the sites are fairly well spread out across the Lake. So, I think we got a good picture of what's happening.

On the Lower Saluda River, there were 5 sites. Only 2 of these are managed by SCE&G; that would be Metts Landing and Gardendale. Saluda Shoals Park is leased to the Irmo-Chapin Recreation Commission. And then, Mill Race A and B, I want to

point out, are outside of the project boundary; and that's kind of important from a FERC perspective. Usually when you talk to FERC about recreation, its project related recreation; so, since these sites are outside of the project boundary, we kind of separated them out a little bit. But, in most of my results today they are combined into like a total estimate of use. Here is where the sites are located on the River. We are obviously at Saluda Shoals Park right there. Metts Landing is right across the River. Gardendale is right in this area. And then Mill Race A and B, for those of you who are not aware, are accessed through the Zoo parking lot. Mill Race A is right here, and then Mill Race B is right in here.

Like I mentioned, our methods included a recreation site inventory, vehicle counts at these sites, recreation site surveys, a Water Fowl Hunter focus group, and other secondary data sources.

The inventories were completed in May of 2006. The inventory included types of activity supported, parking capacity at each site, and the type, number and size of facility such as picnic tables, grills, things like that. The vehicle counts were conducted on 30 days per site from May 27th, which was Memorial Day in 2006, to September 30th, 2006. This included 13 week days, 14 weekend days, and 3 holidays. Each day was divided into an A.M. or a P.M. shift; and the shifts lasted 6 1/2 hours long. So, basically we had somebody out there for 6 1/2 hours per day for 30 days at each site counting the number of cars entering the site.

As part of this, we also conducted exit interviews; when somebody was leaving the site, they may have been stopped by our

recreation clerk. And we had developed a questionnaire, and they were asked the questions on the questionnaire. We targeted 100 completed surveys per site; which would have meant about 2,000 in total. After all was said and done, we ended up with 1,611 useable surveys. Some of the reasons we didn't hit our target include weather. If the weather was too bad that day, for safety reasons we told our clerks not to stay in the field. Some of the sites did not receive enough use to get to 100 completed surveys for that site. And then we also had 4 surveys where the person did not speak English; 12 surveys where the persons were minor, which is under 18; and then 125 refusals. The questionnaires they asked were designed to collect user characteristics, type of recreation activity participated in, the length of stay at the site, and any perceptions of crowdedness which also included what they thought the site needed, improvements to the site.

On Lake Murray, we also asked about on the water crowdedness. They were presented with a map of different segments of Lake Murray; asked them to indicate where they went on the water that day; and then asked, "On a scale from 1 to 5 how crowded did you think the water was?"

On the River, we also asked a series of questions about knowledge of the warning system in place. There are a number of sirens; they were located on that map I showed you that are meant to warn users of rising water in the River.

We conducted a focus group of water fowl hunters because that's an activity that typically takes place outside of the sampling period we had. Do you remember it was May 27th to

September 30th? Most water fowl hunting, I believe, takes place in the winter. And also because it's a dangerous activity, we don't like our recreation clerks to approach people with guns and start asking them questions. The purpose of the group was the same as the questionnaires. We got a group of hunters together and kind of ran them through the questionnaire, and asked the same opinions and types of use that they participate in.

Other literature we consulted includes the South Carolina Statewide Comprehensive Outdoor Recreation Plan; the Lower Saluda River Corridor Plan; the Three Rivers Greenway Plan. We were provided with a copy of results from the Lake Murray Association survey. And I think that's about it as far as secondary data. We used some population projections, and things like that that were provided by the State.

Kind of briefly go over how we estimate current use. As I said, we had people out there counting the number of cars that were coming into the sites; so, we know the number of vehicles that were entering the sites per shift. Through the questionnaire we also know the number of people that were in the car; when they were stopped we asked, "How many people are in your party?" We also know the number of day types throughout our sampling period from May 27th to September 30th, I believe there were 31 weekend days, which is kind of the example I will show you. So, for a particular site on average, and this is just hypothetical, there would have been 200 cars on average entering that site on that type of day, say a weekend day, with an average of 2 people per car. You would multiply that by 2 because there were 2 shifts per

day. And then 31 weekend days throughout the sampling period. So, 200×2 is 400×2 is 800×31 is 2,400 and some change. And again, that's just a hypothetical. I just kind of want to explain how that estimation of use goes.

As part of the inventory, or the results of the inventory, remember these are just SCE&G owned sites. Just to kind of run through it, on the Lake as a whole there is about 130 private, commercial and public sites available. This does include 23 informal sites, 20 sites were included in our inventory. In total, the sites had 2 swimming areas available, 15 boat launches, 6 fishing piers, and 1 campground. There were 9 restroom facilities available at all the sites. And there were picnic tables at 12 of the sites. A couple of the larger sites there, Dreher Island State Park you can see has available boat launch, picnic tables, camp sites, restrooms, swimming area. That's one of the more developed sites. And then like at Macedonia Church, simply we called it a picnic area; has picnic tables available; there was also some bank fishing at that site.

And then on the River, obviously Saluda Shoals is the largest park available, 240 acres. Significantly the most developed site, had a boat launch, fishing docks and piers, picnic tables, restrooms available. And then Mill Race A and B, like I said, those are informal sites, that's just people go through the Zoo parking lot and access the River and the rocks there, and kind of hang out. And there is really no developed facilities at those sites.

From the results of the survey, we know that Lake Murray users are about 85% male, average age was 45, 79% of the users at these public recreation sites did not own shoreline property, which is expected. This is the general public mostly coming to these sites to use the boat launches, or access the Lake in some way. 54% responded that they chose the site they went to because it was close to their house. People don't want to go that far, so they chose the site closest to their house. Other reasons they chose a site included word of mouth, the site was less crowded, and available facilities such as a swimming area; like you saw there was only a couple of swimming areas available on the Lake, so if you want to go swimming you are supposed to go to those sites.

As far as on the Lake use, people tend to go on the water close to the site where they launched. The most popular area of the Lake was the western portion around Sunset, River Bend, and Murray Shores. And the main reason, or the most given reason, why people went to a particular area, because it had good fishing is what they told us.

For Lower Saluda River users, again mostly male, about 74% male, average age was about 38. People were slightly younger at the Mill Race sites. 98% of the users did not own shoreline property. And only 30% chose the site because of the location; not necessarily because it was close to their house. Most of the reasons we heard were familiarity with the sites, curiosity about the site, event attendance, and that's mainly driven by Saluda Shoals Park because Saluda Shoals Park hosts a number of events

throughout the year. Facilities in some cases, and lack of facilities in some cases. We heard a lot at Mill Race that people like the informal nature of it, that it wasn't developed. And then, also, we heard a lot about whitewater opportunities at Mill Race A, that's where the Mill Race rapids are.

UNKNOWN: Excuse me, would you identify what Mill Race B is?

MR. ANDERSON: Mill Race B is below the Zoo. Shandon Rapids, that area. All right. In FERC language, use is estimated by something called a recreation day. And that's to find each visit by a person to a development for recreational purposes during any portion of a 24 hour period. So, we might call these just visits to a site. So, when I talk about total use, I am talking number of visits made to a site, or made to the project, over our sampling period. You have to remember that we were only out there from 7:00 A.M. to 7:00 P.M., so there is likely some use that occurs outside of that range, which means that these numbers might go up a little bit, or would go up a little bit. And also, remember that we only sampled 3 days in May; so even though we are showing this as May use, this really only represents 3 days.

In total there were 443,000, roughly, recreation days within the project boundary. The reason I say that, again, is remember the Mill Race sites are outside the project boundary. Those sites were about 45,000 recreation days, the Mill Race sites. Use was, mostly occurs on holidays; about 17% of all use occurred during the week days. 38% on weekends. And then 45% on holidays. Remember, we did 3 holidays - Memorial Day, July 4th, and Labor Day.

One of the reasons it may seem so high, again, is because of this May timeframe; 3 days in May, and I believe all 3 days we considered holiday days if I remember, I would have to go back and look. So, a lot of use on holidays. And most of that use contributes to the total use at the project. When you look at it by sites the most used sites were Dreher Island State Park, had about 78,750 recreation days; and Bundrick Island, which had about 64,000 recreation days. For those of you that aren't aware of Bundrick Island, Bundrick Island is only accessible by the water. There is an access road but it is gated. We estimated use there through the use of aerial photographs, and came up with about 65,000 days; and that's pretty impressive considering that's really not a formal access site.

The least used sites showed up as these smaller pieces of the pie here. Rocky Point, which had about 230 recreation days in our sampling period. Higgins Bridge and Kempson Bridge, show those two sites up the Saluda River. Higgins had about 2,000 recreation days and Kempson had about 3,800 recreation days.

As far as activities, I am just showing water based activities right here. I will show the land based activities on the next slide. But I want to point out that water based activities accounted for 80% of all use on Lake Murray. So even though this is 100% pie, this is 80% of all use represented here. Fishing was by far the most popular activity; it accounts for 51% of all use at Lake Murray. And this use varies by site according to the facilities. At Macedonia Church where there is no boat launch, on the water activities are obviously not popular there

except for bank fishing. And then at the Dam site, or Park site, especially at Park site where swimming area is available, boat activities are not as popular at Park site, but swimming was a big activity there.

As far as land based activities, again remember this is just 20% of all use, but again it shows up as 100% pie here because that's the way Microsoft works. Camping, picnicking and sight seeing accounted for about 4% of total use. And also this other category accounted for about 4% of all use. And mostly that was attributed to people that said they were socializing, or for rest and relaxation.

On the River, the River supported 172,000 recreation days in total, and that includes the Mill Race sites. Most use sites by far was Saluda Shoals, scoring about 100,000 recreation days. And Mill Race B, which was the second most use site supported almost 28,000 recreation days. The least use site was Gardendale, it had about 8,700 recreation days. But you can see that Saluda Shoals really, really drives the use at the River down here. On the River the proportion of water based versus land based activities was nearly equal; water based activities was about 51% of all use, land based activities was about 49% of all use. Within the water based category, bank and boat fishing were most popular; they accounted for about 21% of all use. That was followed by flat water canoeing or kayaking. Whitewater canoeing or kayaking as a water based activity, but the whitewater canoeing and kicking was less popular than the most popular land based activity. And the most popular land based activity is this category of sight seeing.

That's probably attributable to the popularity of the activity at Saluda Shoals; most people that came here said they came here to sight see, and whatever that may entail was really --- sight seeing was a category on our questionnaire so I doubt many people said they came here to sight see; maybe that includes bird watching, things of that nature. Most the water based activities on the River occur on weekends and holidays.

As we move into the future, 4 Counties around the project are projected to grow by about 24% over the next, I guess, almost 30 years, up to the year 2030, which was the most recent data available when this report was written. Which means that total project use could almost get to or be about 605,000 recreation days by the year 2030. That would be an increase in visits to Lake Murray by 75,000 recreation days, and increase in use on the Lower Saluda River by about 30,000 recreation days. The reason I say "could" is, as with any projections into the future, there is a number of unknowns. The Three Rivers Greenway is getting, or is supposed to be getting built; I read some articles but something has happened. But that could increase use at the River as well as change the types of use at the River. The Lower Saluda River Corridor Plan, if that's ever fully implemented that could change the numbers and types of use on the River. On the Lake, if you build additional facilities, it would obviously probably attract more people. And, technology may change; there may be things out there that we just don't know about yet that may become the next great thing, which means that more people might potentially use the project.

As far as the condition of the sites, overall mostly people were happy with them. We did ask them to rate the crowdedness of the site on a scale from 1 to 5, where 1 was a light rating, and 5 was a heavy rating, heavy crowdedness. We also calculated what we call the carrying capacity of each site, which is simply the number of parking spaces available per site. And then compared that to the number of cars that entered the sites in, I believe, a 2 1/2 hour window; 2 1/2 hours was about the average length of stay. 4 sites were used regularly within their designed capacities, which means less than 75% of the parking spaces were full. These were the Dam site, Park site, Rocky Point, and Dreher Island State Park. 3 sites were approaching capacity, meaning they were used somewhere between 75% to 99%; these were River Bend, Higgins Bridge, and Kempson Bridge. And then the other 7 sites regularly met or exceeded their designed capacity, which means they had greater than 99% use at their peak times. Some possible reasons for this besides the fact that there weren't enough parking spaces is that we estimated not the number of spaces available in a gravel parking area. We had a civil engineer, we gave him the dimensions of the parking area in square feet; and through whatever engineers do, he calculated the number of spaces that would be available at that site if the entire area was used at its maximum. There probably is some parking in areas that we did not consider parking areas; you know, people parking on the grass or on the side of the road. And we would also have counted drive-throughs; like at Park site, or Dam site, or any of the other sites, people cruising through just to take a look, or

things like that. We would have counted that even though they had no intention to park.

The crowdedness ratings were fairly light when people were asked how crowded they thought the site was that day. Larry Koon Boat Landing and Shull Island were consistently rated at moderate to heavy regardless of the day type. And those are the kind of the peaks you see right there, those are Larry Koon and Shull Island. The Dam site, Murray Shores, River Bend, Kempson Bridge, and Sunset were rated moderate to heavy on holidays. And what I am calling moderate to heavy is above an average rating of 3. So, on holidays, those sites, people felt they were more crowded than during a regular weekend or week day.

On the Lake we also asked people to rate the crowdedness of the water on the day that they were on the Lake. Like I mentioned previously, they were shown this map of 12 Segments of Lake Murray, asked to indicate which Segment that they recreated the most at that day and then to rate the crowdedness again on that same scale where 1 was light and 5 was heavy. On the week days, there was light crowding reported with the exception of Segment 5. And that's probably attributable to Larry Koon Boat Landing which was one of the most used boat landings on the reservoir; also, Shull Island is a heavily used boat landing; and then you have Dreher Island State Park also near that Segment, which probably contributes to at least a perception that this area is crowded. And that's on week days. On weekend days, Segments 11 and 12, the Riverene sections is up here, were still rated at a light crowding rating. Segments 2, 3, 4, 8, and 9 were reported light to

moderate, which over here on this scale would be about a 2 to a 2.9. And then 1, 5, 6, and 7 were rated at a at least moderate to heavy crowding rating. And again, 5, 6, and 7 are kind of this Segment around Larry Koon, Shull Island, Dreher Island. And then Segment 1 around the Dam site, Park site is also two heavily used sites on the Lake. Finally, on holidays Segment 12 still has a light rating of crowding, as well as Segment 2 over here. Segments 3, 6, 7, 9 and 11 had a light to moderate crowding rating. And then Segments 1, 4, 5, 8, and 10 were moderate to heavy. Got a number of access sites here in Segment 10. And then a cool trick I like to do, and Alan you will have to do it, is can you go back to the first map? Is really take a look at how the colors change as you go from weekdays, to weekends, to holidays. So you can kind of get some kind of spacial perspective on probably where people are going on the Lake between day types, between weekends, and holidays. At the Lower Saluda River site, only Saluda Shoals is regularly used within its designed capacity. The other sites were used at or above capacity on weekends. And then Metts Landing and Mill Race A were approaching capacity on holidays. There is reported low levels of crowding on week days generally below 2. There is some increase when you get into weekends and holidays but it's still light to moderate. Really on the River people didn't feel as crowded as they did at some of the Lake Murray sites.

Overall people rated the sites as having excellent conditions. These were rated on a scale where 1 was poor, 5 was excellent. Simply asked, "What is the condition of the site that

you recreated at today?" Park site was the only site related below the median there of 3, and that was only on week days. So, generally people felt the sites were in good condition. Even though they felt they were in good condition, over half of all respondents indicated the need for additional facilities at the sites. The main facility the people recommended were restrooms, that was indicated about 30% of the time. And then picnic facilities, lighting and parking lot improvements, as well as trash cans were also popular choices of what people thought the sites needed.

On the River, again, overall average to above average conditions, people generally liked what they saw. Saluda Shoals and Metts Landing were consistently rated higher than the other sites on the River. And again, that's expected, those are the two most developed facilities on the River. If you have ever been to Gardendale, Gardendale has a throw-in canoe/small boat launch, and a fairly small parking lot. And that's about the only facilities available there. So, it's not surprising that Saluda Shoals, which is obviously gorgeous, and Metts Landing were rated with the best condition rating.

Also, Mill Race A and B kind of stayed the same regardless of day type. And that's kind of somewhat surprising since these are informal sites. There's really no facilities that are available there. But, when our clerks were talking to people, that's kind of what people enjoyed about those sites. Like I mentioned, they enjoyed, I guess, kind of maybe a back to nature aspect of it all.

On the River, 40% of people indicated the need for additional facilities at the sites, and again restrooms were the most identified facilities needed. And that was about 33%. And then trash cans was second on the River.

Also, on the questionnaires we fielded on the River, we asked about the warning system that is located mainly around the Mill Race sites, and there is also a siren and a strobe light over at Metts Landing. The majority of people are aware of the warning system, at least they are aware of the sirens and/or the warning lights. The exception here, it's still a majority slightly over 50% with Saluda Shoals, you can kind of see that drop off right there. We are thinking that the reason for that is a lot of people that come to Saluda Shoals probably never approach the River. There is plenty to do here besides go to the River. You know, you have got trails up and down, environmental center, the River center over there, a number of picnic facilities away from the River at Splash Park. So, at least that is what we are thinking is happening there. Out of the people that knew about the warning lights and sirens, almost all understood its purpose, which is it is meant to warn people of rising water in the River.

Most of the people had not heard the siren at the site they were at, except at Mill Race A. And again, that's kind of a white water area down there. And I believe there is at least two sirens, that's right, two sirens at Mill Race A. So, that's not surprising, that's from what we have heard in some of our RCG Meetings where rising water surprises people the most; and whether that's because of the activities that take place there, or other

reasons, we don't know. Surprisingly enough, and I was looking at this last night, only about 60% of the people that had heard the sirens reacted to the sirens appropriately; and that meant they got out of the water. Now, whether that means that we need to do a better job of educating the public on what the sirens mean, or if that's just a general disregard for their own safety, we are going to have to discuss that. But I thought that was surprising that only 60% actually heeded the warnings.

I know I kind of breezed through those results, there are a lot of results here, a lot of numbers. The report will be available on the website probably by next week. There is also a number of appendices, you can look at the questionnaires that we used; you could look at the specific results from the Water Fowl focus group. And then we have a number of data tables that kind of breaks some of this down in finer detail; but, I didn't want to do that for a presentation.

It kind of gets me into where are we going from here? You heard Alan mention that we are in the process of conducting what we are calling a Spring Addendum. It's part of the process with this recreation report, we gave it to the Recreation Management Technical Working Committee. A number of them submitted comments on the report and a lot of the comments that we heard were that we missed a lot of use in the Springtime, especially by college students, trout anglers, and whitewater interests. So, to deal with those concerns from the TWC members, we put together a study plan where we are going to estimate year round use as well as conduct a number of focus groups with those interests that people

felt that we missed; and that includes Trout Unlimited, representing Trout Anglers, or Wading Anglers; Whitewater Club; and also we are trying to get together a meeting with University of South Carolina students. We have been told that a lot of students use the Mill Race sites, especially during the Spring, so we are going to talk to them and see if their preferences are any different than what we found during our sampling period, which was May through September.

There is a number of other studies that we are conducting right now with the goal of getting to a draft recreation plan by the end of the year. We have the recreation assessment report; that's a piece of the information that we needed in order to get to a recreation plan. A draft boat density report has been submitted to the Technical Working Committee. There was about two weeks left on the comment period there, so we are looking for their comments there. We are going to conduct a Spring Use Addendum, which should be wrapped up in the June to July timeframe. We can go back and use the initial consultation document which includes a lot of information on regional recreation participation; talks a lot about the number of facilities offered at the private and commercial sites around the Lake. And then I kind of have this other over here, and what I mean by that is that all along we have said that the Recreation Management TWC is also going to act as kind of a focus group. We have representatives from the Department of Natural Resources, South Carolina Parks, Recreation and Tourism, the homeowners groups - Lake Murray Association, Lake Watch, and then Trout

Unlimited and a number of River user groups. So, this other is kind of going to be their opinions and their feelings as to what needs to take place. We will take those into consideration along with all of this information. We have got all these numbers, if you will. This is kind of a processing those numbers. TWCs will meet fairly frequently over the next year as we get towards this draft recreation plan. What this will do is kind of spell out the improvements that need to take place at the project over the term of the new license. So, it is going to include a schedule of when the improvements will take place, specific improvements, whether we are adding restrooms to a site or improving the boat launch. Through out inventory we found out that most of the sites, with the exception of Dreher Island and Saluda Shoals, are not fully ADA compliant. So that is something we will probably deal with in this recreation plan. And then any new facilities that need to be built, we have heard; there was a number of requests from people that commented on the initial consultation document that already have ideas where new facilities need to be in place. And then you have like the Lower Saluda Corridor Plan, which was about a 5 to 10 year process of the number of stakeholders on the River getting together and designing this trail system on the River. We are going to take that into account and see if we can support that through this relicensing process.

For those of you that have seen my previous presentations, this diagram may seem familiar. This is kind of the process we are using to get to the recreation plan. We are almost completed here with Step 2, which was establishing the baseline conditions.

We kind of know what's out there right now. We are still with the Spring use Addendum once that is completed, Step 2 will be done. Step 3 gets into to determine what is needed and when? And that is looking at what we need to do, the cost and the priorities. And the Recreation Management TWC with the approval of the RCG will set the priorities for what sites and what improvements need to take place first.

And finally we get to the Recreation Plan. Like I said, we hope to have a draft of that available by the end of the year.

Some of the questions are kind of my and our guiding document here, is we are going to deal with each of these questions. Ideas for better or different access; we can use the TWC to come up with this and use the results from our studies for what are the ideas where better or different access is needed? And some of the things we have already heard from the TWC, or through the RCG, or through the comments to the ICD was for SCE&G to work towards completion of the Lower Saluda Corridor Plan. I believe the DNR also requested --- or the PRT, one of the two, requested a State Park on the south side of the reservoir. I know this was DNR has requested a multi-lane boating facility that can accommodate large fishing tournaments. We have been asked to consider a boat ramp for small boats at Gardendale to improve the launch there, to make it useable for trailer boats. And then we have also been asked to look at a site above Mill Race rapids for safety reasons; if somebody is canoeing down the River and gets to Mill Race, and doesn't want to go through there, there is really no publicly available take-out. I have heard that there is a (inaudible) but

it's through private property. So, we are going to look at that. You know, if there is a site down there where we can put a publicly available take-out, we certainly will look into it.

Then we have potential facility enhancements or upgrades. Like I said, a lot of people thought that restrooms were needed at a number of the facilities. ADA compliance is lacking at a number of the facilities. So, we will get our heads together and kind of work towards with the existing facilities, what do we need to do to them to make them better and able to accommodate this increase in recreation that we are going to see for the next 30 years, up to the year 2030.

Potential new facilities or other management actions, that could include trying to get operation and maintenance of some of the sites away from SCE&G to the Counties, increasing security at the sites through some method, increasing the maintenance of the sites, cutting the grass more often, picking up the trash.

And then what are the priorities? What do the TWC members feel needs to be done first? Some of that kind of shows up through this Recreation Assessment Report. There is definitely some sites where, like I said, they are already exceeding their designed capacity on a regular basis. How do we alleviate that? If there is no room to expand the parking, is it putting another boat launch somewhere in that area? But then you have to deal with this whole on the water crowdedness. So, there is a number of factors that we are all going to have to take into consideration as we move forward with the Recreation Plan.

With that, I will open it up to questions. I know I went over an awful lot. This presentation should be available on the web possibly by tomorrow. I can send it to Alison this afternoon, and it doesn't take long to put it on the website. And like I said, the report will be available on the website probably sometime next week. So, be looking for that. Steve.

MR. STEVE BELL: I am Steve Bell with Lake Murray Watch. One of the things I think we need to understand here is that this report, or survey, only deals with the SCE&G sites, and what's going on there, and what people do; and that we haven't surveyed the homeowners, we haven't surveyed the people that go to the commercial sites. And I think that when you say that, you know, "This is what Lake Murray users do," I think you need to specify that this is what Lake Murray users who come to the sites do, and not necessarily what everybody else does. Thank you.

MR. ANDERSON: Since we did surveys at public recreation sites, more than likely a lot of shoreline homeowners were not included. But we do have the results from the Lake Murray Association which, I think, is a great percentage of your membership or shoreline property owners, we do have the information out of the initial consultation document. And then we have people on the TWC that are representing the interests of the general public as well as shoreline property owners. So, it's something we have talked about a lot.

MR. BELL: One of the things, I think, with Steve really is that when you talk about recreation data on Lake Murray, you are only talking about recreation days on the sites. And that could be

double or triple considering the amount that homeowners use the Lake and the commercial facilities, and all of that. The recreation sites, I think, only gets a small part of recreation -- - represents recreation use on Lake Murray.

MR. ANDERSON: Any other questions?

MR. ROCK GARICK: I am Rock Garick, I am President of the Palmetto Paddlers Club in Columbia, canoe and kayak. My question is you mentioned that you had gotten some maybe hearsay on what the Three Rivers, or the River Alliance is planning. Have you been in touch with those folks to get some direct input on what their future plans are?

MR. ANDERSON: Yes. Mike Dawson came to our RCG meeting and has given his presentation on the whole Three Rivers Greenway plan, what has been built already in Cayce and West Columbia, as well as the Granby Park that runs up Columbia Canal --- is that what it is called? Am I wrong now? As well as what they were planning with kind of the Mill Race area, as well as the Bridge, crossing over at I-26 over into West Columbia. So, yeah, we were aware of all of that. We got the presentation. I want to say his presentation is on the website, and I know their website has all the maps and drawings available. We talk a little bit about it in the report, but it is kind of hard to --- since Mike told us he really didn't have any projections of how much use will increase as a result of the Three Rivers Greenway; he estimated that up to 450 people per hour could go through there once it's built. But given the uncertainty and --- as we were writing the report and he was giving his presentation, at least it was my understanding that

it was fully funded, it was on the books, it was getting through. And then as I was going through and editing the report, I was looking at some newspaper articles where somebody has backed out now, or something; so, some of the funding is not available. So, it is kind of hard. We are taking it into account. We know what he wants to do, what the River Alliance wants to do, but we are not certainly going to depend on what he is doing to influence completely what we are doing.

MR. GARICK: Thank you. And I would also comment that I am sure you are aware that paddlers are kind of an elusive breed, and they hit the River and they are gone. So, when you are doing your surveys they are an elusive bunch.

MR. ANDERSON: Yes. The focus group we are going to conduct sometime within the next month, Charlene --- you know Charlene, has indicated to me that she can get a group of them together for us. I would certainly like to talk to you and see if we can get some of your club members to join us, as well. Any other questions?

MR. BOB KEENER: I don't think I will need the microphone.

MR. ANDERSON: He needs it up there.

MR. KEENER: Okay. Bob Keener with the Lake Murray Association. You mentioned the Kempson Bridge site as one of the sites that was surveyed and indicated it was crowded and had problems. Was that before the renovation of last year? During renovation? Or, since? It's a great place now. It had problems before. When was your data collected regarding Kempson Bridge?

MR. ANDERSON: Kempson Bridge was the same time period. So, it would have started on May 27th.

MR. TOMMY BOOZER: The facilities were already improved then.

MR. KEENER: Was finished?

MR. ANDERSON: Right.

MR. KEENER: The facilities were completed by the time that --

MR. BOOZER: Not completely but it had --- we started in ---

MR. ANDERSON: Do you need a microphone for him?

MR. BOOZER: We started in June, the facilities were there.

MR. KEENER: Okay.

MR. ANDERSON: But based on our results, you know, possibly that what took place maybe we can improve on it. Again, one of the least used sites though.

MR. KEENER: It's popular.

MR. ANDERSON: It's popular with --- actually we saw a lot of canoeing up there. A lot of condo passive recreation at those sites. Any other questions?

(No response)

MR. ANDERSON: All right. I will turn it back over to Alan.

MR. STUART: Well, I anticipated a lot more questions for Dave. He must have done a very good job. What I wanted to do is just touch on briefly some of the activities, major activities, that are going to occur between now and the next Quarterly Public Meeting, which will be sometime around July or August. We are going to be conducting the Lower Saluda River IFIM Study; for those that don't know what IFIM stands for, it stands for Instream

Flow Incremental Methodology. It's a standard fisheries based habitat assessment to potentially establish some flows to enhance fisheries in the Lower Saluda River. This study is going to be conducted the first week of June. For those that typically use the River, I want to go ahead and get this out there. We will be stretching across the River at points transects, and there will be Kevlar lines that go across the River. You need to be very careful during this week. We are going to advertise it at a lot of the boat launches. We don't want anybody to get hurt, but we have to take incremental measurements of flow velocity, or flow and depth measurements, and substrate. So this is the only way for us to get out there to do that. We will take the lines down once the transect is finished, but there will be potentially 20 transects along the whole stretch of the River. So those that typically use the River, please be careful. And we would appreciate you alerting like the Paddler Clubs, and getting that out for us. If you have questions, please get in touch with us. Do you have a questions?

UNIDENTIFIED: And it will be in the newspaper and ---

MR. STUART: Yes. We are planning --- Robert Yanity, who I saw somewhere in here, is going to put out a press release. And we hope that Tim Flach with The State can help us out with some of that just to get the word out. Again, we are planning for the first week of June to conduct this study. We will also be conducting a recreational flow assessment. It was part of the TWC group. Basically what it is, it's a modified bogsar. For those that don't know what a bog sar is, it's a bunch of guys standing around a River. They are going to do some floating at various

flows to kind of get a feel for the River; look at areas that are conducive for swimming and boating, and other activities at certain flows. So, I think it is going to involve people from like the PRT, South Carolina Coastal Conservation League; Charlene, I think is going to be involved in this. And so that will be one study that comes along. That one is schedule for --- is it May, Dave?

MR. ANDERSON: Right now, May.

MR. STUART: It may be pushed back because Charlene has a conflict. It may be there around the first two weeks of June, also. We will also be recalibrating the operations model that we had a request from South Carolina DNR, Bud Badr, to evaluate the potential to extend the water record we were using. We had existing gage data for 16 years, but Dr. Badr hopefully could extend that record to something along 50 years. And we have contracted USGS to pro-rate some of that data that was for the most engaged stations. So that is what we are in the process of doing now in the next three months. We will conduct a scope of the recreational study addendum that Dave pointed out, the focus groups. And we will be developing the draft application pretty heavily here in the next three months. We hope, again, to get that out this Fall. And it will basically summarize the studies that we are doing, present some results for those that have been completed, and kind of give an update on the others. That's basically what will occur in the next three months. So, with that I wanted to leave plenty of opportunity for questions on the relicensing or questions of any of the studies, if you have been

keeping up on the website. Please feel free to ask now, and we will do what we can to keep you informed here. Questions?

(No response)

MR. STUART: Y'all are an easy group. The night time group is pretty razomous (phonetic). I don't know if it's just I get through dinner, or what.

MR. STEVE BELL: (inaudible) --- know what we are doing as far as reviewing in line, shoreline landing --- fringe lands, and things like that, real quick.

MR. STUART: What Steve is referring to, the Lake and Land Management Technical Working Committee has been very, very busy in evaluating the procedures and protocols that pertain to shoreline management around the Lake. We are developing some draft criteria on sighting of docks, marinas, vegetation in the buffer zone management. Basically what we are doing are preparing the components of the SMP, or at least the draft SMP for comment. We also went through an exercise just recently where we evaluated the existing future development properties around the Lake. There was a Natural Resource Sub-Committee that was established and an Economic Sub-Committee. The Natural Resource Sub-Committee was comprised of primarily the Department of Natural Resources, Lake Watch, Fish and Wildlife Service, those that have the best feel -- - SCE&G, their Lake Management Group. Those individuals that we felt had the technical knowledge to provide or evaluate those from a natural resource perspective. They had considered thing like fish habitat potential, the size of the tract, what natural resource value it could provide. And then we also went through as

an Economics Group, we had the Saluda County, Newberry County, SCE&G, we had someone from Lake Murray Homeowners Association. I think Roy was part of it. And what they did is based on their knowledge --- and we also had somebody from the Real Estate Department, Van Hoffman. And each one of those was evaluated in terms of what they felt was the economic value of that piece of property. We established criteria, and we swapped it back and forth between the two groups to let each group know how they were going to evaluate those properties. And the goal of that was to begin evaluating or re-balancing for properties that need to be set aside for natural resource, and try to get some type of narrowing it down to, "Are there significant properties that have a high natural resource value, but may have a lower economic value?" Things like that. So, that was the goal of that exercise. And we hope to continue that process. We have not gotten the two groups back together yet. We hope to do that sometime either the late Summer, hopefully no later than by the Fall. So, that is kind of what Steve was alluding to, what the Lake and Land Management TWC has been up to. They have been very, very busy. From what I have seen so far, the potential improvements, or modifications, that you will see in the Shoreline Management Plan, I think will have a positive benefit to the Lake and the natural resources. And provide SCE&G an opportunity to better manage, much easier manage their property.

We are doing a good job now.

MR. STUART: Exactly. The whole goal that Tommy wanted to try

to get out this is to prepare a Shoreline Management Plan that he and his successors can implement. And that's the biggest thing that he needs to do is something that gives SCE&G some control where they can make some decisions without having to ask everybody. And that same trend, I think, will continue based on the discussions that have been had. Other questions?

(No response)

MR. STUART: Well, we appreciate everybody coming out. We will have the same meeting tonight. Dave will basically repeat this exercise, for those who have interest come on out.

PUBLIC MEETING ADJOURNED.

SALUDA HYDROELECTRIC PROJECT RELICENSING

FERC PROJECT NO. 516

Joint Agency and Public Meeting

QUARTERLY PUBLIC MEETING

April 19th, 2007

7:00 o'clock P.M.

Recorded by:

Capital Video

405 Timberpoint Court

Columbia, SC 29212

(803) 781-6747

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PUBLIC MEETING:

MR. ALAN STUART: Well, I think we can go ahead and get started, doesn't look like any other individuals were planning to show up. I see most familiar faces in here, I see a couple of new faces. For those that don't know me, I am Alan Stuart, I am with Kleinschmidt Associates. I would like to welcome you to our Second Quarterly Public Meeting this year. Tonight we have a relatively short Agenda. The primary focus for tonight's meeting will be Dave Anderson will give a presentation on the Recreational Use Study that we performed this past Spring. So, I am going to turn it over to Dave right now and let him go ahead and get started on the presentation. If you have questions, please ask. He has allotted some time at the end for questions, but I am sure he will answer any as he goes through the presentation. So, Dave, if you would.

One last thing. If you do have questions, we have a mike that Alison will be walking around with. It is a dead mike except for George up there; so, please state your name and who you represent. If you are a private citizen, just say, "I represent myself as a private citizen," or something like that.

MR. DAVE ANDERSON: Good evening. Like Alan said, I am Dave Anderson for those of you that don't know me. But I don't know how many people there are in the room that I don't know. I am here to talk to y'all a little bit tonight about the Recreation Assessment Study. If this is the first meeting that you have been to, I will fill you in a little bit here at the beginning of the presentation

on why we did what we did, and then exactly what we did. And then I have most of the results presented here; the report that these are drawn from will be available on the Hydro Relicensing website probably sometime next week.

To refresh your memories, or to let you know the Purpose of the Study, first was to characterize existing recreational use of SCE&G's recreation sites at the project. This was accomplished by an identification of recreation points, an inventory of the services and facilities offered at each site and a general condition of each site, including American With Disabilities Act compliance, or ADA. And then we identified the patterns of use of each site; figured out how many people were using it, when they were using it. Also, the second goal was to identify future recreational needs related to these sites at the project. That was accomplished by estimating future use; identifying user needs and preferences, including perceptions of crowding at the sites and identification of any future needs that came out of the results, whether the sites needed to be upgraded or additional facilities offered.

There were 15 sites on the Lake included in the study. All of these are SCE&G owned. One of them is managed by the State, Dreher Island State Park. Just to give you an idea of where these sites are located in case you are not familiar with them, we go all the way from Kempson and Higgins Bridge up here on the Upper Saluda River down to the Dam site, Park site, which are located right up here at the Saluda Dam.

We also included 5 sites on the Lower Saluda River, including Saluda Shoals Park - where we are, Metts Landing which is right across the River from Saluda Shoals boat ramp is, Gardendale, and also Mill Race which are the sites down by River Banks Zoo. And I will have the map of them here in a second. But I do want to point out that Mill Race, the A and B sites - and I will show you which sites those are - are outside of the project boundary. And in FERC language that means that they are treated a little bit differently. There are certainly project related impacts in that area so we included them in our study; but since they are outside the project boundary the results from those sites are presented a little bit differently and separated out from the sites within the project boundary. Just to give you a little bit of perspective, here is Saluda Shoals Park, and Metts Landing right across the River. Gardendale, it's a little, I want to say, unimproved site; but there is a parking lot, it's a more of a small boat throw in area. And then Mill Race: Mill Race A is what we are calling the area around Mill Race Rapids, I guess on the western side of the Zoo parking lot. These are accessed by people by going into the Zoo parking lot. And then Mill Race B, which is around the Shandon Rapids area.

I will briefly run through the methods that we used. The inventories I was talking about were completed in May of 2006. We collected information on the types of activity support at each site, the parking capacity which basically means the number of parking spaces, and in the case of gravel parking lots we would estimate the number of spaces available using one of our engineers

within our company who did that for us. And then the type and number and size of the facilities. That means number of bathrooms, number of picnic tables, grills. After the inventory, beginning on May 27th, we also conducted vehicle counts. And those ran from May 27th, which was Memorial Day last year, through September 30th. We did thirty days per site which included thirteen weekdays, fourteen weekend days, and three holidays - Memorial Day, July 4th, and Labor Day. Each day was divided into either an A.M. or a P.M. shift; each shift lasted for six and a half hours. So, we got out there at 7:00 o'clock in the morning and stayed out there possibly til 7:00 o'clock at night if there was a P.M. shift. Along with those vehicle counts while our people were out there, we also conducted exit interviews. The Technical Working Committee that was performing the study, or approved the study plan, designed a questionnaire; and we asked people if they were exiting the parks how many people were in their party, how long they stayed at the site, what they did, if there was any improvements they would like to see. We had a target of 100 completed surveys per site, which would have meant we would have collected about 2,000 in total. We ended up with about 1,611 usable surveys. The reason we didn't reach our target in most cases was because of inclement weather. If the weather was too bad that day we didn't force our recreation clerks to stay out there, for safety reasons.

Some of the sites didn't receive enough use to collect 100 surveys at that site. An example of that would be Rocky Point on the Lake. And then we had 4 possible interviews where the person did not speak English; 12 minors, meaning they were under 18 years

of age; and then 125 refusals, people saying they didn't want to do it. The questionnaire was designed to collect user characteristics, age, where they came from, type of recreation they participated in, and also perceptions of crowdedness. And on Lake Murray that also included on-the-water crowdedness.

On the River we also included a series of questions about the warning system that SCE&G has in place; either sirens or flashing lights, or a combination of both. There is one right across the River here at Metts Landing, and then several down around the Mill Race areas, which are designed to warn people of rising water. We also conducted a focus group with water fowl hunters. The reason we did this is because that's an activity that typically takes place outside of the summer season when we were out there, and also because it's a dangerous activity; we don't usually like to send our clerks up to people with guns and start asking them questions. We also considered other secondary data sources, including the South Carolina Statewide Comprehensive Outdoor Recreation Plan, the Lower Saluda River Corridor Plan, the Three Rivers Greenway Plan, a survey conducted by the Lake Murray Association of their members. All of those were considered as we went through our results.

Something I wanted to get a little bit more specific about is how we estimated current use. We know the number of vehicles that were entering the sites for each shift, either an A.M. or a P.M. shift, remember. From the questionnaire we got the number of people in the vehicle. We also know the number of day types, whether it's how many week days, how many weekend days, and how

many holidays there were in that study period from May 27th to September 30th. So, say an average of 200 cars entered the sites per shift on this example, on a weekend day. So, out of however many weekend days we were at that site, 14 was our target; an average of 200 cars entered that site during those shifts. An average of 2 people per car; we'd multiply that by 2 because there is two shifts per day. And then times 31, there were 31 weekend days from the period from May 27th to September 30th. So, that would mean roughly that there is about 2,400 and some change; 2,400 recreation days. And I will explain what that is in a minute, at that particular site on weekends.

Now to get a little into the results. From the inventory, we found out or recorded that in total the sites have 2 swimming areas available, 15 boat launches, 6 fishing piers, and 1 campground. You can see some of the more developed sites here just by going across the rows, like the Dam site has boat launch, fishing piers, picnic tables, restrooms; Park site with picnic tables, restrooms and a swimming area, all the way down to the less developed site, Shull Island is simply a boat launch, no other facilities available there. Same with Higgins Bridge. Kempson Bridge does have a fishing pier. In total, there were 9 sites that had restroom facilities available, and 12 sites that had picnic tables. And again, something that stands out here, Dreher Island, the largest park on the reservoir, 348 acres, lots of facilities available: boat launches, picnic tables, camp sites, restrooms, swimming areas. On the River, of course, the most developed site Saluda Shoals with a boat launch, fishing piers,

picnic tables, restrooms, things that we didn't have on our inventory list; but, you know, splash park, dog park. Metts Landing, simply a boat launch. Gardendale, simply a boat launch. And then the two Mill Race sites are informal sites, there is really no facilities at those sites other than people park there and access the River.

For the Lake, most of the site users were male, about 85% were male. Average age was 45. 79% of the users did not own shoreline property around Lake Murray. And 54% responded that they chose that site because it's close to their house. So, they are looking for something fairly convenient. Other reasons the people chose the site include word of mouth, they heard it was less crowded, and the available facilities. Like you saw, there is only a few places on the Lake that have a swimming beach available. So that was like a popular park site, that's one of the main swimming areas on the Lake. As far as on the water recreation, most people tended to stay around the place where they launched. The most popular area of the Lake was the western portion around Sunset, River Bend, and Murray Shores. And the most given reason for why they went to that particular area of the Lake was good fishing. That's what they told us.

On the River, again, most of the patrons were males, about 74% male. Average age was 38 on the River. And then that was slightly younger at the Mill Race sites, the average age was slightly younger. 98% did not own shoreline property. And only 30% chose the site because of the location, which is significantly less than said on the Lake. Other reasons given for choosing the

location on the River include familiarity with the sites, curiosity about the site, event attendance, and I would imagine that's mainly driven by Saluda Shoals. Saluda Shoals hosts a number of events throughout the year. Facilities available, and in some cases the lack of facilities available. We heard that at the Mill Race sites; people enjoyed it not being developed, they were going for that aspect of it. And then we heard a popular reason for choosing Mill Race A was the white water opportunities available at that site.

As far as total use, these are presented in something called a "Recreation Day". And that is what FERC likes their information in. What a "Recreation Day" is, is each visit by a person to a development for recreational purposes during any portion of a twenty-four hour period. So we don't really say that this is, you know, a full day, somebody is out there a full day, even though it's called a "Recreation Day". It's just simply a visit, the visit could have lasted five minutes up to whatever, twenty four hours. But that is each individual visit to a site. Also, I do want to point out here, if you remember --- although these estimates for May look low compared to the other months, you need to remember that we only sampled three days in May, and that was pretty much a holiday weekend, Memorial Day. So these "use" estimates for May are more than likely higher than what's reported here if we were to sample the whole month. And I will talk a little bit more about that. We are going to try to get that information through a different sort of study. In total, there were 443,000 recreation days within the project boundary. And

remember that does not include the Mill Race sites; including Mill Race --- well, Mill Race had about 45,000 recreation days between those two sites. Most of the use occurs on holidays, about 45% of all use occurs on holidays; 38% on weekends; and only about 17% on week days.

As far as by sites on the Lake, you can see that the largest proportion of use occurs at Dreher Island State Park. It had about 79,000 recreation days just at that site. The second most used site, I believe, is this one right here, Bundrick Island. For those of you who are not familiar with that site, what makes that kind of stand out is it's not accessible by road. It's simply, people drive up in their boats, pull up, there is a beach available there; no facilities as far as trash cans or restrooms. But people like to go there and hang out in their boats, or get out of their boats and go swimming. And that was about 65,000 recreation days at that site. The least used sites down in here, were Rocky Point which had 230 recreation days; Higgins Bridge, about 2,000; and Kempson Bridge, about 3,800. And Kempson and Higgins are those sites on the Upper Saluda River.

On the Lake, the primary activity by far was fishing; it accounted for about 51% of all use. And I divided these up into water based versus land based activities. And even though this is 100% pie, or whatever, when you look at them together, water based activities accounted for about 80% of all use at Lake Murray. And then land based activities were about 20% of all use. Use varied by site, according to the facilities offered. Swimming was a more popular activity at the Park site.

There is not a boat launch there, there is a swimming beach. The Dam site was a good fishing site.

And then up around at Higgins and Kempson's Bridge, there are boat launches there, but that was more of a canoeing type activity, on the water activity. But just to point out that according to what site you are at, the proportion of activities participated in change. Primary land based activities, which is that one. Remember here that even though this is 100% pie, this is only about 20% of all activity on the Lake. Camping, picnicking, and sight seeing accounted for about 4% each of total use. And then the other category also accounted for about 4% of total use; and the other includes the most popular reasons. We asked people what they meant by that; and were socializing, or rest and relaxation.

On the River, there was about 172,000 recreation days; a lot of it taking place at Saluda Shoals. Saluda Shoals accounted for about 100,000 of those recreation days. And then in second place, or the second most use spot, was Mill Race B; it accounted for about 28,000 recreation days. The least used was Gardendale; it had about 8,700 recreation days. On the River, the division between water based and land based activities was nearly equal; 51% of all use was water based, about 49% was land based. Bank or boat fishing was the most popular water based activity; it accounted for about 21% of all use. In descending order, we had flat water canoeing, or kyaking, and then white water canoeing or kyaking. The white water canoeing and kyaking, although it was the third most popular water based activity, it was lower than the

most popular land based activity, which was recorded as sight seeing. And we are thinking that this is probably attributable to the heavy use at Saluda Shoals. And it also may depend on how our clerks recorded something when somebody said they went bird watching, even though I think that was a category on our questionnaire. But that could have been one of those categories that our clerks were kind of lumping things into. There are more water based activities on the weekends and holidays compared to week days. So, that's in a nutshell what's out there right now. And we all know that's likely to change over the course of a new license here.

What we did to estimate future demand for recreation at the project was we took our current use estimates and projected them to the year 2030, using populations projections provided by the State. These were population projections just for the four Counties around the project. I believe that it was about a 24% increase from 2006, an estimated 24% increase from 2006 to 2030; which means that total use at the project could be about 600,000 recreation days by the year 2030. That would be an increase in recreation days by about 75,000 on the Lake, and about 30,000 on the River. One of the reasons I say "could" here is because projecting any sort of use out in the future has its inherent flaws in it. It's kind of hard to predict the future unless you are Chloe from Jamaica, I guess. There are things happening, especially on the River, that we just don't know how they are going to affect recreation; this includes the Three Rivers Greenway. That could not only affect the total amount of use on

the River but it could also affect the types of activities that people participate in. Other things would include like the Lower Saluda River Corridor Plan. If we put additional facilities in an area, that would certainly increase use at the project. And then there may be some technologies that we don't know about, you know. The next big fad means that that many more people are coming to participate in whatever, either on the River or at the Lake. So that's our best guess right now is about 600,000 recreation days over the next 30 years.

So what does that kind of mean we need to do? If you remember, we asked about condition ratings and crowdedness ratings at the sites we were at, as well as calculated if the site was being used within its design capacity. And what that simply means is, "Are there too many cars in the parking lot for the number of parking spaces available?" On the Lake four sites were regularly used within their design capacities; these were the Dam site, Park site, Rocky Point, and Dreher Island, which meant that on average they had less than 75% of their capacity at any given time. Three sites were approaching capacity: River Bend, Higgins Bridge, and Kempson's Bridge. These sites were somewhere between 75% and 99% of their capacity. And then the other 7 sites regularly met or exceeded their capacity, which means that on average about 99% of the time there were too many cars for the parking lot. Besides not enough parking spaces being available, some other reasons might include that remember we estimated the number of parking spaces available for gravel parking lots, we did have a civil engineer; we would give him the dimensions of the gravel area in

square feet. I suppose there is some sort of formula used to estimate the optimum number of parking spaces; and that would include cars with trailers, if a site had a boat launch or just cars, if it did not have a boat launch. Some parking probably occurs in areas that we did not consider parking areas. People park in the grass, or on the side of the road. And then we probably also --- or, know we included drive-throughs. I know when I was a teenager, I lived in this little beach community, and people from the other towns would come and drive through the strip. In this case people probably drive through some of these recreation sites, just cruising. We would have counted them even though they had no intent of trying to stop and park. On the whole, though, most of the users of the recreation sites did not feel that the sites were overly crowded. Two exceptions are probably Larry Koon and Shull Island, which are these black and gray spikes here. They were what we are calling moderate to heavily - at least perceived - crowding, regardless of day type. And we did measure this. Let me point out the ones light, you know, we would ask them, "How crowded do you feel the site was today?" And say, one light, three moderate, five heavy. And they would indicate the one, two, three, four, five. So, we calling these kind of moderate to heavy crowded. And then when you look at just holidays, there are a couple other sites where there was more of a perception of crowding, including at the Dam site, Murray Shores, River Bend, Kempson Bridge, and Sunset. These were rated moderate to heavy on holidays.

On Lake Murray we also asked questions about on the water

crowding. When we stopped them, asked them the questions, we showed them a map of Lake Murray. And it was divided up into these 12 segments. We asked them where they went on the water that day, and also what they perceived the level of crowding to be in that area on that particular day. Again, it was measured on the same scale from 1 to 5. On week days, which is what we are looking at here, really the entire Lake was recorded with light crowding with the exception here of Segment 5, and that was a moderate to heavy. And our thinking here, and the probable reasons, are because Larry Koon and Shull Island are right here, and Dreher Island is right here. Again, those were three of the most heavily used sites on the Lake. So, it's not surprising that that area of water is crowded. And just something I like to do, as I scroll through these slides, you know, they are all centered in the same spot. So, it is kind of interesting to look at the changes in the pink tones, as you go from --- these are week days to weekends, to holidays. So, keep an eye out for that. On weekends Segments 11 and 12 are still perceived to have kind of light crowding conditions. Segments 2, 3, 4, 8, 9 and 10 were light to moderates. And then 1, 5, 6 and 7 were moderate to heavy. And again, 5, 6 and 7 is this area right around Larry Koon, Shull Island, and Dreher Island. So, on weekends obviously the Lake is used more; and we have seen that in some other work that we are doing with boat counts. On holidays, only Segments 2 and 12 were rated to have light crowding. Segments 3, 6, 7, 9 and 11 were light to moderates. And then 1, 4, 5, 8 and 10 moderate to heavy. And you will notice that Segment 5 did not change regardless of day type.

It was consistently rated the most crowded, either on week days, weekends, or holidays. And again, you know, you've got these popular sites here; but also, you know, you kind of notice the Lake becomes a little bit constricted at that point, there is less water available within that Segment.

On the River, the sites were light to moderate crowding, regardless of day type. All of the sites --- only Saluda Shoals was used within its designed capacity regardless of day type. The other sites were used at or above capacity on weekends; so, on weekends you possibly have some capacity issues in the parking areas at the sites on the River. Metts Landing and Mill Race A also approached capacity on holidays. Crowding issues was not as heavy on the River; there is some increase in crowding conditions on weekends and holidays, but it's still in the light to moderate range. So, the perception of crowding is not as great on the River, at least at the recreation sites. We also asked people to rate the condition of the site they were at on the day that we interviewed them. This was on a scale, again, from 1 to 5, where 1 was "poor" and 5 was "excellent". And you can see that overall most of the sites were rated "good" to "excellent", regardless of day type. There is kind of one little bump here; on week days Park site was rated at least below the median here of 3. Higgins Bridge also, which color is that --- the purple. Higgins Bridge was also rated --- or, at least perceived relatively low ratings compared to the other sites, regardless of day type.

As part of this series of questions, you know, we asked them, "How do you rate the condition of the site," we also asked them

how they would improve the sites, if any of the sites needed additional facilities. And on the Lake about half of all the respondents indicated that the site they were at needed additional facilities. Of those that said that, "Yes, they do need additional facilities," restrooms were the most reported additional facility needed; and that was about 30% of the times people said a site needed a restroom. Other improvements that were commonly mentioned include picnic facilities, lighting, parking lot improvements, and trash cans. On the River, again, overall sites were rated in average to above average condition. Saluda Shoals and Metts Landing were consistently rated the highest; those are the two most developed sites on the River. And then Mill Race A and B kind of surprisingly consistently received an average rating, even though those are undeveloped sites, there are simply no amenities available at them. On the River about 40% of all respondents indicated that the site needed additional facilities. And again, out of those people that said, "Yes," restrooms were the most identified at about 33%; and trash cans were the second most identified amenity needed.

As I mentioned, on the River we also asked a series of questions about knowledge of the warning system and people's reaction to it. The majority of the people we asked were aware of the warning system. One exception here, even it's a majority over 50% was Saluda Shoals. Reasoning, we think, this is probably happening here, you remember we were conducting exit interviews; and the exit of Saluda Shoals is right over here. So we probably got a lot of people that didn't even approach the River; either

they were coming to an event. One of the buildings here, doing the dog park, splash park. So that's not as surprising that at Saluda Shoals people aren't hearing the sirens because a lot of people don't go around the River. Almost all the people that knew of the warning system knew what it was for. They knew it was to warn of either a release from the Dam or that the water was rising at the site they were at. Most of the people we asked that were aware of the system had not heard the sirens at the site they were at; with the exception of Mill Race A, most of the people there had heard the siren. Even though most of the people were aware of the sirens, most of the people knew what they were for, it was kind of surprising that only about 60% of those people reacted appropriately to the sirens. They got out of the water. So that leaves about 40% of the people that kind of indicated to us that they either --- well, mainly that they just stayed, they kept doing what they were doing when the siren went off. So, probably not surprising to some people, but at least it kind of confirms our suspicion that's most people's intentions when they hear the siren.

That kind of raps up the results from the report. And like I said, this is --- I know I kind of breezed through them, but there is a lot of information here, a lot of good information. Something that I do want to point out though is that, you know, what did I say, about 400,000 and something recreation days; and somebody pointed out this morning that's only recreation occurring from SCE&G, the public recreation sites. There is use occurring from private shoreline residencies; from private clubs, or

marinas; and also, from commercial marinas. So, this is kind of one piece of the puzzle that we needed as we move forward with the recreation plan. Which kind of brings us to where are we going from here?

We completed the recreation assessment report; and like I said, the entire report will be available on the website probably sometime next week. It has pages and pages of tables of the results. The report also includes the questionnaires, so you can see what questions we asked. It has the specific results from the Water Fowl Hunter Focus Group. And then it gets into the details of what activities were more popular at what site. And also, draws a few conclusions on things that probably need to be done. So, this report is done.

The Recreation Management TWC, which is working on the draft recreation plan, also approved a boat density study, a boat density study plan. That draft report has been issued to the TWC; they are in their comment period right now, I think I've got about two weeks left to get any comments in on the boat density report.

And then we are completing what we are calling a Spring Use Addendum. When we issued this draft recreation report to the TWC, we got a lot of comments back; and a lot of the comments had to do that we missed a lot of use that occurs in the Springtime, especially on the River. So what we have done is designed an add-on study, if you will, to collect opinions and preferences from some groups that people thought we missed including wading anglers, white water paddlers, and student use that mostly occurs down at Mill Race. So with these three studies that are done as

part of the relicensing process, as well as the initial consultation document which in case you have forgotten was the big report that was first issued when SCE&G kicked this thing off. It has a lot of information on recreation occurring around the project and in the vicinity of the project. And it also includes the number of private and commercial marinas around the Lake; and also, the informal sites and their locations. So, with all of this information and what I am calling "other", which is kind of the people on the TWC representing the interests that they are there to represent, and also any issues that have been brought forth through the relicensing process. All of that will be considered, kind of blended together by the TWC; and we'll come up with a draft recreation plan by the end of the year, which we'll then kind of turn over to the Recreation Resource Conservation Group; and it will get included in the draft license application, and the final license application next year.

For those of you that have seen a couple of my update presentations at a couple of the last public meetings, this may look familiar to you. This is kind of the process diagram that we are following to get to the draft recreation plan. Consists of 4 Steps. We are finishing up Step 2 now, we have kind of established our base line condition. We have a pretty good idea of what's occurring out there right now, and what is likely to occur in the future. So, we are going to move into Step 3 here within the next couple of months, where we will determine what is needed and when. And like I said, the report kind of points out some improvements that could take place at some sites. And then we also have a

number of additional facilities that have been asked for by some of the State agencies and by some of the other stakeholders for us to consider. There is a number of kind of questions that go along with this step. And I believe this document is available on the website if you look for the Recreation RCG working documents, I believe it's on there. There is a number of questions that are kind of keeping us on track; as long as we answer the questions, it means that after the questions are answered we will have everything we need for the draft recreation plan. This includes ideas for better or different access. And these are things that have been brought up within the Recreation RCG, either in response to the initial consultation document or just through our stakeholder meetings, people talking about these things. That includes some consideration of completing the Lower Saluda Corridor Plan and update. I think the PRT has asked for a state park on the south side of the reservoir. The Department of Natural Resources has asked for a multi-lane boating facility that can host the large fishing tournaments. We have been asked to improve the boat ramp, either at Gardendale or provide some sort of trailer launch in that section of the River, but above the Mill Race rapids. And something else I forgot to put on here, is we have been asked to put a take out above Mill Race rapids as a safety consideration for those people that are floating down the River. Once you get to Mill Race, that's really the first big rapids you get to; and if you don't feel comfortable going through it, providing some sort of emergency exit, if you will. We will get into potential facility enhancements in our upgrades. I

didn't mention it, but most of the sites with the exception of Saluda Shoals and Dreher island, most of the facilities at the sites are not ADA compliant either because of gaps between the fishing piers, or restrooms are not ADA compliant.

And then we will take a look at what people told us in the questionnaire that they wanted, additional restrooms, things of that nature. Potential new facilities, or other management actions. A lot of what we heard is, "Try to improve the aesthetics of the site. Pick up the trash more often. Cut the grass more often." Things like that. And then we will establish our priorities. You know, what do we want to happen within the first year of license issuance? What's most important to the members of the TWC? And then we will establish some sort of schedule going out for the next five to ten years. You know, here's what we'll plan for happening during 2010, and here's what should have happened in that timeframe. So, with that I will take any questions that people may have, which means I get to move around.

(No response)

MR. ANDERSON: No questions.

MR. STUART: Thanks, Dave. What I wanted to do now is just touch on some of the major milestones, events that are going to occur between now and the next Quarterly Public Meeting, which we did establish a date for that, is going to be July 19th. So, one thing we will be doing is conducting what is called an IFIM study on the Lower Saluda River. What IFIM stands for is Instream Flow Incremental Methodology. It's a habit fisheries, habitat based study that will assess various flows to determine the increases in

fish habitat. One thing that I do want to point out, especially for the River users --- Charlene, and we hope you guys can help us out. We will be stretching kevlar lines across the River. We have to take depth and velocity measurements, and do substrate analysis in small cells. They will be manned, but what we are going to have is some press releases. And if you can get the word out to, you know, any of your folks we certainly would appreciate it. We don't want somebody to get hurt.

UNIDENTIFIED: Will they mark them?

MR. STUART: They will have flagging on them. But again, as the crews move across the River, they may be on the right bank starting out; and if somebody comes around a bend or something, you know, where a transect (phonetic) is established, they may not see the crew off to the side. So, they will have flagging but they will be just about chest high, somewhere in there depending on what kind of boat you have during a study. They will be manned. There will be about 20 transects will have to be assessed. There won't be 20 lines up; there will be 1 line up at each transect, and there will be a crew there. So, if you could help us get the word out to ---

UNIDENTIFIED: (inaudible)

MR. STUART: Well, we talked with Tim. Tim Flach was here this morning. And he is going to put out an article trying to help us out. And I think Robert Yanity is going to put out a press release. And you know, one thing we talked about is potentially putting signs at the boat ramps, public launch facilities, just to alert people as best we can.

UNIDENTIFIED: (inaudible)

MR. STUART: What's that? We actually had a --- Yeah, Richard Mikell and Rock Garick, is that his name? Carolina Paddlers. Yes, he was here this morning, too. We asked him to pass along the word, as well. This study will be happening the first week of June. I think it starts about June 4th, and it will run pretty much the entire week up til Thursday. We will also be conducting a recreational flow assessment on the Lower Saluda River. What that is, is we kind of term it as a bogsar, a bunch of guys standing around a river. It's a panel of experts who will go out and evaluate various flows. I think Charlene is part of that program. We will also be recalibrating the operations model. We had a request from Dr. Badr with DNR that we try to extend the period of record used in the hydraulics model. So we contracted U.S.G.S., and they pro-rated the data to those ungaged locations. We are going to conduct the scope of the Spring addendum that Dave touched on. And we will also be developing a draft application this Spring and Summer. So, we will be pretty busy. There will be a lot of information that comes out here in the next probably six months. So with that, that's kind of where we are up to date. Are there any questions or comments on the relicensing itself? Or process? Or anything? Yes, Joy.

MS. JOY DOWNS: Joy Downs, with Lake Murray Association. The Land and Lake people have met recently and are assessing properties and so forth. And there will be economic people present their position as well as the Resource people, the National Resource will present theirs. I am trying to figure out

how Recreation is going to tie together with that. What I am thinking about particularly is, you are not mentioning it yet, but perhaps there is a need down the road for a marina facility we talked about up in the Saluda area, up in that area. How are we going to put that together with the Lake and Land people? Or, are we? When does that come together?

MR. STUART: Well, I am going to let Dave get us straight on the recreation. How this Recreation Report fits in, it will focus on areas that seem to have the highest use, you know, and that's how the properties in those areas may be evaluated. I know Tommy has set aside a number of areas for future recreation use. And from what I have seen, they kind of correspond with some of what we are working on here. I know ---

MR. TOMMY BOOZER: The recreation sites would take priority over natural or other economics.

MR. STUART: Right. Does that answer?

MS. DOWNS: Yeah, because I think that we are going to need more recreation sites up in that area, in thirty to fifty years.

MR. STUART: Yeah. And one thing that Tommy has touched on is, you know, these recreation sites, they don't want to be put in people's backyards. And that's one of the considerations that I know he's looked into in setting aside some of these properties. And it was actually evaluated during the economics exercise that we did.

MS. DOWNS: Well, I'm concerned particularly about marinas. They have to be placed so far apart. And, you know, it would be really --- to crowd a lot of the Lake with small marinas or, you

know, when we may need a big facility up in that area one of these days. And I was just --- I have never quite figured out how we are going to make that work. Unless we start with big facilities and move down.

MR. STUART: Well, you know, private marinas, you know, it's kind of up to a permitting thing with Tommy and those guys. I know the properties that Tommy has set aside, I don't think the areas conflict with existing marinas.

MR. BOOZER: What she is concerned about is once a facility goes in, a set back is around that facility. So, if you have four or five of those facilities it's going to take up a lot of space as compared to that in one facility. Is that what you are saying?

MS. DOWNS: Exactly.

MR. BOOZER: And we will have to look at that. We will have to evaluate that from the shoreline rotation area.

MR. STUART: Right.

MR. ARCHIE TRAWICK: On your study, has any consideration been given to the --- I would say the detriment the government mandated ramps has had on the access to the Lake? If you look at a map from about 1970, there were probably about 36 or more places that the public had access to the Lake; and around 1970 or so when --- I guess it was FERC mandated that there be other access points. The private sector can't compete with that, and now we have less access than what we had probably in 1970. So, was any consideration done from that aspect?

MR. STUART: Would you state your name and who you are with?

MR. TRAWICK: Archie Trawick, I am with the Commerce Association of Lake Murray, and Jake's Landing, and private boater, and ---

MR. STUART: Would you take this?

MR. ANDERSON: Yes, was a short answer. We have said all along and as part of our kind of process here, we are not going to get in the business of competing with existing marinas. Now, whether as you call it a government mandated, or whatever, facility, from a FERC perspective they want to see enough public access at the project to accomodate the future recreational need. Now, whether that public access takes place from a commercial site or a public site, they really don't care. They just want the public access. And I would imagine going into the future competition with existing marinas, or competition between existing marinas really depends on the nature of the business, or you know, out ---

MR. TRAWICK: You talking about competition between marinas, they all have expenses and have things that they have to deal with. But when you are having to deal with competition with a facility that doesn't charge anything because they are subsidized from other means, what's happening is with boat launching per se the private sector has become an overload for the other places. And you can't just be an overload. I don't have people coming to my facility until the Dam starts getting crowded. And when you are there 365 days, but you are only doing business 2 days a week, four or five months out of the year, you can't set aside the kind of land it takes for that parking. And you have

seen that happen all around the Lake, and the private sector is going away. The same way, there's talk about another park which is really a government run marina; and you could take the initial money it would take to put in that State park, go to the existing facilities and say if you would put in this camping or do these things you could put access all around the Lake instead of concentrating at one area. When Dreher Island went in, it shut down a lot of the camping on the Lake because you can't compete with them. I had camping that I converted into full time use, because again you can't compete with the State; they have no expenses, nothing is there. And in most other areas of the country I've been, there is not as much access as what Lake Murray has. But it's gone down since the government has got involved, instead of going up. And when you try to meet the needs of the public, if you are a small business - which most marinas and landings around the Lake are - if you don't have attorneys, architects and engineers, you can't get a piece of paper to let you do anything. So, like I say, you didn't consider --- I didn't see it there, the private sector. And we do, or we have provided the majority of the access, but it is going away because we are in the service business; and if your service is not used, you do something else.

MR. ANDERSON: Now, I want to answer that in kind one of two ways. The boat density report will consider access from private sites. That was based on aerial boat counts. So that we don't know where the boats came from in that case, but they are on the water. So that includes access from shoreline property owners, private access. And then the other is that --- and Tommy, stop me if I am

wrong. SCE&G is not going to be in the marina business. They certainly are not talking about offering fuel, or you know, food, except for maybe snack machines, or --- You know, I think there is services that marinas provide that SCE&G is simply not interested in providing at their sites.

MR. TRAWICK: (inaudible) boat launching. It's a service, and when you can't --- or, the service you provide is not used, you have to do something else. And it has resulted in less access for in less access for the people in the area.

MR. BOOZER: So, this information that we collected is going to allow us to look at the Lake and evaluate the needs, the recreation needs, of the Lake. We are not saying that we are going to go in and flood the Lake with new access areas. We are looking at recreation areas be aside for the next fifty years. And in fifty years, the demand may be a lot greater than what it is right now. And there may be a shortage, you know. So, we are looking at will there be additional recreation areas put on the Lake? I am sure there will, the Agency is going to require it. And so, but the majority of the areas we are going to be looking at will be for future areas that will be put in in a series of time.

MR. ANDERSON: Now, I only heard this morning that from one of the PRT representatives that it kind of looks like from this study that right now the access is adequate, and they are beginning to look at some of these future sites we are talking not having them be water access facilities but more of a shoreline based recreation around the Lake setting, and having trails, things of that nature.

MR. STUART: Something else, in our discussions in the Lake and Land Management RCG, or TWC, there was a huge emphasis put on promoting commercial marinas. I know there were a lot of people who said we really need to keep those because, as you pointed out, there were a lot closing. So, some of the permitting requirements, or whatever, I think are more conducive to encourage commercial marinas and that type stuff. So, there is a little cross pollination because Tommy is part of the RCG, or the Recreation and the Lake and Land Management. So there is a good bit of cross pollination between the two. And I think, like I said, there was a big showing of people that want to promote and maintain, or increase commercial marinas. I think that's the way most people are actually headed. You can see Joy is part of it, she is nodding her head. I know that may not be a lot of comfort, but ---

MR. TRAWICK: Just the aspect of it seemed to have been considered, you know, you did all the mandated ramps. And Lake Murray, it being privately owned to start with, you know, like I said, landings were all around the Lake. And in the early 1970's a person from FERC, Bob Castles from SCE&G, and my father, they met; and the man from FERC said, "Nobody should be able to be charged to have access to the Lake." And my father explained to him that there were costs involved in having ramps, and parking, and docks, and all this. That didn't make any difference to him, "Nobody should be able to charge anything." And it seems like that mentality has gone on and we are seeing the results now thirty and forty years later. You know, the small places, you can't compete and they close up and do something else. And they could be

efficient, and you would spread the access where you don't have that congestion like they are talking about. But, you know, you need help because you can't get permits. I mean, you just don't have the ability. So, small businesses could use help with that. And again, that initial money would pay for a State park that in -- how much did Dreher Island cost us? And none of what you did is anything having to do with cost. And those facilities do cost somebody something because they are not free.

MR. STUART: Well, and to answer and to touch on something you pointed on, I think --- and Tommy, correct me if I am wrong, or Randy, I know you're in here. The mindset at FERC about charging for recreation facilities even SCE&G owned has changed somewhat. I mean, they have determined that SCE&G, for instance, can charge a fee to recoup their management costs. So, you know, the scale has kind of come in more balance now than it was before. I mean, not every site is a free site. So, you know, I think it's being more recognized that public recreation needs to be paid for to some degree.

MR. BOOZER: A great point. I mean, Archie and I have had this conversation many times. But, as far as the SCE&G facility, it's going to be different. I mean, we are talking about a land, a dock, and a parking lot. But we are not going to get into the gas, we are not going to get into concessions. And so, there is some competition there, but the facilities that y'all operate provide a lot more service than what we would even consider doing.

MR. STUART: One thing else, I think. What is the organization, is it CALM? Yeah, we've had Carl attend the meetings and especially at our Lake and Land Management, you know. So, they have become much more highly interested since you guys have kind of grouped together, or banded together, to form your organization, which really helps. You know, helps us in making some of these decisions. So, you know, any input you guys can give us is more than welcomed. Other questions? Sean and Kevin? No. I know what your question is, "Are we finished?" Eight second rule applies. With that, I appreciate everybody coming out again. We will have our next Quarterly Public Meeting on July 19th.

END OF PUBLIC MEETING

Saluda Hydro Relicensing Quarterly Public Meeting

Meeting Agenda

January 11, 2007
10 AM & 7:00 PM

Saluda Shoals Park – Environmental Education Center

- 7:00 to 7:05 **Welcome - *Alan Stuart***
- 7:05 to 7:20 **Lake and Land Management RCG Update – *Alan Stuart***
- 7:20 to 7:35 **Fish and Wildlife RCG Update – *Shane Boring***
- 7:35 to 7:50 **Water Quality RCG Update – *Shane Boring***
- 7:50 to 8:05 **Operations RCG Update – *Bret Hoffman***
- 8:05 to 8:20 **Cultural Resources RCG Update – *Bill Green***
- 8:20 to 8:35 **Recreation RCG Update – *Dave Anderson***
- 8:35 to 8:50 **Safety RCG Update – *Dave Anderson***
- 8:50 to 9:00 **Final Questions and Close – *Alan Stuart***

Adjourn



SALUDA HYDROELECTRIC PROJECT RELICENSING

FERC PROJECT NO. 516

Quarterly Public Meeting

January 11, 2007

7:00 o'clock P.M.

SALUDA SHOALS PARK - ENVIRONMENTAL CENTER

Welcome and Update on Resource Conservation Groups

by, Alan Stuart, Kleinschmidt Associates

Presentations by:

Mr. Shane Boring, Kleinschmidt Associates:
Fish and Wildlife RCG; and Water Quality RCG

Mr. Bret Hoffman, Kleinschmidt Associates:
Operations RCG

Mr. Bill Green, S&ME:
Cultural Resources RCG

Mr. Dave Anderson, Kleinschmidt Associates:
Recreation RCG; and Safety RCG

Recorded and Transcribed by:

Capital Video
405 Timberpoint Court
Columbia, SC 29212
803-781-6747

PUBLIC MEETING 7:00 P.M.

MR. STUART: I would like to welcome everybody to our evening Quarterly Public Meeting. A couple of items of note, we do video and audio tape all our meetings. Alison will be walking around with a microphone; that microphone is not live for the audience, it is live for the videographer. So, please speak up, you won't project like I am through this microphone. So if somebody is on this side of the room, please speak a little louder than normal so the people on this side of the room can hear you. And state your name and who you represent; if you are just an interested resident who lives on the Lake, that would be sufficient. There were some agendas outside on the table. What we plan to do tonight is give an update on our Resource Conservation Groups, which were formed as part of the relicensing; update on the process and the schedule for this upcoming year; and address any public comments or questions you may have as they relate to the relicensing. We have seven Resource Conservation Groups; each member who is facilitating those groups will come up and give presentations on what we have accomplished to date. Questions are permissible; if you could, just wait until they get through with their presentation and ask the questions at the end. I think that would help move things along. I am going to give the update on the Lake and Land Management. We have been very busy this year, or this past

year in 2006. These are the issues that we have addressed to date. As you see, it is quite extensive. Our Technical Working Committees have been very hard at work. It is comprised of individuals from the Department of Natural Resources, Fish and Wildlife Service, Lake Murray Association, Lake Watch, Lake Murray Homeowners Coalition. It is a very diverse group and everyone who is interested, we feel are being represented by one of these groups. Here is the issues we plan to address in 2007. Right now we are working on land re-balancing and reclassification. What that is, there are certain parcels of property that are now designated for future development; we are looking at those in terms of do they need to possibly be converted to some other use, either recreation or protected for fish and wildlife, or forest and game management. And we have established a couple of Sub-Technical Working Committees. One is going to look at natural resource values for those properties, and one is going to look at the economic values of those properties. And we are going to come together actually next week and begin that process. Special Recreation areas, this is something that was raised outside of relicensing but we promised the group of homeowners that we would look at this. Primarily this deals with the Two Bird Cove issue that some of you might be familiar with. Also, public uses of the fringe lands. There was some concern of what people could and could not do on these areas

of fringe lands around the Lake. And we also want to do some landowner and public education for those that do live around the Lake. What all this leads to is developing the Shoreline Management Plan. Our plan is to develop a draft SMP, a new SMP for Lake Murray project, Saluda project. It is tentatively scheduled to be released in the Fall of this year. What to expect of this Shoreline Management Plan? We have developed an outline and this is basically what you will see issued this Fall. It will have executive summary, an introduction to the project, the purpose and scope of the Shoreline Management Plan. What are we trying to accomplish with the items that we have included in this plan? Goals and objectives. And inventory of existing resources. There is a wealth of resources that Lake Murray provides, everything from geology, water quality, fish and wildlife, cultural resources, recreational interests. We will go through and identify those and lay out what is out there on Lake Murray. Shoreline Management Guidelines for project lands. This includes things like commercial, residential, docks, marinas, public use areas, multi-purpose areas. Determination of Shoreline Classification Management. Classification, this will identify and define what each type of classification is, what its purpose serves. Again, classification definition such as forest and game management, and Future development and recreation. New shoreline activities and evaluation process. This primarily

is dealing with managing of the buffer zone below the 360 of limited brushing; and re-vegetation of disturbed areas. If the buffer zone has been impacted from a homeowner who cuts down trees when he is not supposed to, those items will be addressed in this Shoreline Management Plan. Environmentally sensitive areas around the Lake, there is a significant number of those. There will be management strategies for those incorporated into this. We will address the soil erosion, and sedimentation; shoreline and bank stabilization recommendations will be coming out of this. The permitting process for docks and marinas. Prohibited activities. Moorings and encroachments, they are prohibited now on the Lake; that did not change. And so, you won't see anything new out of those two. Water management activities will be addressed. Discharges of water withdrawals. Best management practices in the public. This is where we hope to try to educate, develop some materials that can be handed out to new homeowners who move into the area, who want to do something with their property and address issues on their banks. Safety Program. We have a Safety RCG, and they were interested in trying to develop a document that would assist lake owners in the event that you had an emergency on the Lake where you could go if you needed to be medivac'ed out. It would identify the --- I think there is 8 locations around the Lake that you could -- - if you needed medi-vac assistance you could provide that.

Enforcement of the Shoreline Management Plan. If there is a violation, there will be some action that will be taken for those violations. Permitting fee policies to implement this broad program. It is going to take monies to do it. One of the things that we are looking at is evaluating the current permitting fee policy. And then a monitoring amendment process. If there are changes that need to be made to the SMP, things that we feel are or are not working, there will be a process that identifies how that will take place. And that is basically what our Lake and Land Management TWC and RCG is doing. We do anticipate, like I said, issuing the SMP in the Fall of this year. It will be a draft, it will be available for public comment. Comments will be received. We encourage you to provide comments if there is an item or something you see that we haven't addressed, we would like to get it now as opposed to 2008 in August when we have to file the final application. We intend to hopefully file a final Shoreline Management Plan with the final application for new license for the project. With that, that's all I have. Are there questions? I know I kind of breezed through this. I think you will get a better feel when the draft SMP comes out in the Fall. Questions?

(No response)

MR. STUART: With that, I am going to introduce Shane Boring. He is with Kleinschmidt Associates. He is a wildlife biologist, he is going to go through and

discuss and inform y'all what we have done in the Fish and Wildlife Resource Conservation Group and Technical Working Committees, and also the Water Quality. Shane.

MR. SHANE BORING: For the folks that were here this morning, I apologize. This is the same presentation as before. Basically I am going to be reviewing the activities of the Fish and Wildlife Resource Conservation Group, as Alan mentioned. So far the RCG has had three meetings, it has not met since February of 2006 primarily because most of the activities of this group have been taken up within the Technical Working Committees that are sub-groups of this. And the reason for that is we have been developing and executing a study, so that has been more involved with the technical groups, the folks that have the technical expertise. There are six Fish and Wildlife Technical Working Committees: diadromous fish, rare threatened and endangered species, instream flow, terrestrial resources, freshwater mussels and benthic macroinvertebrates which just means aquatic bugs, and fish entrainment. We will start out with the Diadromous Fish Technical Working Committee; this is the membership. They are representatives from State and Federal Agencies as well as non-governmental organizations. We have had three meetings so far of this group. The diadromous fish group has been conducting several studies. The Lower Saluda and Congaree Rivers have been sampled using gillnetting during

2005 and 2006 for the presence of diadromous species. And for folks that are not familiar, diadromous species are a migratory species. That includes anadromous species which live out their life cycle in salt water and then migrate into fresh water to reproduce; and also, catadromous which is the reverse, they live out their life cycle in fresh water and move to salt water to reproduce. And the only one of those that we have is the American eel. Gillnetting was done for blue back herring, American shad, and hickory shad. Also, we had eel pots to test for the presence of American eels. One of the studies that we are going to have coming up in the Spring is going to be a telemetry study involving American shad. First we will review the results of the gillnetting study. I believe the squares are the locations of the eel traps and the circles are the locations of the gillnetting sites. There were, I believe, three locations in the Lower Saluda for gillnetting and also one down in the Congaree. All of the eel sampling locations were in the Lower Saluda. To quickly review the study results, in 2005 fourteen species were captured, but no shad or herring. Similar results in 2006, fifteen species; but again no diadromous species. Similar results with the eel study, more than 25,000 trap hours, we had no eel captures. There were several captures, incidental captures, outside the study period during some electra-fishing done by the Department of Natural Resources and also by Steve Summer with SCANA; but

none during the sampling period. Because there were no captures during the sampling period, basically left two possibilities; either the density of eels was so low that we weren't able to detect them, or that our sampling method was not appropriate. So, we installed these experimental eel traps which basically, if you see the black pipe here, the black pipe here goes down an attraction flow. And this particular one is at the spillway where it comes into the Lower Saluda. And there is an attraction flow provided down this pipe, and the eels basically think they are migrating upstream, and are collected in this collection box here. And this is a method that has worked throughout the country at several other projects. I think these have been in since October of last year, is when they started operating. Is that correct, Bret? Yeah. And to date we haven't caught anything, but we will see. I think those are being checked twice a week, or something like that. The American shad study is being done, the telemetry study is being done to confirm the results of the diadromous fish gillnetting. Basically will be electrofishing about fifty American shad in the vicinity of 601 Bridge on the Congaree, and implanting acoustic tags. And there is an array of receivers in the Lower Saluda, Broad and Congaree Rivers that are monitored by the Department of Natural Resources that will try to understand the migratory patterns of this species a little better. The next group is the Fish Entrainment

Technical Working Committee. Entrainment is basically when fish are taken into the turbines and can be killed or injured. The Technical Working Committee determined that it was appropriate to do a desk top study basically using data from other similar projects that have similar turbines to develop an entrainment report; that report has been drafted and is being reviewed internally by SCE&G, and will be issued to the agencies in early 2007. The next group is the Rare Threatened and Endangered Species Technical Working Committee. So far there have been three meetings, the latest one being in July. In the comments to the initial consultation document, the Fish and Wildlife Service identified 47 species rare, threatened and endangered species Federally listed occurring in the counties surrounding the project. Currently we have developed a tracking tool which will look at habitat requirements of these species compared to availability around the project and will begin to narrow that list down. This information will probably provide baseline for the Section 7 analysis, which is required to look at impacts of Federal actions under the Endangered Species Act. Just a couple of species specific studies, we have this list of 47 species that we have to evaluate; but there are several that we already know occur in the project vicinity. So, we started studies early on these. One is the Lake Murray wood stork surveys. We first detected wood storks or had reports of wood storks

around 2000/2001, I believe. And a study plan was drafted and implemented in early 2005. We have done a monthly aerial survey during the months of February through November during 2005 and 2006. There were no wood storks detected in 2005, and in 2006 there were approximately 20 that were observed foraging upstream of the reservoir. Because of the timing of these occurrences, which was in the late Summer-early Fall, we think these are most likely post-breeding migrants from coastal colonies. Essentially, once these guys are no longer bound to the nest by chick rearing and they get up and wander all over the southeast for a few months before heading back down to Florida for the winter. And as you can tell, they are not a pretty bird. A couple other species that we have surveyed are rocky shoal spider lily. There is some pretty significant populations in the confluence area basically once the Broad River meets the Lower Saluda and once you get that influence of the Broad River water. Just upstream of the Twelfth Street Bridge, or Highway 12 Bridge is where this particular photo was from. As far as the survey in the Lower Saluda, there were two plants that were located in the Lower Saluda during our survey that was done in May. That was the extent of what we found. Basically those weren't very vigorous, they weren't really colonies, they were just scattered individual plants. And typically you have something like this where you have these big clumps of them. Another study that will be undertaken is the short

nose sturgeon survey in the Lower Saluda River. Again, this is a Federally listed species. I believe, at the last update meeting we were waiting on issuance of the permit from National Marine Fishery Service to do this work. That permit has been issued and sampling is going to begin in February of this year. The Terrestrial Resources Technical Working Committee has also had three meetings. The first study this group is tasked with is the resident and migratory bird survey. And through several meetings it was determined that this could probably be addressed using existing data, talking to folks from Riverbanks Zoo and Columbia Audubon, and also some local birders. We found that there is a pretty significant amount of data out there. We were able to compile a species list which when this slide was done it was 198 species. But I think we are up to something like 210 that have been documented on Lake Murray and in the Lower Saluda corridor. And so this species list has been approved by the Agencies and will be included in the final application. Water fowl surveys were also requested by Fish and Wildlife Service and South Carolina DNR. And basically the objective of this study is to document the extent of water fowl usage on the Lake during the over-wintering months when they come down from Canada and points northward.

Basically we are doing a monthly aerial survey, which is being done by Savannah River Ecology Lab. And I think we have completed three surveys so far, and documented a number

of species - mallards, scalp, ringnecks. And those results are sent out; there is an update that is sent out by e-mail after each survey; and we'll be preparing a report at the end of the year. Fresh Water Mussels and Benthic Macroinvertebrates Technical Working Committee, as I mentioned, benthic macroinvertebrates are basically aquatic bugs. One of the major studies this group is tasked with was the mussel surveys; fresh water mussels are of major conservation concern right now. Pretty imperiled in a lot of areas. This survey was conducted in July and August of this year. We surveyed 61 sites in Lake Murray, Lower Saluda River, and the Congaree River, and also several Lake Murray tributaries. 15 native species were documented. I think there are about 20 that were originally native to this area.

And also, 6 of these species were Federal species of concern. The benthic macroinvertebrate study was conducted in the Fall of this year, September and November.

The objective of this was to assess the invertebrate community of the Lower Saluda River, basically document diversity, and look for certain indicator species. Included both artificial substrate and multi-habitat sampling. Multi-habitat sampling refers to basically net sampling. You go out with a kick net, which is what is seen here on the photo, and also with dip nets, and sample. And also, the artificial substrate is just a series of plates that are allowed to colonize for a certain amount of time, and then

collect it. Dan Carnagey from Carnagey Biologicals is preparing this report, and I believe we are looking for a report sometime in March. And all of these reports, once they are finalized, will be posted to the website. The final group, Fish and Wildlife Group, is the Instream Flow, Aquatic Habitat Technical Working Committee. This is one of our larger groups, and also one of our most active. There have been a number of meetings this year. Basically there was an instream flow study done in the Lower Saluda in the late '80s-early 90s; however, the group reviewed that and felt like it would be to their advantage to gather some more data and update that study, or perform an additional study. Basically an instream flow study involves collecting channel profile data where you lay transects at pre-determined locations in the River, collect information like velocity, depth, width of the channel; and develop a stream profile which then can be used to model habitat availability for different target species at varying flows. The Technical Working Committee is currently developing that list of target species, and that should be finalized within the next couple of weeks. I think the field work for the study is going to take place March to May. May timeframe. There are a couple of other studies that the instream flow group is tasked with. There was a request to evaluate the potential for self-sustaining trout fishery in the Lower Saluda River. A technical white paper evaluating this possibility was

prepared, has been reviewed by Technical Working Committee members, and we are in the process of compiling all those comments and making revisions. Also, flood plain flow evaluation was requested. Primarily this study will look at the influence of the Saluda operations on flood plain inundation and areas downstream. Inundation of flood plain is important for re-nourishment of materials to the flood plain and for nursery habitat for fish. One of the primary areas of interest is the Congaree National Park. After several meetings with this group, I think it's been determined the direction the group is heading now is hopefully using an existing inundation model that was developed by University of South Carolina to develop some possibilities for Saluda to help enhance inundation during certain low water periods. The feasibility of that, we don't exactly know yet; but hopefully this model will help us with that. And the final request that this group is working on is the GIS based habitat assessment of Lake Murray. Basically the Fish and Wildlife Service and Department of Natural Resources have requested GIS based maps of shallow water aquatic habitat around the project. And we are working with Orbis (phonetic) GIS in Charlotte to look at some existing aerial photography, Lidar data, and also the environmentally sensitive area maps to possibly fill this request. So with that, I will take questions on fish and wildlife.

(No response)

MR. BORING: We had a bunch this morning, now there are no questions.

MS. REBECCA CONNELLY: Hello, my name is Rebecca Connely. I just had a question about the gillnetting for shad, and I was just wondering were water levels set to promote migration during those nettings? Or, was existing low flows used during that time?

MR. BORING: There were not specific flows released to attract migrating fish. However, the flows that were in the River during that time would have been more than sufficient to trigger migration.

MS. CONNELLY: Okay, I just wondered. I know when the River ran like 4000 during the Dam release for the new Dam that flows attracted a lot of shad up the Saluda. So I didn't know if that was included or not.

MR. BORING: Right. Well, it would depend on whether they are thread finn, given shad, or American shad. American shad are the only ones that are diadromous, which would --- there is only one species of shad involved in this particular study. The others are resident fish.

MS. CONNELLY: Okay. Thank you.

MR. BORING: Well, if there are no questions, we will move on to the Water Quality Technical Working Committee. There is a single Technical Working Committee for this group. The RCGs had three meetings thus

far; again, the last time we met was in February. Same scenarios with the Fish and Wildlife group. Primary activities have been going on in the Technical Working Committee level because we have been working on developing studies and implementing those. As I said, there is a single Technical Working Committee for this group. There have been a number of meetings, I think we usually meet about every other month. One of the primary things being worked on by this group is the W-2 water quality model for the reservoir.

And it is being used to address the effects of project operations on summer habitat for striped bass, in particular operation of Unit 5; and also this model helps us look at phosphorus and other inputs into the reservoir and how that impacts dissolved oxygen. It is being developed by Jim Ruane, who is with Reservoir Environmental Incorporated in Chattanooga. And the final report for this will be issued on January 31st of this year, and it will be available on the website. Downstream impacts of cold water releases. This is a study that we started this past year. As many of you know, there is a cold water release from the Lake Murray Dam that enables the trout fishery in the Lower Saluda. In the confluence area where the Broad and Lower Saluda come together there is a marked difference in temperature between the left and right bank. And the objective of this study is to document how far downstream and also the mixing characteristics of those temperature differences. There are

paired temperature sensors at 7 locations in the Lower Saluda and Congaree Rivers. And as you can see, they go all the way down to the downstream extent of the Congaree National Park. And also, there are two control points above this, one at the Columbia Rowing Club dock on the Broad River, and one at the USGS gage below the Dam. Another study that this group is working on is the turbine venting testing. And unit testing was completed in the Fall of 2006. The objective of this study is to determine the aeration potential, the ability of this upgraded equipment to add dissolved oxygen to the water when it goes through the turbines at different gate settings and at different combinations. The report for that should be forthcoming in the Spring of this year. We had some very favorable results from our testing in the Fall. And with that, I will take any questions on water quality.

MS. JOY DOWNS: I am Joy Downs, Lake Murray Association. Tell me what you are doing with water quality that would have an effect on humans. I notice everything has to do with fish, phosphorus, and dissolved oxygen. What about fecal coliform (phonetic) and so forth, are you doing those type studies?

MR. BORING: Yeah, that's what I was going to say. Mostly DHEC regulates that. And we haven't received any study requests for anything like that. And as far as I know, or I don't know of any of the --- I am not certain as

to whether any of the streams that come into Lake Murray are classified on 303D list for fecal coliform or not.

MS. DOWNS: So, where are your tests being done primarily?

MR. BORING: Which tests are you referring to?

MS. DOWNS: The ones that you are doing with phosphorus and dissolved oxygen.

MR. BORING: Those are based on --- which points are those based on in terms of the modeling?

MR. STUART: They are based on existing data that has been collected from DHEC, by DHEC; USGS I believe also, SCANA services. Correct me if I am wrong.

MS. DOWNS: So you are in the large water bodies rather than coves. Is that correct?

MR. STUART: We are in the entire Lake. The model covers the entire Lake.

MS. DOWNS: Does that include testing in the coves? Where is the testing actually performed?

MR. STUART: At various --- it's all over the Lake. It's all the DHEC stations, USGS stations, and the SCANA station. Tom, could you provide information where you've got some?

MR. TOM BERRY: As far as your fuel --- we have 12 sites on the Lake. They range from in the towers all the way to the bridges --- they cross the River on Highway

391, that's on the main River. And then at Little Saluda we have some in the areas of --- in coves at Hollow Creek, Turner's (phonetic) Cove, Captain (phonetic) Creek and Bear Creek.

MS. DOWNS: Okay. And DHEC's are all in the main water, right? The big part of the water?

MR. STUART: The majority of them are.

MS. DOWNS: So, it is only SCE&G's that we are seeing that's in the coves. Is that right?

MR. BORING: Well, also we are hoping that Lake Murray Association's work will be able to contribute to this as well. And I actually was telling folks this morning that I had initially put a slide in talking about the cove water quality; then I took it back out because I was kind of hoping to give them some time to get a little more data together. What we saw at the last meeting was kind of --- you know, this is our initial sampling.

MS. DOWNS: We have seven months, but we are going to do it again in another seven months, you know.

MR. BORING: Yeah, that will be great.

MS. DOWNS: Okay. Well, what my concern was is whether or not we were testing water quality as to the effect it might have on humans as well as fish. Which, I thought might be different. I know we are always concerned to dissolved oxygen, the phosphorus with the fish.

MR. BORING: Right. Those are issues that

have been raised thus far in the relicensing. Human health impacts are not something that really have been brought to light at this point in the relicensing. And also, again, that is something that is regulated by DHEC.

MS. DOWNS: Well, there are several things done on the 303D list that have not had TMDLs done. And that's the reason I am asking if any of those will fit in?

MR. STUART: (inaudible) that explanation is supposed to be included in the application renewal.

MS. REBECCA CONNELLY: My name is Rebecca Connely. I guess --- background, I am part of large landowner on Lake Murray. And I have a question on silt buildup in the Lake, because I know over the years me, personally, I think about my father who has been there for fifty years, that our cove is definitely increased in silt and buildup; and with the Lake being drawn down you could really tell it with all the runoff and how the channels drop down about two feet as that happens. Is anything being done about that? And I can say of our cove in particular there is very little erosion because it's all forest land. So, I didn't know if that was being addressed.

MR. BORING: Do you want to address that one?

MR. STUART: If we would draw down that's improved (inaudible). And it has actually improved water quality. I see your cove is probably within the upper end of

the Lake?

MS. CONNELLY: I am off of Bear Creek, middle to the North side.

MR. STUART: Jim Ruane's model, he analyzed the --- I think it was two draw downs, one in 1990 and one in '96. One was for aquatic relief control, and the other was for maintenance on the Towers. And that is one of the things we are looking at as part of the water quality and Lake level management groups is the positive benefits of draw down on water quality in the Lake. And basically what that does, it removes that sediment and silt that has built up again, perhaps. And it redistributes that in deeper parts of the Lake. That's one of the things, I know one of the big interests from the homeowner groups is to make that say the Lake levels. But at the same time if it did internally affect the water quality without having a draw down. So, those are being considered.

MS. CONNELLY: And it is my opinion having forested lake land that I am for draw downs because I do see the benefits for it from our perspective.

MR. ANDY MILLER: I am Andy Miller with DHEC. I was just wondering if you had set a time or a date for when you might present the results of the turbine venting, the latest? Is that going to be presented or --- in this forum?

MR. STUART: Scheduled a meeting in March,

the terms of the settlement agreement that is entered into between SCE&G and those Coast Conservation requires to have a meeting, a meeting before March 30th. So we are in the process of planning that meeting. So we will certainly contact you guys and set that up.

MR. MILLER: So you don't expect a discussion in the Water Quality Technical Committee, or anything prior to that?

MR. STUART: We don't have one currently scheduled, no. But if there is needs we certainly can convene our Water Quality group to address it.

MR. MILLER: Okay.

MR. BORING: Other Water Quality questions?

MR. MALCOLM LEAPHART: Malcolm Leaphart, Trout Unlimited. As a follow up to Andy's question, the hub baffles have been more recently installed. Will the way that those things work also be covered in the report?

MR. BORING: That is what we are referring to.

MR. STUART: And I can give you a brief update on some units aerate much better than others. That is what our initial findings are; and part of what the issue is with the ones that don't vent as well, is there is some seal issues, units aren't sealed so they don't get as high a negative pressures. So they just basically won't pull the air into the turbine intake. But we are looking at

evaluating some other options that may significantly improve that. And there are some proposals upon SCE&G that they are considering.

MR. BORING: Other questions?

(No response)

MR. BORING: Do we want to take a break, or

MR. STUART: We did have a break scheduled. If we could, I would like to get Bret Hoffman, I think you will have more questions maybe for his presentation on the operation group. And if after he gets done, maybe we can take about a ten or fifteen minute break. We seem to be ahead of schedule compared to what it was this morning with the lack of questions. So, with that I am going to introduce Bret Hoffman. He is an engineer with our Company, Kleinschmidt Associates, and he is going to talk about what is going on in the Operations Group.

MR. BRET HOFFMAN: Again, my name is Bret Hoffman, I am with Kleinschmidt Associates. And I am working with the Operations Resource Conservation Group. The function of this group is to take input from other RCGs and input them into a hydrologic model and balance the requests from all these groups with the limited resources of the Saluda project. We are not going to have a whole lot of our own criteria for this model; almost all of them come from requests from other Resource Conservation Groups. The

function of this group as taken straight from our Mission Statement was to oversee a creation of a hydrologic model. We formed a Technical Working Committee for this specific function to create the model and to calibrate it. We calibrate it by establishing a baseline of current operation, and if we can accurately model that then we know that what we have created is going to work for our future purposes. We are going to use that model to evaluate existing constraints within the systems that will continue, and as well be inputs from other RCGs. We will use it to balance those with that. A lot of you have probably seen some of the presentations given from Operations Group, or there was a Hydrology 101 presentation. There is a handful of them that we have done. In a nutshell, the model we have chosen is a program called HEC-res Sim. The Army Corp of Engineers has developed this over decades specifically for this type of a function. It is extremely flexible and you can say, "I want this flow," or, "this amount of water," "I want it this period of time for this number of days," and you can do that in a lot of different locations with different periods of time, different days, and it can balance all of these things with the resource of the project. This is a standard for the relicensing efforts. I have seen where it was used to model the entire Savannah River system. The HEC-ras is sort of a sister component of this, and it is a river analysis tool that takes a geometry

of the Lower Saluda to evaluate what different flows do with stages. Physical parameters of the model, first you have the watershed, which is basically the basin that contributes precipitation to Lake Murray and the Lower Saluda River. There is a Lake storage curve that basically tells you how much water is available at different Lake levels. And then as I mentioned the River geometry is part of the HEC-ras model. Hydrology, for those of you don't know, that's basically the study of precipitation and how it is contributed to a system through a watershed or a runoff basin. We know our storage capabilities in Lake Murray, and we know our outflows very well because there is a gage station very close to the tailrace of the Lake. Some of the inflows are gaged, but there is a large area of the watershed that is basically ungaged, and that makes things a little bit difficult to model. Here is a map of the watershed; again, those of you who have seen any of these presentations have probably seen this; a 2520 square mile, it extends well into North Carolina. And this whole area basically, if it rains in this area it has the possibility of coming to Lake Murray and the Saluda project. We established a baseline; we took the current operations as SCE&G runs the project now and looked at 16 years of data, and we were able to accurately model based on outflows and stages how the project was operating. We attempted to use inflows in upstream information across the watershed, it

didn't work very well. We just don't have enough information about the water that comes into the project. It is not gaged very well. So, what we did was did a mass balance method where you look at what's coming out, and you look at what your water levels in the Lake are, and then you can calculate what you have coming in. And with that method we were very successful, and it calibrated the model. So, basically have the model complete; there are some efforts being considered to try to extend that period of time beyond 16 years. The Technical Working Committee is going to take a look at that and see if it is possible or not. We certainly would love that to be an option, but it has its potential logistic issues. Again, the simulation we did was very accurate; the biggest problem was 16 years of records all we had versus some of the storage information goes back to say 1930. But we are not sure if we will be able to use that because of the accuracy of that information. The next step for the Operations RCG, other than determining whether or not we can use additional data, which if we can certainly, again, we will. But otherwise, we are on hold until we receive inputs from other RCGs. All the constraints, again, they come from Recreation, Water Quality, different RCGs that request stage and/or flow at a given location. Those are the only inputs we are taking. These groups will have to come to us and say, "We want this level of water, or this kind of flows, and we want it here, they want it these

times, or these times of the year." That's the only kind of information we can put into the model. And then what we do is we run the model simulation after we have all the requests. We can't run it until we have all of them. A single request could throw the entire thing out of balance.

The constraints we anticipate in a nutshell are pond levels, which many of you are aware of. You know, what the winter pool might be like. Minimum flow releases, certainly those will be some inputs in the model. And then some recreation or other special releases. Impacts on the current operation, obviously SCE&G tries to manage the pond levels for winter and summer pools; so we will have to see how those things impact that, and then what it does to their potential energy generation, as well. The results of the model will tell us the frequency and magnitude of violating each constraint. If an individual wants a certain amount of water and they want it for a certain amount of time, if there is not enough water for everybody to go around, then you don't get everything. And that is essentially what happens in these types of processes. Most of the time there is not enough water for everybody. And it is an iterative process of run the model, they see what happens with everybody's requests; and when they turn it back around, they send it back to the Resource Conservation Groups, individual stakeholders, or Technical Working Committees, and they take a look at it and say, "Well, we can't live

with this, but we can live with this. So, can you run this instead?" And we draw back in and run the model again until everybody comes up with a compromise, which is effectively what we are looking for here. I think that's it for me. If anyone has any questions?

MR. DONALD ENG: I am Don Eng, and I represent myself. And my question is, is anybody monitoring the losses of the River banks below the Dam? Particularly here in the park and at Corley Island, and some of the steeper banks on the lower end of the River. As you release like you are today, you can just look at the fringes and see how much mud is coming from those banks. And you are broadening the River in certain spots.

MR. HOFFMAN: I am not sure if there are any erosion studies, Alan. There are not? Would you like to comment on that, please?

MR. STUART: Don, the Agencies, no one has specifically requested any type of erosion studies. I do know a lot of the, quote, "muddy water" you see after a rain or something like that is coming from --- there is a source there, Twelve Mile Creek, provides a lot of sediment input into the Lower Saluda River. But to date, we have not done any kind of geomorphological studies. I believe in the --- and Shane, correct me if I am wrong.

MR. BORING: [no microphone] As part of the (inaudible) have a geomorphologist look at that area around

right behind Mr. Hayden's house over at the Oh Brother rapids area, because of that erosion there. And if we do an IFIN study and the channel is not stable, and the information we get from that, obviously the validity would be questionable. So we need to determine whether or not it is stable. So that area, there will be geomorphological analysis for that area.

MR. STUART: Also, I believe Bill's group with the Cultural Resources has done some investigations and identified some potential areas of erosion. He will talk about it a little bit more, but I know one of them is right there near Sandy Beach area, I think.

MR. ENG: Has anybody looked into a maximum flow as well as a minimum flow on the River? You know, I notice that you keep the Lake up, and then in the Spring when the Lake fills you go all the way up to 15 or 18,000 cubic feet per second and you are out of the banks of the River, and in fact you cover a couple of the smaller islands in the River. So, I just wondered if you couldn't use a little more storage and regulate the maximum flow?

MR. STUART: Minimum flows, I know, are going to be addressed as part of the Instream Flow. Maximum flows, I mean the project, the maximum flow is 18,000. You know, we are looking at potential modifications to storm level. You know, the project is operated for reserve capacity. It doesn't peak every day, it may operate two

hours one day and not operate for two weeks, three weeks, two months. It just depends on when SCE&G has an outage. So, again, it is not operated as a peaking facility. It does not go up to 18,000 for two hours in the morning and then two hours in the afternoon. But those things are being considered as part of operations in the Operations Group.

MR. MALCOLM LEAPHART: Malcolm Leaphart, Trout Unlimited. Alan, in the aquatic habitat group, it has been discussed several times whether or not we would have a dual flow analysis study to see the impacts on the high flows on the fisheries. And my last understanding was as to DNR folks where they thought that would be, and they thought that would be included in the IFIM.

MR. STUART: That is correct, we will be doing a dual flow analysis at that time.

MR. SAM GUSTAFSEN: My name is Sam Gustafsen, a landowner. You mentioned 16 years is the timeframe for your model development. And whether cycles are longer than 16 years, I am wondering if you picked up some pretty large inflows like 1989 with Hugo, and how that worked with your model development. I have done a pretty fair amount of model development and sometimes the edges, the highs or the lows, models don't do very well with that. So, I am wondering about your criteria for evaluating if the model is calibrated well along with large inflows?

MR. HOFFMAN: We know we have low inflows,

we have certainly had some significant droughts within the past 16 years. And we have based on the history of the project and the rates of flow measured at Columbia Station since I think 1925 actually, Columbia goes back to. So, we have a good feel for what an average year and a wet year are for the project. I don't know that --- I would like to see that we had more wet years on the record that we have, but this is a decision that the Technical Working Committee is basically deciding, we are either going to take the model as we have it with this 16 years of data, and calibrate the operation extremely accurately, or we are going to have to go and take a longer period of record and the model will not be as accurate. And that's a balancing act that has been tasked to the Technical Working Committee. And that group, just to let you know, there is a couple of hydrology experts in there. Dr. Bud Bader is the DNR State Hydrologist. We have an in-house, we actually have two in-house hydrologists who are working with that. So, we are leaving that to that group to determine the best course for letting the model be determined.

UNIDENTIFIED: (inaudible - no microphone)

MR. HOFFMAN: Yeah, the year was '88 that --
- I think it was October '88 that the gage below Lake Murray Dam went into operation.

MR. GUSTAFSEN: And you mentioned various constraints; and one of them is the upper level, that's

violating that constraint would be evaluated in your model evaluation?

MR. HOFFMAN: Certainly. SCE&G under their current license can operate the Lake between a low end of 345 and high lender of 360. However, they don't like to go over 358; and that way they have some storage for some flood events. I think in late 2004 there was a hurricane event that we had set over the basin, and they ran pretty hard and still the Lake came up a couple of feet in a week or two. I think they were trying to maintain it from going up too fast. So, they do look at some upper levels. In their eyes, going too high is a failure to manage the pond, and there are some safety issues associated with that.

MR. GUSTAFSEN: And that is exactly what I am concerned about. I lived on the Lake during that event and noticed the Lake rising like you said, two feet in a very short period of time.

MR. HOFFMAN: That is, heavy inflow years is something that I have been in discussions with the Technical Working Group about; and we intend to make sure that if we don't feel like we have captured some heavy inflow years within the past sixteen years, there is some options we are looking at to possibly take a heavy inflow year; it won't have daily data, but we can have periods of data that may be monthly or even annually for some years during the '40s or '60s where they had some significant flooding events. And we

can take those into consideration. That is something that we are trying to figure out how to work that into the model. And what we would do is we would sort of tack that on and pretend that that was in 1987. And then everything else starts in 1988. So, that would give a handle on what our upper limits are. But, that is certainly one of our concerns and we will not overlook that.

MR. GUSTAFSEN: Thank you.

MR. ROBERT HAYDEN: I am Bob Hayden, and I am a resident at River's Edge on the Lower Saluda. And this may be a related question, but is any consideration being given to the weeds that are growing in the River.

MR. HOFFMAN: Aquatic vegetation.

MR. HAYDEN: The adrilia and that sort of thing that is coming down from the Lake.

MR. HOFFMAN: I would have to defer to another Resource Conservation Group on that.

MR. STUART: I know SCE&G has contracted --- or, Cindy Smith, and she typically does aquatic weed plant surveys in the River. I am not aquatic plant expert, but I know it's very difficult to control weed growth in a River because it's a flowing system and not like a lake where certain chemicals you could put on aquatic plants in lakes because you are in a static situation with a lake. I know in the Lake it is being addressed as part of an aquatic plant management plan; it is being developed with the Department

of Natural Resources and the South Carolina Wateree Resource Commission groups. They are the ones that are in charge of the State's waters with respect to aquatic plant management. I don't know if that answers your question, but that's the best answer I have got right now that I can give you. I know it's being --- the aquatic plants are being monitored to determine their movements and growth patterns. Steve?

MR. STEVE SUMMERS: Steve Summers, SCANA Services. We have not done a survey in the River in the last couple years. We held off to see if the Agencies had any requests for that, and we haven't gotten that request. The surveys that we have done have not shown any hydrilla. We have resilient elodea which looks a lot like hydrilla, but we have no evidence of the hydrilla actually making it through the turbines and growing in the River. The aquatic weeds fluctuate some from year to year; if we get real high flow events, it appears to break a lot of the elodea loose. Different nutrient loading and sediment loading can also impact those plants.

MR. HOFFMAN: Any other questions?

(No response)

MR. HOFFMAN: All right. At that point, we will turn it over --- Did you want to take a break? We will take a break before we turn it over to Bill Green. And if everybody can be back by quarter after, we would appreciate it.

(Off the record - break)

MR. BILL GREEN: Good evening. I am Bill Green, with S&ME. I am going to talk about Cultural Resource Investigations that have been going on for about the last year and a half to two years and the Laws, Regulations and Guidelines that we have to go by for our investigations: include the National Environmental Policy Act, the National Historic Preservation Act, which is the main one that is driving the Cultural Resource Investigations, the Federal Energy Regulatory Commission Guidelines for Environmental Assessments, and Historic Properties Management Plans, Secretary of Interior Standards and Guidelines for Archeology and Historic Preservation, and the SHPO Guidelines for Archeological Investigations and Survey of Historic Properties. There are four basic steps that we are going to do as part of this project. The first step was a reconnaissance survey to identify areas that had a high potential for containing significant archeological sites, and also areas that had historic structures within the area of potential effects, that is any area that has a potential to be impacted by the project. That study was completed in November of 2005. The next stage was an intensive survey of the high probability areas. That work is currently in progress. We anticipated it being done tomorrow, but it will probably be done maybe Tuesday. A draft report of those investigations will be completed by March. Next, we'll do

the historic properties management plan. We plan to start that next month, and estimated completion is by June of 2007. And then there is the actual mitigation of adverse effects; and that is SCE&G and FERC will take into account any effects that the project has on significant cultural resources; things like erosion. And that is to be determined in consultation with the SHPO, FERC and other consulting parties. During the Stage I reconnaissance survey, the one that was completed in 2005, we found 42 previously recorded archeological sites, or relocated them. Found 40 new archeological sites. There were 7 previously recorded structures that were listed or eligible for inclusion in the National Register, including the Dam itself. And we recorded 8 new structures; one of which was eligible for the National Register and that was the Epting Camp Ground. Stage II investigations, we are charged to look at 735 acres on 139 islands in Lake Murray; most of those islands are relatively small, less than an acre in size and some of them aren't even islands when the water level is high. There is also 89 miles of shoreline in 177 areas along Lake Murray shoreline. 1.5 miles of riverbank along the Lower Saluda River, and 2 islands in the Lower Saluda River including Corley Island. And just to take a little side note to address the gentleman's question earlier, we have a geomorphologist from the University of Georgia looked at some erosion from below the Dam. And he looked at aerial

photographs from the 1930s to the present and also looked at the way the River is flowing. And his conclusion was that below the Park here there really is no project induced erosion, but above the Park to the Dam there is some project induced erosion. The results of the Stage II survey as of the end of December, we found 174 newly recorded archeological sites. We revisited 37 sites from our original Stage I survey. Pre-contact or pre-European contact sites range from the Paleoindian Period to Mississippian Periods, which is roughly 11,500 years ago to about 500 years ago. We found historic sites dating from the 18th century to the early 20th century, including farms, farmsteads, cemeteries, roads, quarries, and other types of resources. On the left there are some arrowheads and spear points that we found in different sites in the project area. And on the right you see different types of raw materials that were used for making those stone tools, including chert, rhyolite, jasper, quartz and quartzite. Some of the materials are not found locally, such as jasper, and must have been transported through trade or people moving around fairly long distances. Here is some historic resources, there is a cemetery on the left; and on the right is a horseshoe and some historic ceramics. One of the most interesting sites we found is 38LX531. This site is located along the Lower Saluda River on a high bluff. It is about 12 acres in size, and has excellent preservation. There are

deeply buried artifacts as deep as 3 meters below, or 12 feet below the ground surface. We found hearths, fire pits, etcetera. Where you see those rocks in the lower righthand picture, that's an old hearth dating to about 4,000 to 5,000 years old. There are occupations at the site ranging from approximately 800 years ago to roughly 11,500 years ago. The site has produced the oldest credible radiocarbon date in South Carolina to date, which is 10,140 years old. And it could be one of the most interesting and important sites in the Southeastern U.S.

And that's it. Are there any questions?

MR. MALCOLM LEAPHART: Malcolm Leaphart, Trout Unlimited. My antenna sort of went up when you made a statement that you did not think there was --- or, an expert and did not think there was erosion below Saluda Shoals Park.

MR. GREEN: That's correct.

MR. LEAPHART: I am sure there is some boundaries on that. I mean, how do you quantify? I guess, you know, you threw out terms like "significant maybe", or "major", or --- I mean, I know, I am sitting here mentally counting them off in my head, areas where I know there has been some.

MR. GREEN: Well, every river has its erosion. And erosion is a natural process in any river. There just doesn't seem to be any project induced erosion

below the Park. We have looked at a series of aerial photographs, and also the shape of the River; it's wide above the Park, but once you get below the Park it narrows down to what you would expect of a natural channel.

MR. LEAPHART: You know, I mean there has definitely been some erosion in various places, but how much? Its probably now significant for the purposes that you have, I would think.

MR. BOB HAYDEN: Is twenty-five feet of bank considered normal in the past four years?

MR. GREEN: I'm sorry?

MR. HAYDEN: I said is --- I am Bob Hayden again. Twenty-five feet of riverbank that has been eroded away in the past four years since the construction of the Dam, is that considered significant or not?

MR. GREEN: I don't know where you are talking about; I am also not a geomorphologist, I am an archeologist. I am just telling you what our geomorphologist has reported to me, and from what I have seen out there, too. I have surveyed along the Lower Saluda River and didn't see any significant erosion below the Park.

MR. HAYDEN: Been looking in the wrong place.

MS. REBECCA CONNELLY: Rebecca Connely. One quick question, and this is just my knowledge in my area of the Lake. I guess unique rocks to the area, I know of an

area and just like why you do not list where your historical sites are. Quartz crystal clear, quartz crystals, I have seen them nowhere else in this format on Lake Murray. Are areas like that being documented in preserved, also?

MR. GREEN: Hopefully, they are. I mean, we surveyed --- we did a preliminary survey of the entire shoreline. And that was the study we completed in November of 2005. And then we went back and targeted areas that did not have a significant amount of erosion and that were likely to contain significant sites based on the land form type. We didn't hit every single area of the Lake, but hopefully we got most areas that would have a significant site.

MS. CONNELLY: Who would I contact to put a site out and say, "Hey, here is a potential site"?

MR. GREEN: You can call me, I can give you my number after this meeting.

MS. CONNELLY: I know your number, I'll give you a call. Thanks.

MR. GREEN: Okay. Thank you.

MR. STUART: With that, I am going to introduce Dave Anderson. He is a Human Dimension Specialist with Kleinschmidt Associates. Basically he can tell you why people like to recreate short of the obvious, they just enjoy it. So, I am going to turn it over to him.

MR. DAVE ANDERSON: Thank you. I am the

facilitator of two RCGs, Recreation RCG will be the first one I talk about. Basically what you see here is our Mission Statement. And I think the gist of this in the first sentence, "The mission is to ensure adequate and environmentally balances public recreational access and opportunities related to the Saluda Project." We have had six meetings since relicensing started. Five of these meetings have occurred in 2006, each of these meetings was attended by about an average of seventeen, more or less. Besides concentrating on some documents that we have already prepared, or are in the process of preparing, we have also had some education sessions, some presentations on recreation sites and recreation issues from Tommy Boozer from SCE&G. The statewide comprehensive outdoor recreation plan from Tony Bebbber, who is with South Carolina Parks, Recreation and Tourism. A presentation on a concept of caring capacity which pretty much means that it is the environmental and social limits that a given area can withstand without having negative impacts. That was given by Marty Phillips, who is also with Kleinschmidt. And we also had a presentation on the Lower Saluda River Corridor Plan by Bill Marshall, who is with SCDNR. Over these six meetings we have also agreed on a work plan, which outlines kind of what we are doing; and also, on something I call standard process. What this is is it's just kind of guiding us as we start making our decisions on recreation facilities

at the project. Basically Step I is determined desired future condition. And we have done that through the Mission Statement, we have also developed a vision statement for the project. That basically is your views on what this project should look like over the term of the new license which SCE&G is requesting for 50 years. Once we did that, we moved into Step II, which is about where we are at now, establishing baseline conditions, what's out there now, what activities take place, how much is it used, how many people are using it. And then we are moving into Step III this spring. We are going to determine what is needed and when based on what's occurring out there now and population projections for the area, as well as recreation activity participation trends from the Statewide Comprehensive Outdoor Recreation Plan data. We will figure out and make a schedule for facility upgrades, new facilities, who is going to be responsible for those facilities, which is part of Step IV. Certainly SCE&G does not choose to be in the recreation business, so if we can enter into some agreements like with the Irmo-Chapin Recreation Commission to run some new parks, we will certainly look at those options. Some of our work products include our work plan, which basically outlines what we are dealing with and how we are going to deal with it. It contains a list of identified issues that have been brought forth from stakeholders, the responsibilities of the RCG, tasks and products associated

with meeting those responsibilities. The schedule we need to follow to meet our deadline of August 2008 to file the new license application. And also, some possible mitigation measures that have been brought forth and comments to the ICD. And these include the possibility of a new State Park on the Lexington side of the reservoir, consideration of the Lower Saluda corridor plan, and some additional facilities on the River, a few others. Some other work products like I mentioned earlier, we have a vision statement, which basically --- you know, what do you want the project to look like over the foreseeable future, what I call some solution principles which are kind of some rules we are trying to follow; some of these would be that new facilities should not impact existing commercial operations, there should be a sufficient buffer between any recreation sites and associated adjoining homeowners. We are also using something that I call a standard process form, which is basically a list of questions that we are answering. And once we get done answering these fifty or so questions, it provides us with kind of a tracking tool of how we got to where we are, and also will be the basis for what the recreation plan is formed from. Our ultimate goal is to have a recreation plan to be submitted with the relicense application in August 2008. And we will begin to start working on that in this year. We also have a issues matrix, which is basically a spread sheet that stakeholders are using to track the issues

in this RCG. For those of you that came the last Quarterly Public Meeting updates, these are the same issues. I think we had solidified these by the time of the last update meeting. Basically we want to ensure that recreational facilities and opportunities are protected or enhanced, conservation of existing lands, downstream flows for recreation purposes, impacts of Lake level on recreational use at the Lake, protection of the fishery on the Lower Saluda River. These are the issues in a nutshell. And if you want to see them in more detail, all of these documents, except for the recreation plan and stuff we are working on, are on the website. To deal with the issues, RCG formed three Technical Working Committees. First of which is the Recreation Management TWC. And this is the one that is dealing with future facilities, and existing and future sites, any recreation policies that we might think need to be in effect. This group was fairly active in 2006 until we got a study plan finalized, and then we kind of died off while the study was taking place. We met six times; we agreed on a recreation assessment study plan and also a boating density study. And I will explain those in a little bit more detail in a minute. In 2007, this TWC is going to start reviewing the results from these studies and make recommendations to the Recreation RCG. We also have a downstream flows Technical Working Committee. This is a group that is going to propose recreational flows for the

River, the Lower Saluda River, and determine the effects of project operations on recreational use of the Lower Saluda River. This TWC met three times in 2006. We agreed on a downstream recreation flow assessment study plan, which is currently being conducted. Once that study is complete, this TWC will get together and review the results from that, and make these flow recommendations which obviously will go as input into the Operations Model to see if they are feasible.

We also have a Lake levels TWC. This is the group that will determine an appropriate Lake level for recreational activities and examine the effects of various Lake levels on recreation. This group has not met yet, we have been waiting on the development of the reservoir operations model. Now that that model is complete, this group will probably get together in the near future, and discuss the Lake level questions on that standard process form and some information that SCE&G has provided in response to those questions. Some preliminary levels identified by the RCG in relation to Lake levels right now are 356, 355 and 354. Each of those three will be analyzed independently by the Operations Model starting at the 356 level, which is some stakeholders prefer the Lake level. Talk a little bit about the studies we have been conducting. Recreation assessment study is nearing completing, field work has been done. For those of you that use SCE&G owned public recreation sites, you might have seen our people out there during this past

summer with T-shirts on. They had a little field crews, they were out there counting the people that were using these sites; and also, fielding a questionnaire based on user needs and preferences for those sites. The first part of the study, inventoried all of the SCE&G sites, including American with Disabilities Act compliance. And also, determined the patterns of use at each site. Based on population projections and the regional participation trends from the SCORP data, we will determine future recreational use for the term of the new license, and any existing needs and preferences including perceptions of crowding. A site may not be crowded physically but if people think it is crowded, then it's crowded. And we will also objectively identify any future needs that we feel will be needed at the project. Those will merely be recommendations to the TWC, which will then take those recommendations as well as their existing needs, and will move forward from there towards the recreation plan. Just to give you an idea of the sites that we looked at during this study, went all the way up to Higgins Bridge on the Upper Saluda River; fifteen sites on the Lake, all the way down to Dam site and Park Site; and then we went down to the River, fielded surveys at Saluda Shoals Park, Metz Landing and Gardendale; and also down at the Riverbanks Zoo area at the Millrace rapids, and the confluence area. Those aren't formal sites, but they are certainly used by the public to access the River there, and

do what they do. The Second Study, I will talk a little bit about. This RCG is a boating density study. Basically what we did here or are doing here, the study is ongoing at the moment, we use the geographic information system to calculate the usable surface area of Lake Murray. We had some existing photographs, aerial photographs, that were taken in 2001, and we're counting the number of boats that were on the Lake at that time. We are escalating those numbers based on population projections to be reflective of current boating use of Lake Murray. And we will also project those out into the future using those same population projections. Then we will use commonly used standards developed by the Bureau of Outdoor Recreation and the Army Corps of Engineers, which will determine whether Lake Murray is currently at, below or at a desirable level of boating density. And that pretty much means the number of boats per acre, whether it is at or below, above the standard; will determine at least from a scientific point of view whether boating densities are too high or too low. Here is the segments that we're using to look at boating densities. So, number of boats will be counted for each of these segments to determine if boating densities are higher in one area of the Lake or the others, basically why we broke the Lake up like this. On the Lower Saluda River, we are conducting a downstream flow study. Basically we are going to use results from the Recreation

Assessment to examine patterns, volumes, and type of use that occur on the River. We are going to take about, I think, three field trips at certain flow levels down the River as a focus group; come up with some preferred flows for different activities and make those flow requests to the RCG and to the Operations model. There is a couple other components to this study that deal more with safety, and I will talk about those when I talk about the Safety RCG. During the coming year we are going to be very busy, both as an RCG and several TWCs. Once the results from these studies are finalized, it's going to be a lot of looking at maps and things of that nature, and trying to figure out how we move forward into the future with the goal of having a draft recreation plan by the end of 2007. Any questions related to recreation?

MR. LEAPHART: Malcolm Leaphart, Trout Unlimited. Help me out on the completion date on the studies.

MR. ANDERSON: The Recreation Assessment, the TWC will probably be a draft probably in about a month, maybe less than a month depending on some internal review times.

MR. LEAPHART: Okay. I guess the question and concern I have is, we have seen a number of landings close on the Lake, you know, like Snelgrove's, Turner's on the South side, and each time those things close, those

commercial sites, and it's going to throw more folks back over in the SCE&G site. So, will we be watching for these closures over the next year or two? I know at some point you have to draw a line, but you have got to factor ---

MR. ANDERSON: It is something we can take into account, but when you look thirty years down the road it's kind of hard to predict what's going to happen on the commercial side. You know, if all of a sudden running a marina became a multi-billion dollar business, you are going to see a lot more marinas open up on the water, or at least try to open up on the water.

MR. LEAPHART: We may see a new realm, because you know, most of these were family owned type things. And as the folks are getting older, they tend to want to close them up and sell it, and move on. So, it's just a concern I had that somehow we need to factor that in.

MR. ANDERSON: It is certainly something to bring up in one of the TWC meetings.

MS. JOY DOWNS: I am Joy Downs, Lake Murray Association. Can you clarify when you talked about the 354, 355, and 356 levels going into the model if those were minimum levels? I didn't hear you say that. I'm sorry.

MR. ANDERSON: Sure. Yeah, those are ---

MS. DOWNS: I thought it sounded like it.

MR. ANDERSON: --- minimum Lake levels requested by some of the stakeholders to be analyzed as far

as recreational use on the Lake.

MS. DOWNS: Thank you. Just wanted that on the record.

MR. CHUCK WIMBERLY: Chuck Wimberly, Lake Murray Association. I was curious as to what assumptions were made to generate your population projections for the next fifty years?

MR. ANDERSON: Those come directly from the Bureau of Census. So we just take their numbers and use our current use numbers, and project those out. Most studies show that recreational use is directly associated with number of people around an area.

MR. WIMBERLY: The reason I am asking the question is, maybe my assumption is wrong, I haven't looked at the Census Bureau numbers, is that the baby boomers are starting to retire; there is going to be a large --- in my estimation, because there already has been in South Carolina, and always has a large influx of retirees from the Northeast with plenty of money, and will be able to afford lakeshore property, as they have already afforded coastal property along the South Carolina coast; and I was just curious if any ---

MR. ANDERSON: I would have to think that they take all that into account. Like I said, they --- you know, it's stuff you can go on their website and download projections, you know, up to the year 2050, I think is as

far as they are going now. Any other questions on recreation?

(No response)

MR. ANDERSON: All right. We will move into our last RCG, which is the Safety RCG. Basically this group has been tasked with making Lake Murray and the Lower Saluda River as safe as reasonably possible for the public. This group has been a little more active than the Recreation group. We've had seven meetings since relicensing started; six of these have occurred in 2006. I think one of the more well attended RCG groups, attended by about 23 people on average each time. Besides working on some of the same products from Lake Recreation RCG. We have also seen some presentations on State boating laws, presentations on the rising water sirens on the Lower Saluda River and how those operate. And also a presentation on the Three Rivers Greenway, which is certainly something that is going to affect activities and what takes place at least in the confluence area for the foreseeable future. And that was given by Mike Dawson of River Alliance. We have also agreed on a work plan and information needed to accomplish the group tasks. Much like the Recreation RCG - probably because I am heading up both of them - the work plan contains a list of identified issues, the responsibilities of the RCG to deal with those issues, a number of tasks and work products that will help us meet our responsibility, and

also a schedule for completion. We are currently working on a safety program. And I will talk a little bit more about that in a second. We will be working on a safety plan, and this group also has an issues matrix like all the RCGs in order to track for progress that's being made on some of the issues. Issues that this group is dealing with include river level fluctuations and their effect on safety, lake levels and lake level fluctuations, boat traffic and congestion in the cove areas, placement of maintenance of shoal markers; and also some recently brought up ones, power lines impeding sail boat navigation. And in our last RCG meeting we came to a conclusion that might not be as big an issue; and one of our group members is looking further into that, talking to some of the sailboat clubs. Water quality and its effect on safety, amphibious aircraft was brought up and also systematic collection of accident data, which so far we are finding out is not collected as well as we would like it to be. This RCG has formed two Technical Working Committees, and is also using the Downstream Flows Technical Working Committee to accomplish some of its tasks. We have a Hazardous Areas TWC, which has been tasked with identifying unmarked hazards and proposing potential solutions for unmarked hazards on Lake Murray. This TWC has not met yet. It also has been waiting on the Operations model, and also on a minimum Lake level to be determined before we start looking at this shoal and shoal marker

issue; because when you have shoal areas at 354, those same shoals may be covered up with sufficient water at 356, and the problem is to another area of the Lake. So once the minimum Lake level has been determined, this group is going to get together and decide how to deal with that issue. We have a recently formed Safety Program TWC. It has been tasked with completing a draft of the safety program. This is basically going to be a document that is going to outline safety activities that occur at the project. There is a number of groups that are involved with safe boating education, river safety. This is just going to pull all that information together, outline some public outreach efforts that SCE&G is currently undertaking, or can undertake in the future in relation to safety. It will outline the warning devices on the River, including what's now rising water sirens. We are also looking at strobe lights, some different other types of devices, and any other applicable safety related information. It is all going to be pulled together into a single document. That group will probably be meeting for the first time, like I said it just formed this past week, probably in the next month or so once a couple of documents get pulled together. We have been working on a communications plan also within these two groups, which outlines most effective ways for SCE&G to communicate with the public on Lake conditions and River conditions. And, when the person that was working on that document sent it to

me to review, I was like, "Man, this is really similar to the Safety Program," so we are going to merge those two documents into one and move forward from there. Like I mentioned earlier, this Safety RCG is also using the Downstream Flows TWC to address some safety issues on the River. The objectives and goals that relate to safety in the downstream flow study relate to the rising water level on the Lower Saluda River. One of our objectives here is to identify and characterize these water level changes. And what we are doing is sticking out some little devices called a level logger, which will be able to measure, I believe, in 1" increments once a minute to determine how up or down the River went. So, say they turn on the project, the River starts coming up; it will tell you how long it took to get to whatever level, whatever flow. These devices are being installed next week, I believe. And we are going to take that data and use that information to identify potential locations of additional warning devices on the River, as well as from stakeholder input. And also possibly identify location of emergency ingress or egress points on the River.

So when the River starts coming up, people will have adequate opportunities to get off once they have been warned. The approximate locations that we are putting these devices relate to some of the higher use areas of the River, including up at Sand Island down to Corley Island, at the Gardendale put in, Oh Brother Rapids, Ocean Boulevard, and

then through Millrace Rapids down through the Zoo to the confluence area. These won't be the only points that we'll be able to determine this rate of change; we will be able to come up with some sort of egression model that will also model the rate of change inbetween these points. But that is about where they are going in. Our goal for the coming year is to complete a draft of the Safety Program and Safety Plan; and also, to make recommendations on safety related issues related to flows on the Lower Saluda River and also to resolve the issue of shoal markers once possible future Lake levels are --- minimum Lake levels are determined. And with that, I will take any questions related to safety. All right, we have got one.

MR. ELLIS HARMON: I want to ask about recreation.

MR. ANDERSON: Sure.

MR. HARMON: I'm Ellis Harmon, land owner. I understand that they were going to put a recreation site on this side of Lexington, the Town. Have you got any idea where that is going?

MR. ANDERSON: There are a number of tracts that SCE&G has set aside for future recreation access. I believe those maps are available on the website.

MR. STUART: They are, all the future sites are available.

MR. ANDERSON: Yeah, all the future sites

are on the website, so you can pull that up; and I might have a map on me if you want to take a look at them after this.

MR. HARMON: Does that include the Blue Bird Cove?

MR. ANDERSON: Blue Bird Cove? I'm not familiar with that.

MR. HARMON: Formerly the Harmon Cove.

MR. ANDERSON: Oh, Two Bird Cove. Two Bird?

MR. HARMON: Yes.

MR. ANDERSON: That will be covered under the Lake and Land Management. As Alan mentioned, they are going to address these what FERC has called Special Recreation Areas. It's more of a Lake Management issue, it is not really a recreational access. We are not going to -- well, I don't think we can, there is no plans for access to that area except by boat. And SCE&G doesn't have any authority to really regulate activities that take place on the water. That is more of a law enforcement issue.

MR. HARMON: Thank you.

MR. ANDERSON: Anything else? Yes, sir.

MR. GUSTAFSEN: You have mentioned the website several times. What is the identification of the website?

MR. ANDERSON: www.saludahydrorelicense.com.

And we used to have some pens and pads of paper that had it

on it. If not, I am sitting right there in front of you, I will make sure you spelled it right. But I think you can probably go to any search engine and put in "saludarelicensing" and it should be the first link that pops up. I know, there is a gentleman out there that has had a website out there for the couple of years that seems to sometimes jump ahead of this one.

UNIDENTIFIED: You can link to us from the saludariver website also.

MR. ANDERSON: Okay. And I am sure Lake Murray Association probably has a link to it. And I think, Alan, you could probably pull it up. Yeah, I think we have an internet access here, we can show you what it looks like and kind of explain the navigation issues. Are there any other questions related to safety or recreation?

(No response)

MR. ANDERSON: All right. With that, I am going to turn it back over to Alan to wrap this up, and he can kind of guide people through the website.

MR. STUART: This has all the information that we are generating through this relicensing process. It contains all the Meeting Minutes. It's what we found and what most people we have surveyed say, it is very user friendly. It is broken out by Resource Groups, the ones that we have discussed tonight. You can find all the Minutes from the Technical Working Committee Meetings, the Resource

Group Meetings, presentations. It is a tremendous amount of information, that's all I can tell you. Some of you probably don't even want to look at. But if you have night you can't sleep, this will be a perfect solution for that. That's part of this process, it is an open public process, and we try to inform everyone. And everyone has found this to be very helpful in keeping up with what's going on, especially if you have a special interest like fish or water quality, or something like that. It also has a calendar that identifies our Technical Working Committee Meeting dates, or Resource Group dates. If you would like to attend, these meetings are open. If you are not a member of the group, or the Technical Working Committee, you certainly can attend as an observer. All you have to do is contact us, there is a contact point there. And I think it goes to Bill Argentieri, but we also get it at Kleinschmidt. Alison, I think, gets it, as well. If you are interested in attending, just send us an e-mail and we will hook you up, we will get you access through the guard shack. We typically meet over at the Lake Murray Training Center or at the Carolina Research Park. And at Lake Murray Training Center there is a guard who posts there and we'll have to get you access so you can get through there. But, you certainly are welcome. We have a Lake and Land Management Technical Working Committee coming up this Thursday, I believe. And we have three people who are planning to attend as observers.

So, people are utilizing that avenue to keep involved. And a lot of these studies that we are talking about that are in progress or completed, we do post the study plans, the final study plans, that the Technical Working Committee agreed to, as well as the study results, or study reports, themselves. So, you can find out a lot of things that are going on on Lake Murray or the Lower Saluda River. It is very helpful.

Are there any questions on the website before I drop it back down? Did you get the correct website? Just to close, we have a few milestones that we are looking at that is coming in 2007. We will be continuing studies. We do have a number of studies on the Lower Saluda River. I want to go ahead and inform you that these will require flow releases from the Lake. We calculated the volumes, we estimated the volumes that these studies will require. We don't think you will see much of an impact to the reservoir. Most of the studies will utilize about 6" or less of the storage in Lake Murray. So, we staggered them out. We have one that Dave referred to starting next week. That is the recreational flow. And then we have also got another one schedule in May, which is the instream flow study that Shane talked about. And we also have the focus group flow demonstration study that Dave talked about; and we anticipate that one happening in a June timeframe. So, we have tried to stagger these out, so we didn't put them all at one time. And we hope that the rains will continue to keep the Lake moderated and we can

make everybody happy as best we can. But these studies are required. We have to file the final application next August. And we do need this information to put in that application. So these studies are required, and the August 2008 deadline is a Federal requirement. We cannot change that date. So bear with us while we go through these Lower River studies. SCE&G postponed them last year while they were trying to refill the reservoir, so we have to get them done this year. With that, that is pretty much it for our presentation. Is there any comments or questions you have about the process, or any of the RCG groups after you have had a little time to digest? I know it is a lot of information, probably information overload tonight. But if you do have questions, please use the website and contact us, and we will try to provide you an answer to your question. And, feel free to do so. With that, we will adjourn the meeting. We will have another Public Meeting coming up in April. We have not decided what we will talk about at that time, but we will send out an agenda probably.

PUBLIC MEETING ADJOURNED.

**Saluda Hydro Relicensing
Quarterly Public Meeting**

Meeting Agenda

October 26, 2006

9:00 AM & 6:00 PM

Saluda Shoals Park – Environmental Center

- **6:00 to 7:00** Alternative Energy Source Presentation – *Carl Hoadley & Skip Smith
SCE&G*
- **7:00 to 7:10** Break
- **7:10 to 7:40** An Understanding Of Hydrology – *Jon Quebbeman – Kleinschmidt
Associates*
- **7:40 to 9:00** Discussion On The HEC-ResSim Operations Model – *Mike Schimpff &
Jon Quebbeman – Kleinschmidt Associates*

Adjourn



SALUDA HYDROELECTRIC PROJECT RELICENSING

FERC PROJECT NO: 516

Joint Agency & Public Meeting

October 26, 2006

10:00 A.M. Session

HOST:

Alan Stuart, Kleinschmidt & Associates

PRESENTATIONS:

Skip Smith, SCE&G

Carl Hoadley, SCE&G

Jon Quebbeman, Kleinschmidt & Associates

Mike Schimpff, Kleinschmidt & Associates

Comments and Questions from the Public

(Transcribed from recorded cassette tapes of Proceedings)

Capital Video
405 Timberpoint Court
Columbia, SC 29212
(803) 781-6747

PUBLIC MEETING, OCTOBER 26, 2006, 9:00 O'CLOCK A.M.

MR. ALAN STUART: I would like to go ahead and get this Quarterly Public Meeting started. I would like to welcome everybody to our Fourth Quarterly Public Meeting, and last, of 2007. Today we have three presentations. A couple of these presentations were requested by a number of NGO's, our Governmental Organizations and Resource Groups. Our first one is the Alternative Energy Source presentation. This was specifically requested by a number of, like I said, the NGO's. I am going to introduce Bill Argentieri, who is going to give you a background on the presenters, Skip Smith and Carl Hoadley. A couple of things, we are video and audio taping this; if you have a question, please state your name and the organization you are with. And, Alison will be walking around with a hand mike so we can get it on the tape up here. So, with that, Bill.

MR. BILL ARGENTIERI: Thank you, Alan. I would like to introduce Skip Smith and Carl Hoadley. Carl Hoadley has over forty years of engineering experience; he is a mechanical engineer. And he has worked on several new generation projects, including our Jasper Re-powering project and the -- well, Urquhart Re-powering project and Jasper Gas Turbines. Skip Smith is Manager of our New Generation Projects.

And they are going to give us the presentation on Alternative Energy Source.

MR. SKIP SMITH: Okay, Bill. Thank you. Can y'all hear me okay? Okay. We appreciate the opportunity to be here this morning, and hopefully we can answer some of your questions on the Alternative Generation for Saluda Hydro. We have a fairly brief presentation that we would like to run through. And if it is okay with you, we would like to go ahead and present our presentation. And we would be glad to entertain any questions that you have. Is that okay, Alan? Bill? Okay. Okay, Alternative Generation for Saluda Hydro, just a little bit about Saluda Hydro. At Saluda Hydro we have total generation capacity of 206 megawatts. We have five units; four of the units can generate 34 megawatts each. We have our fifth unit that can generate 70 megawatts. Our start time for all these units are less than 15 minutes. Reliability is greater than 95%. And reliability is important to us; when a dispatcher calls and orders power, we need to be in a position that we can put power on the grid. And our units at Saluda Hydro are greater than 95% reliability as far as making that happen. We do have quick start reserve for 206 megawatts. Again, we can start less than 15 minutes. And also, we have the blackstart capability for V.C. Summer. Now, blackstart --- let me try to explain

a little bit about blackstart. There are three things that a generating plant needs in order to start up. Got to have fuel, got to have water, and also have to have electricity to excite that generator, to get it spinning, start producing electricity. Most of our plants do not have the blackstart capability. V.C. Summer does not have blackstart capability, so Saluda Hydro is very important to us in providing that blackstart capability, providing that external electrical source in order to excite the generator. Now, V.C. Summer, we do have emergency generators. The purpose of the emergency generators is to plant the V.C. Summer, or to shut down --- is to safely shut down the nuclear station. And so that is the purpose of emergency V.C. generator. So, Saluda Hydro does provide a very important blackstart capability for V.C. Summer. And also, Saluda Hydro gives us the opportunity when we generate electricity we can help control our Lake level. And looking at alternative generation, we evaluated several viable options. And I would like to emphasize viable. There are a lot of options out there, but we looked at options that made sense to us, that we could build and we could reliably generate the electricity that we needed to.

The considerations during our evaluation, we considered electric generating equipment, the equipment itself.

We considered plant siting, the locations for building this plant, all the parameters that go into a building, locating a site and building on the site. We also considered capital, and operation and maintenance dollars. Okay. In looking at the equipment, I am going to turn it over to Carl and give you an idea of some of the things that we looked at, and our equipment evaluation.

MR. CARL HOADLEY: To set up the criteria for selecting equipment, first of all we wanted 200 megawatts of capacity because we are replacing Saluda. The next thing we wanted was something that would start very rapidly within fifteen minutes or less. We wanted the units to be efficient, to keep costs down. We wanted the units to be reliable, and we wanted them to be proven technology so when the dispatcher calls for them, he can count on the plant being there and coming up and operating. To meet these needs we came up with two technologies that fit all of this criteria. And that was diesel generators and gas turbines. And we are talking about a special type of gas turbine, aero derived. And aero derived means that these turbines are based on jet engines for airplanes. On the diesels, we looked at sizes; and we came up with the 2 to 2 1/2 megawatt size because with those sizes we do not have to keep them in hot standby all the time, which uses energy. These gensets are

manufactured by a number of different companies. Some of those companies are Cummings, Caterpillar, Genbacher (phonetic), and others. Again, with the 2 to 2 1/2 we will have somewhere between 80 and 100 of these units. The start time for individual diesels starting from cold metal to full load is very quick, probably in the neighborhood of about 30 seconds. But, once you think about trying to start up 100 of these at a time, it is going to take some period of time. And we looked at this and we believe that they can all be started within 10 minutes. They have an efficiency of about 37%; that means the fuel we add, burn in these things, will get about 37% conversion to electricity. And they are very reliable. Again, there is some outage time for maintenance, and there will be some breakdowns in this type equipment. Here is a typical diesel generator set. As you can see, we have a diesel engine and a generator on the end of it. We made a layout with a number of these things, and you see will take about 10 acres of land all total. And the building that we put them in is 650 long and about 100 feet wide. We will have oil storage tanks and will have step up transformers. In the gas turbines, we looked at a particular turbine; and the largest we could get today that has a proven track record, and that's a 50 megawatt machine.

It is manufactured by General Electric, and it's designation

is LM6000. The turbine part of these machines is equivalent to a 747 engine. Will take 4 units to make 200 megawatts. Start time, 10 minutes. Efficiency of about 40%. And reliability, again, about 90%. Here is a typical LM6000 installation. The building on the bottom where the red cylinders are, that's the generator; going back towards the stack is the turbine; and then you have the exhaust duct and the stack, which will include a silencer. And above all that, you have the air intake. Here is a four unit layout. Again, by the time you put all the necessary ancillary equipment and storage for water, for emission controls, cooling towers, for component cooling, and fuel oil storage; because on a peaking unit you cannot afford to have burnt gas, so you would have to have dual fuel firing capabilities on these. That again, will take about 10 acres of land.

MR. SMITH: Okay, now we will look at our plant siting evaluation. First of all, we look at permitting. And this is fairly typical in all of our new generation projects and the evaluation that we go through. Permitting, as you can appreciate, is a big issue. I will cover a little more on that in a few minutes. Water availability. You know, we have got to have water, certainly; and this is another big factor in locating our facility. Inter-connections, we need to have inter-connections to our gas line, we need to have the right

pressure of gas, the right capacity of gas available. Also, our transmission line, we need --- when we generate electricity we need to be able to get a power out and put it on a transmission system. A plant layout constructability, we look at --- this is very important to us. We have to have foundations, we have to have accessibility coming into the plant, bringing our equipment in; during the operations, we have to have good accessibility, and also the locations. We try to stay away from built up areas, for example. And also, the constructability of being able to build a plant on a particular location, on a particular site. And, of course, the land, the availability of land. Land is getting more and more scarce, so this is a big challenge for us. And we have to go through Public Service Commission approval on our siting. We have to get a certificate of convenience and necessity to prove our siting by the Public Service Commission. A little bit more on the permitting, air emissions is getting to be more and more of a significant issue because of the global warming primarily. Water intake, water is getting scarce; it's getting more and more of a challenge to us in order to find water and we have to go through certain permitting in order to be able to use that water. And water discharge, our waste water that we

generate. We go through our South Carolina DHEC Agency, we're regulated; we have to get our NPDS permit and other permits in order to make sure that we properly control any waste that we discharge from our facility. Storm water control, prior to even moving any dirt around we, again, go through DHEC, get our approval for storm water control; we have to have our erosion control plans in place. And our facility has to be designed in order to properly control storm water. Wetlands, again is a very significant area that we have to look at. We try to avoid any wetlands. In some cases we do impact wetlands, we try to again minimize that as much as we can. But we do have a permitting process to go through in looking at the and making sure that we control any areas around the wetlands. And County Regulations, this is getting more and of an issue, more and more of a challenge for us. Counties are adopting planning regulations, also zoning regulations; and more and more we are dealing with Counties and making sure that we comply with the County Regulations. And all of this does have a schedule impact. We have to plan ahead in planning our schedule. If everything pretty much goes on schedule, we can anticipate one or two year impact on schedule. If we run into any major issues, it could be longer than that. Okay, looking at the dollars evaluation, first of all we

considered capital cost; also, life cycle cost. And we ran a thirty year perform on life cycle. We considered the cost of land, the cost of permitting, the cost of our generating equipment - the major equipment that Carl talked about, balance of plant - all the equipment needed to support the actual equipment generating electricity. We have engineering involved, we have construction cost, we have start up commissioning cost, project management cost. Some of the parameters and assumptions that we used in our model, the dollars that we are showing you is what we consider an order of magnitude estimate; it's based on a plus-25%, minus-10% accuracy. And I will note that in the market that we are in right now, it's very much driven by a lot of need, a lot of capacity that industry is putting on, or planning. We have nuclear projects that we are looking at in our Company, other companies are looking at nuclear projects, base load coal plants, peaking capacity. And also, there is a wave of construction going on to put on environmental control equipment, such as scrubbers, or FACAR's bag houses. So, there is a lot going on in the industry, everybody has got in the gate trying to go for a narrow gate; and it's really driving the cost up very tremendously. So, that plus-25 is probably pretty conservative. In actuality, by the time we were to build this project it would probably --- chances are

it will probably be more because of the way the market is. And also, materials. The Chinese have had a big impact on the availability of materials; also, to Hurricane Katrina. Not only on materials, equipment but also the construction labor. So, this is a big concern for us on any project that we have coming up. We are looking at \$200 for capital cost; we use the dollars in 2006; and when we plug the dollars into our life cycle perform, a 30 year life cycle, we use \$2,010, this is when we anticipate that we would actually be completing our project if we were to build this. We have excluded escalation in the dollars. Escalation is very difficult to get our arms around at this point, again because of the way the market is. So, we have excluded this. After including escalation this would drive the cost up. And also, the cost of money is excluded. With a certain portion of a project like this, we do go out and borrow money. And that cost us. But we are excluding that from the dollars that we show you. And also, as Carl indicated, we are concentrating on improving generation technology. And we are assuming a new plant site. Other assumptions include the availability of natural gas, the availability of our transmission connection, and also the availability of water. I would say on these three things in particular if we were to run into problems, and we would

have to look for other means to try to bring water in, or try to bill out to our transmission system, or try to build additional pipe lines to get to the gas, it would significantly increase the cost. Okay, these are dollars for the diesel generator that Carl explained to you. These are the capital dollars. The total dollars, total for the project we estimate at Eighty-six Million, Eight Hundred and Fifty Thousand Dollars (\$86,850,000). If you will notice, the two big items will be the equipment itself; the diesel generators a little over \$40,000,000. The balance of plant, \$38,000,000 is also pretty high; and that's because of the fact that we have to put in a lot of electrical equipment in addition to the actual equipment cost. We have other equipment that is part of the infra structure that we have to plan, put in. So, the cost of balance of plant here is a little more than the capital cost of the gas turbines. You see the \$58,000,000 for the equipment for the gas turbines versus the \$18,000,000 plus for the balance of the plant. The gas turbines are more contained; they have controls, they have some of the electrical equipment, they have other equipment that is more contained as a package deal. But anyway, the total capital cost, a little more than the diesel generators. We are looking at a little over \$90,000,000. And just as a comparison, we are giving you

capital cost for Saluda Hydro. We are assuming on our relicensing right now, I think we have less than \$12,000,000; we are trying to get our relicensing under the \$12,000,000. Bill, is that a good estimate? And also, we are assuming that we would be going in and we would be upgrading our Saluda Hydro internals, the turbines; and we are estimating \$20,000,000 for that; and that would include the balance of plant, engineering, construction, start up and the project management. So, we have a total of \$32,000,000 estimated for the Saluda Hydro. And looking at the life cycle cost, again this includes capital, and it includes O&M as well as fuel. Saluda Hydro, \$174,000,000 versus the gas turbines \$508,000,000, versus diesel generators \$705,000,000. So, we see advantages of Saluda Hydro: we see a lower life cycle cost, a better reliability, a no air emissions, no new plant siting impact. We do have available a quick start reserve; and also, we have the black start capability for V.C. Summer. And impacts that we see as far as putting in this alternative generation would be high rates of electricity, higher emissions, land use. And that concludes our presentation. Now, we would be glad to try to answer any questions that you may have. Yes, ma'am.

MS. JOY DOWNS: I am Joy Downs with Lake Murray Association. You mentioned one of the plants would be used

for peaking, is what I understood you to say. Is that what you have --- do you have other things in mind besides reserve for those plants?

MR. SMITH: For the peaking capacity, we do have plans for peaking generation. We are going to be comparing --- we are going out for bids for peaking generation in 2009 and 2010. This will be compared to our going out and actually purchasing the power. But this is generation that we need in our integrated resource planning, and we will not be able to use that for reserve capacity. This will be actually peaking capacity that we will need, especially during the summertime.

MS. DOWNS: On the gas or the diesel turbine, or the gas ---

MR. SMITH: That is not on these units here.

MS. DOWNS: I thought you said you were going to use one of them for peaking.

MR. SMITH: No, ma'am.

MS. DOWNS: Okay, I misunderstood you.

MR. SMITH: Is that right, Carl?

MR. HOADLEY: Right.

MS. DOWNS: Okay. Is it possible to use Saluda for start up and go to one of the other plants that you currently have, do you have capacity to ramp up to those

plants in the event of need of a lot of reserve? You know, two or three plants go offline somewhere.

MR. SMITH: Carl, do you want to answer that?

MR. HOADLEY: I believe the answer to that is, "Yes, we could use it for a short period of time; and as we get other units started, they could then provide power to start up other units, and down the line." Now, blackstart, again, you have heard of the Northeast having a so-called blackout. That's a type of condition that would have to happen, not just the unit trip off and then start it up. But that would mean that all the grid is down, and we are starting it up from scratch. And I hope I answered your question.

MS. DOWNS: Well, in that case. I wasn't really thinking about that. In that case Saluda would not even handle that situation. Correct? You just use the Saluda to start?

MR. HOADLEY: Saluda would be used to put energy into certain parts of our grid to start other units, who would then keep adding more and more to the grid till you build it back out.

MS. DOWNS: Well, then I guess the question is, suppose Duke went offline, or two of the plants went offline, which I think happened not very long ago, Saluda by itself cannot handle that; but can they go on for short periods of time

and you switch over to another plant in that situation?

MR. HOADLEY: That's a possibility if we have that capacity. We have agreements with FACAR where we have to help backup other plants in other areas. And those have to come on very rapidly. Now, many of the other facilities we have if we have to bring them on, they take hours to bring on. A coal fire plant doesn't start up in fifteen or twenty minutes. But, some of the combined cycles can start up in about four hours. So, you may need Saluda until you can get one of those others started. And that would be a possibility.

MR. SMITH: One thing that helps us with V.C. Summer is that from the Saluda we have two lines; we have a 115 and also a 230. So, we have duplication, you know, going to V.C. Summer. So, this gives us that extra degree of reliability in at least trying to get V.C. Summer. V.C. Summer is a major load for us. It's not 100 megawatts. Santee, of course, owns 1/3 of that megawatts and we own 2/3. So, that is 600 megawatts for us, is a big load to try to get up and going. Hope that answers your question. That's a good question, good question.

ROBERT YANITY: This is Robert Yanity with SCE&G. And I just wanted to just mention that as far as that FACAR

Agreement goes, if Duke Power loses those two nuclear

plants, which is like 2,000 megawatts, through that agreement we are only required to do our share of that. So, Saluda is not required to make up all of Duke's powers. So, I mean, Progress Energy, Southern, the other companies they call on would be providing power, as well. So, it's just we have a small segment of that. And I am sure you probably understand that, but I was just trying to get that out for the other folks.

BRENT CHITWOOD: Thank you. I am Brent Chitwood, I am here only as an individual. Wanted to make sure I understood is that this presentation is only in the scope of relicensing Saluda Hydro. And this would be for the possibility of why you would continue to run Saluda Hydro as compared to other sources.

MR. SMITH: That's correct.

MR. CHITWOOD: Okay. During the evaluation was there any items that came up that would include improving the overall efficiency of Saluda Hydro? Were there any methods or techniques that are available today? I understand that they don't meet the entire capacity of replacement; I am talking about improvement of efficiency.

MR. SMITH: I think under the \$20,000,000, yeah, the \$20,000,000 that we showed you on upgrading the runners, internals of the turbines, would actually, I believe, give

us some better efficiencies, as well, Bill?

MR. ARGENTIERI: Sure.

MR. SMITH: Yeah. Would you --- Bill could probably address that better than I can.

MR. ARGENTIERI: Bill Argentieri, SCE&G. Yes, that \$20,000,000 includes equipment upgrades which will improve both the environmental and the operational characteristics of the plant.

MR. CHITWOOD: Any idea of how --- what percentage we may be talking about?

MR. ARGENTIERI: Percentage of?

MR. CHITWOOD: Operating efficiency. 1%, 2%? I mean, is it a measurable amount? How much more output might you get of the \$20,000,000?

MR. ARGENTIERI: About 40 megawatts increase in capacity.

MR. CHITWOOD: 20%. That's a lot for \$20,000,000.

MR. ARGENTIERI: Compared to having to spend --- what were those other numbers? \$90,000,000 just for the 200. From an income standpoint, the cost per kilowatt hours, that's extremely cheap. That's correct.

MR. CHITWOOD: Going back to an obvious issue that's been talked about over and over about the use of the Hydro

Plant for peak use, are there any plans that you are aware

of at this time that would lessen the need for using Saluda Hydro during the peak summer months in particular?

MR. ARGENTIERI: These improvements will, I guess, really have nothing to do with the way we intend to use Saluda. We intend to continue, and our goal in relicensing is to have the ability to use Saluda to meet our reserve requirements. And if you follow the USGS gauges, like a lot of the stakeholders do, you will see that when we use Saluda for reserve we use it very little. And the intent --- our immediate goals to relicensing and after relicensing is to continue to use it for reserve; which means that it does only get used a short amount of time. For short periods, one to two hours, and infrequently whenever we are called on to either meet an emergency on our system or one of our FACAR neighbors.

MR. SMITH: And, you know, I think to, again, further, reiterate what Bill is saying, as we mentioned we are going out for peaking capacity in the 2009, 2010. You know, right now we are really driving hard to get a nuclear plant, one or two nuclear units. And the first nuclear unit, we would like to get on line by 2015. But in the meantime, we do need peaking capacity. And our plan is to go out and either buy that capacity, or preferably we feel like it would be a better benefit to everybody concerned, is to build that

generation. But we are going out and getting cost for that peaking generation, as well as comparing that to our purposes.

MR. CHITWOOD: Given the efficiency and low cost of Saluda Hydro, is it --- could you explain to me, I guess --- and this is more of a physics question, as to why it is only used for peak power? And why it can't be used more often?

MR. ARGENTIERI: It can be used more often if the water was there. And just to clarify, we don't use it for peak power, we use it for reserve. Peaking, and what Skip and Carl are talking about as far as peaking is, if we did use it for peaking you would see the Saluda being used more often, and there would be more flows going down the River and less water in the Lake. So, by using it as a reserve, we are actually helping both the downstream flows and the Lake levels.

MR. CHITWOOD: My last question.

MR. SMITH: Yes, sir.

MR. CHITWOOD: And that's part that I have never really understood, is that I know that there is a environmental mandate, or rules, concerning the minimum flows that have to go into the River downstream. And what I have never understood is why you can't generate electricity, or don't generate electricity to meet those demands for the minimum

requirement flow?

MR. ARGENTIERI: Depending on what the end result is on our minimum flow requirements, there might be a possibility to actually generate electricity based on the minimum flow. Right now our minimum flow is so low that the units just basically what's known as is, you know, you are on the high side of zero. So, I mean, that's just the makeup of these units. Part of this \$20,000,000 would be looking at the possibility of upgrading this equipment to where we would be able to get some type of generation based on the minimum flow requirements that we come out of relicensing with. Right now we have an agreement with DHEC basically for 180 cfs; it's very difficult for us to even get down that low. So, we generate --- you know, we are spinning the units at about 400 cfs; but it's really just on the high side of zero. So, if we have a minimum flow during the spring months of 1000 cfs, that will be part of the upgrade study that we are looking at. What we are looking at it now, estimating, you know, some flows that we might get imposed on us in our license. And the new equipment would be able to do some type of generation with that minimum flow.

MR. CHITWOOD: And, I have a follow-up. You know, based on what he is saying there, is it possible then --- and I understand that you use turbines and minimum flow really

very barely turns them at all, is what you are saying. Could you go as an alternative to --- or, in addition to the \$20,000,000 upgrade on efficiency, is there a design that would take advantage of the low or minimum flow, maybe in a further downstream plant that could generate additional energy from the minimum flow? Have you considered that?

MR. SMITH: Well, I think, you know, first of all trying to locate a building and plant on the Saluda River downstream because of all of the permitting requirements and the concerns on the River, would be very difficult challenge for us. As far as the technology, I guess, with money, you know, you can probably do anything, you know. But it would --- I think the dollars would be very significant, and also the environmental impact would probably, in my mind, be fairly significant.

MR. STUART: The other thing you have to consider is while you build a plant that may accommodate a minimum flow, it has to accommodate the maximum flow that would come out of Saluda. So, you would basically almost be creating another
Lake Murray in that ten mile stretch of River. And I think it would be hydraulic --- hydrologically limited.

MR. CHITWOOD: Going back to the point of physics, it just doesn't work.

MR. STUART: Exactly.

MR. ARGENTIERI: Exactly. Also, to expand upon that, part of our upgrade study, we did look at the possibility of installing a minimum flow unit into one of the existing units, and that was --- that's actually still on the table as part of our evaluation. And will probably be there until we come to an agreement on what those minimum flows are. Right now that's not a front runner, but it is an option that we are looking at.

MR. SMITH: Bill, I believe Tom had a comment.

MR. TOM EPPINK: Yeah, I am Tom Eppink with SCANA Legal, and I do some of the environmental work. And I can assure you there is not a snowball's chance of building anything for generation on the Lower Saluda. Just forget it. It wouldn't happen.

MR. SMITH: Okay. Any other questions?

MS. DOWNS: I just wanted to ask so that I understand, that was \$20,000,000 for equipment. Is the reason for the expenditure is to accommodate --- to better accommodate the minimum flow downstream?

MR. ARGENTIERI: The expenditure for the equipment is several reasons. One is the plant is over about 75 years old, and the equipment is pretty well spent, and we need to upgrade the equipment. In doing the upgrades, we are looking at improving the environmental impacts and our

operational impacts, and trying to get as much bang for the buck as we can for upgrading the equipment. So, it's pretty

much a threefold reason.

MR. STUART: Basically the potential upgrades we are looking at would be replacing the runners, and one of the environmental enhancements would their aeration capacity at higher up flows.

MR. SMITH: I believe we had a question over here.

UNIDENTIFIED: Tell me what a runner is.

MR. STUART: A runner is the actual --- it looks almost like a water wheel that sits horizontally, and it's what actually --- the water turns, that excites the generator, and actually creates the power. It's a turbine, some people call it.

MR. SMITH: Any other questions?

(No response)

MR. SMITH: Okay. Well, thank you very much. Appreciate your attention.

(Applause)

MR. STUART: Well, we had a break scheduled for 10:00 o'clock. I am kind of open, if everybody wants to break, or we can go into the second presentation, which is about thirty minutes; and then break after that. The next presentation is what we are calling "Hydrology 101"; it

deals with the hydrology in the Lake Murray basin. Unless, there are objections, I would like to go ahead and get that;

and then break after his presentation. Like I said, it only lasts about thirty minutes.

(No response)

MR. STUART: I am going to go ahead and introduce Jon Quebbeman, he is a hydrologist, an engineer with Kleinschmidt Associates. He has been assisting Mike Schimpff on the HEC-Res and HEC-Ras models. And, without further delay, Jon.

MR. JON QUEBBEMAN: Thank you, Alan. Today we are going to be talking about Hydrology 101; and this is an adaptation of a presentation by Dr. Badr, the State Hydrologist. I am going to be talking about a couple different things. Basically, what is hydrology? You know, there is a lot of different issues. We talk about these units, we talk about flows coming into a reservoir, we talk about Lake levels. Let's take a step back, and let's look at the overall approach of what hydrology is. And secondly, we are going to talk about why is it important? You know, obviously it's affecting all of the operations of the reservoir. We are going to get into watersheds. You know, you hear that term being thrown around a lot. But what exactly is a watershed? And what is the watershed of Lake

Murray? What is the watershed of the Saluda River? We are going to get into precipitation. You know, we hear about

rain, we hear about four inches of rain. What does that actually mean? Is it four inches of runoff? Is it four inches --- where is that four inches coming in? Once again, we are talking about the runoff in the road, and we get that four inches of precipitation; but then, how does it actually turn into runoff that would enter a lake? How does it get into the lake? How long does it take to get there? And then finally, we are going to be talking about some specific Lake Murray site data. What is Lake Murray? What's happened in the past? What are some historic observations that we have seen? And I only have thirty minutes, so if we have questions then we can cover them then. So, let's get right into it. I love to ask this question, "Who lives in the watershed?" And a lot of times you get the answer of,

"Well, I don't see water from my home. You know, I don't live on a river, so I must not be in a watershed." But really the answer is, "Everyone lives in a watershed." Everyone is part of a watershed, whether you are in the woods, whether you are on the top of hill, the bottom of a hill, you are still in a watershed. So, it really impacts

all of us. The watershed really is defined as the area that's encompassed in the drainage to a specific point. So,

everything has a watershed. Every point on this land has a watershed. There is a watershed to Lake Murray, there is a

watershed to the Saluda River, there is a watershed to a certain inlet within Lake Murray. There is also watershed characteristics. Every watershed across this country, even across the state, is going to have different characteristics. Some of the things that are important about watersheds and the characteristics are land cover. What is it? Is it wooded? Is it desert? Is it all paved? Is it a lot of sub-divisions and shopping malls? Is it steep? And, you know, are there --- is it very flat, and a lot of wetlands?

Or, is it very steep watershed in which water is going to move at a fast rate? What is the area of it? Because that is going to affect, you talk about four inches of rain, the area of the watershed is going to actually affect how much water gets to that specific point. And finally, even the shape.

Whether you have a watershed that is very long and narrow? Or, very rounded watershed? The shape of the watershed can affect the hydrology of the inflows that you are going to see. This, for example, is the Saluda River watershed. We can see on here, we point out, we have Lake Murray; up here

we have Lake Greenwood, and we have all the streams and tributaries that are contributing to the Saluda River. So,

this is not Lake Murray's watershed, this is the Saluda River watershed which drains down to the junction with the Broad River and the Congaree. The watershed to Lake Murray

is a little bit smaller, encompasses all the area except for this lower portion. Anything that falls, any drop of water that falls inside of this boundary is going to be headed down towards the Saluda River. Any drop of water that falls outside of this boundary, is not going to make it to the Saluda River. So, you have a limited area of drainage that's going to be contributing to Lake Murray and also to the Saluda River. So, hydrology - by definition, what is hydrology? Studies of waters of the earth, especially with relation to the effects of participation and evaporation upon the occurrence and character of water and streams, lakes, and on or below the land surface. So, once again, that goes into what are the characteristics of the watershed? Is it steep? What is the shape of it? It's the effect of precipitation on that watershed. And that's where you really start getting into the hydrology. And then we start talking about on or below. We have water that runs off on a watershed; we have water that infiltrates into the watershed. That's really what we are trying to define here.

And secondly, why is it important? Probably because it affects all of us. Who lives in a watershed? We all do. It

is something that is around us all the time. And secondly, we have no control over it. The watershed area is what it is. We can't increase the size of the watershed; we can't decrease the

size of the watershed. If the rain falls in a watershed, then it contributes to that point; if it falls outside of the watershed, then it doesn't actually end up in, say, Lake Murray or the Saluda River. Precipitation, so what happens to the rain? We hear on the news that we are going to be getting, say, one inch of precipitation, or four inches of precipitation. What does that mean? For example, one inch of rain will produce less runoff. And that's because of a couple different things. We are actually going to have losses. The first thing that happens when rain comes down, you have one inch of rain but you have something called initial abstractions. So, there is water that is lost because it absorbed into leaves, it's absorbed into little pockets in the ground. Some of that, if you have a low precipitation event, say, a tenth of an inch, you may not see any runoff whatsoever because it's being immediately taken up just by the ground. Well, then you get into infiltration, which is actually absorption of the water down into the ground. So, first you have it where it's draped over the watershed, it's collected by leaves, it's collected

in little pores in the ground. Secondly, it starts infiltrating into the ground. So you may even have two tenths, or three tenths of rain that is not going to produce any direct runoff. You may never even see it as direct

runoff. And thirdly, you have evaporation, which in South Carolina it's very significant. On an average there is 47 inches of rainfall per year. And of that 47 inches of rainfall, 31 inches is considered to be evaporation. It's lost. Because of the heat, that's water that we won't see. Well, we might; it might come back down as rain again. But from the average, it's lost. And how do we measure rainfall totals? And this is not --- this is total rainfall, one inch of rain. This is what we are measuring, we are not measuring initial abstraction, we are not measuring evaporation, or infiltration; but, total rainfalls are measured by gauging stations across the watershed. Here we go, this is a map, once again, delineating the watershed; and it shows a series of precipitation gauges that measure total precipitation over a series of --- average precipitation over a series of a day. And what we have done --- and we will get into that in a little bit. We have actually looked at the total precipitation that we have seen

through 2006, compared it to historical averages. These gauges here throughout the watershed have over 75 years

worth of precipitation data, which is very important for looking at historical averages. And runoff and routing. How much runoff is there? Well, once again, it depends on how much is considered to be lost? If we have one inch of rain,

maybe only a half an inch will be considered to be runoff. Then we get into, "Well, how much --- what is that volume of water?" We go back to the idea of a watershed. What's the area of our watershed? You have a half inch of water over that area of watershed. And that equates directly to a volume. Commonly refer to it as acre feet; it's one foot of acre --- or, one foot of water spread over an acre. It's a common units of volume. So, we would measure a half an inch over one square mile, a half an inch over a hundred square miles. Those are going to be --- it's the same amount of rainfall. It's the same amount of rainfall spread over and area, but it's a larger area draining; so it's going to produce more water to that point. And, how does it pass downstream? Once again, then we get into the shape of the watershed. Is it steep? Is it flat? Does it go through a lot of wetlands? Does it go through a lot of ponds? Does it pass directly into a large stream that can convey flow quite quickly? Those are all different characteristics of a

watershed. So, we have to route it through streams, may have to route it through ponds, may have to route it through

wetlands, even reservoirs. The streams themselves, they attenuate flow. You see streams, the water will rise and the water level will fall. And that actually is an attenuation of the flow as it passes downstream; it kind of slows it down, it

takes up some of that volume. Then you also get reservoirs that attenuate flows. It will pass into the reservoir. You will notice that sometimes those reservoirs where the water level

will come up, and then it will go down. And the reason it's coming up is because literally you are taking all that rainfall that has passed, that's flowing into the reservoir, and you are storing it. That volume of water, that half inch over ten square miles is now turning into water that's directly going into the reservoir, creating that rise in the reservoir level. Lake Murray itself, we are going to talk about a recent example of precipitation on Lake Murray within the watershed. This is on October 18th, and this is showing rainfall totals for a recent storm event. And we can see down here, this is roughly the watershed within --- for Lake Murray. We can see at the upper ends of the watershed, there is a total precipitation over twenty-four hours on

October 18th, of roughly point four to point six inches. Across the basin over here is about point two --- point

three inches of total rainfall over a twenty-four hour period. What happens? What was the result of this precipitation? This is a comparison. And we start talking about some of this reservoir routing. Water level that is passing into a reservoir that's creating a change in water surface elevations. The magenta line up here, that's Lake

Greenwood. And it is showing that for a series of days prior --- and this is on October 18th with the storm event. For a series of days prior, the water level is dropping, similarly to Lake Murray. There is a level, a continual drop in water level. And there wasn't much inflow, out of Lake Murray there is about five hundred to six hundred cfs that was leaving the reservoir. And both reservoirs are decreasing. The event hits, we can see that on about October 18th this around Lake Greenwood increased. They gained about point four feet in water surface elevation because of the inflows that went into the reservoir. That volume from this specific event doesn't immediately come into Lake Murray. Itself, Lake Greenwood, has attenuated those flows. It has taken that volume and stored it as storage within Lake Greenwood. That will then slowly be discharged over a period of time towards Lake Murray. The

effects from that event, we had between point four and up to point six inches of rainfall within the watershed. There is

barely a bump within Lake Murray. And that's the effects of the routing. We start getting into the differences between where is the rain coming in? What does it have to pass through? And, how does it affect the watershed? This is just a recent example that I put together yesterday to show a storm event. So, we just talked about effects of

precipitation. Let's look at some of the precipitation over the summer of 2006. The water levels have been lower than average lately. And part of this is due to the year to date rainfall totals. If we think back a couple slides, we showed about 10 gauges across the watershed. So the only really measure of water that's going to be falling into our watershed, about 10 of those gauges are mapped out here. And we can see that over a 75 year period that we have total varying --- total average rainfalls for each of these gauges. The red line is the current year to date rainfall for each of these gauges. And we can see that across the board, this one right here, I believe is 45% of the average total rainfall. On average of the --- the percent that we are down is about, if I remember correctly, was like 71.6%, below average. So of our normal 75 year history, we are 71.6% of that average. If the water is not there, we go back

to the idea that we don't have control over where the rain falls, how much water falls; it is totally out of control --

- not out of control, but it's total out of --- it is not something that we can change. It is 71.6% of that average.

Summary questions, just a couple points to reiterate. The only precipitation that occurs within the watershed is going to contribute, what's the watershed of Lake Murray, what's the watershed of Saluda River? The only precipitation within

that watershed can contribute to that point. Not all precipitation will result in direct runoff. One inch of rain may only equal a half inch; it depends on the time of year, it depends on the temperatures, depends if there was a recent storm event beforehand. How wet is the ground when the next rain event happens? All of that is continually changing. Runoff into Lake Murray is partly controlled by upstream routing. Lake Greenwood is going to attenuate some of those flows? You may have a significant event and you are not going to see it right away because of attenuation upstream. Because of that upstream routing. And conditions vary annually. You are going to have wet years and you are going to have dry years. But once again, that's something that's going to vary all the time. And, I guess, that will just lead into any questions that you guys have about general hydrology. And actually, I am going to take a

step back. This is sort of an intro to hydrology. There is a lot of information. I am trying to cover it quickly, but

it's sort of a lead into a presentation that Mike Schimpff is going to be presenting about the hydrologic model that has been assembled for this. So, any general questions about the hydrology of the watershed?

MR. DAVID HANCOCK: I have got one. I am David Hancock with SCE&G, in Lake Management. And I hear the Lake level

questions all the time. I mean, it's so important for everybody to understand if we don't get the rainfall in the winter months when our Lake levels are low, it starts getting into March, and April, and May, and June and, you know, we are not getting many rain events; it's going to take a tropical storm to fill the Lake up, and --- or, a hurricane, whatever the case may be. But you gave an example, October the 18th, what if that four tenths of an inch had come in June, what would that have done to the Lake elevation in Lake Greenwood as compared to what it did? I mean, can you speculate on that?

MR. QUEBBEMAN: I can't speculate on that specific event; but you bring up a good point is that there is many variables that are going to affect that routing; such as, if it happened in June, you may have less runoff that would even get into Lake Greenwood because of higher temperatures, because of increased evaporation, because the ground may actually be able to infiltrate more at that point in time.

So, Lake Greenwood may have a different response. Secondly, what Lake Greenwood is discharging down to Lake Murray is going to be dependent on what their starting water level is themselves. They want to fill up the reservoir as much as Lake Murray wants to fill up their water level. If they are full, everything that comes in is going to pass directly

downstream; if they are not full, they are going to take that volume and use it as storage to increase their water level. So it does depend on the time of year and what the starting water levels are within both the Lake Greenwood and what the conditions are within the watershed. So, you definitely bring up a good point there. That point four isn't always going to have the same response across the watershed. Does that sort of answer your question? Okay, thank you. One more.

MR. CHITWOOD: Brent Chitwood. And I am going to make a statement and see, I don't want to put words in your mouth. But, you know, as a homeowner in the wintertime, I see my soils completely saturated with water. I mean, it is just wet because of winter rains, and no sunshine, clouds, lack of evaporation. In the summer I see it's dry and hard, and whatever. How much difference in the value, goes back to

his question. I mean, it sounds like the value of rain in the summer is just substantially less as far as its ability

to affect the Lake level. I mean, can you give me an idea. I mean, we are talking --- is it twice as valuable in the winter? Is that when we normally gain the water, or --- I am struggling to phrase the question correctly.

MR. QUEBBEMAN: The response, when we talk about the value of the water, the response is going to be more significant

in the winter time months because of those exact reasons that you stated. The ground is saturated. If the ground is saturated, it can't infiltrate; or, it's unable to infiltrate at a rate like it can in the summer time months. If there is fewer leaves on the trees, you are not going to have such an initial abstraction because the rain doesn't have anything to absorb onto. So, percentage-wise, I can't get you a specific number, but I can say that there is a significant difference between the response between the summer months and the winter months.

MR. CHITWOOD: And so, at the same time, you have --- in the summer you have this incredible increase in surface areas with all the leaves on the trees, and the heat. And that is at the same time that the reserve demand for electricity is also at its greatest point? Or, is it less?

Or, is it about the same for the cold in the winter as it is in the summer?

MR. STUART: Well, the reserve, that's the whole, I guess, premise behind having that reserve capacity. You never know when you need it. I mean, obviously, when people are using more air conditioners, or heaters, or whatever, typically what happens is it coincides with those times of highest demand. However, you know, right now it's a cloudy day, and if the Williams Station down in Charleston went

offline they would have to call on a reserve component to get the grid stabilized before they could get another plant online. So, it just happens to correspond to the peak demand periods, is a lot of times when things go down just because of the stress on the systems.

MR. CHITWOOD: So, the --- You know, I have never thought about it that way that the Saluda Hydro has a value to the system, it's even greater than going back to what I said earlier, than a cost per kilowatt hour even though it's extremely efficient, its value is its ability to come in and have that reserve to keep the system stable is, I will make this statement, immeasurable. I mean, you couldn't operated without it.

MR. STUART: That is absolutely correct. And, you know, Lee Xanthakos, in fact, who is head of the Operations Group with SCE&G, gave a really good presentation on Saluda Hydro and its inter-connectional value to the grid system. And I

believe that presentation is on our website. You know, we have been toying around with the idea of possibly having him come back and give that presentation again, just for people that don't understand exactly why, you know, how Saluda Hydro fits into the grand scheme.

MR. CHITWOOD: And, I mean, I have gone my entire life thinking --- okay, it's two hundred --- well, it was

increased along the way. You know, how great that is, Alan, how efficient it is. But that's not even really the value, so that's amazing. So, thank you.

MR. STUART: That's correct.

MR. HANCOCK: Do you have any data on the rainfall for this past year, the gauges? Say the gauge at Lake Murray Dam versus the gauge upstream in the watershed? In other words, did we get --- on the upstream gauges, was it fifteen inches of rain, and the downstream gauges were three inches, or whatever the case may be?

MR. QUEBBEMAN: Yes, that's this graph here. This is actually showing the rainfall data year to date, for average year to date, versus total year to date.

MR. HANCOCK: I am talking about if we get five inches of rain at the Lake Murray Dam, versus how many inches of rain did we get in upstream gauges? Like at Lake Greenwood, for instance? You gave a graph earlier of where all those

gauges were.

MR. QUEBBEMAN: Yes.

MR. HANCOCK: I mean, we may have got five inches at the Dam but got zero in the upstream gauges.

MR. QUEBBEMAN: Right.

MR. HANCOCK: That has a huge difference on the impact. And the reason I am asking that question is, people call us

and say, "It just rained five inches, why isn't the Lake coming up?" Could you explain that a little bit, just as a clarification.

MR. QUEBBEMAN: Definitely. Could you go back to the graph showing total precipitation, twenty-four hours? Yes, right there. And once again, that's a great question. The reason that this storm, it just happened to be last week, this storm is a decent representation is because it was an average rainfall across the whole watershed. And you are right, if it's a half an inch I am saying across the watershed, we are getting a half inch of rainfall, or point, three inches of rainfall; and it's distributed --- I mean, it's more intense in the upper reaches, but it's more or less distributed evenly across the watershed. But you are exactly right, where five inches of rainfall at the upper reaches is going to have a different effect than five inches of rainfall directly at the Dam. Or, even five inches just

downstream. I mean, you could be down in Columbia and have an intense precipitation event, and they are very localized in this area, and it is not going to result in rain that ends up within the reservoir, within the reach.

MR. HANCOCK: What I was asking was, the rainfall that is in the upper regions of the watershed, in those gauges versus the rainfall in other gauges, do we have a difference on that?

MR. QUEBBEMAN: For a specific storm event?

MR. HANCOCK: Or, for all of them. In other words, in the upper gauges say --- I don't know how you have your gauges split up, but say the gauges in the --- up around Lake Greenwood, did they get ten inches of rainfall from January to February? And the gauges downstream got twenty inches? Or, whatever the case may be.

MR. QUEBBEMAN: Yes. I don't have that directly laid out here. We could look, we could compare the graph that shows the total rainfalls year to date; and we can compare that to where those gauges are located on the map. I haven't displayed them in a way to show that more rainfall is falling in a certain location. But if we go to --- if we move over to this graph here, we can see that the West Pelzer is significantly lower; but some of those others for a year to date totals are more or less the same.

(Unidentified/inaudible)

MR. QUEBBEMAN: Most definitely. This is the West Pelzer gauge here. But consider there is significant difference between the year to date average and the total. But if we look at the year to dates for the 2006 season, more or less, this --- the Little Mountain, and the West Pelzer are fairly low. But these generally average between

25 and 30 inches of total precipitation. And I haven't shown, it is not displayed where those gauges are within the watershed. There may be a slight difference if something is in the foothills versus something that is further up in the watershed, or directly at the Dam. There could be a difference there, that pattern, that trend is not shown in this graphic here. But on average they are fairly close; but for specific storm events, if we look at one storm event, there could be a huge difference. Where it is sunny and blue sky in the upper reaches of the watershed, and raining to no end directly at the Dam. And that definitely happens a lot within this watershed. This graph is just merely representing the averages. But there is always a big difference between where it rains and how intense that rain falls. Can be very intense in one location and not intense in another. So, that is very important to realize where that rain is falling.

MR. HANCOCK: Can you show the diagram again that shows the watershed in the State outline?

MR. QUEBBEMAN: In the State outline, yeah. This actually doesn't have a watershed on top of it. This came directly off of NOAA's (phonetic) website. The watershed is in this area here. Is this the graphic area you are ---

MR. HANCOCK: It was still in the watershed.

MR. QUEBBEMAN: Yeah, this one actually --- this shows, here is the border right up in here. I am sure it's Lake Murray. And this actually shows the location of the gauges that we looked at, that all contribute in one form or another directly to Lake Murray.

MR. HANCOCK: That's the borders right --- what Caesar's Head area, somewhere in there?

MR. QUEBBEMAN: Yeah, it's right up in here somewhere.

UNIDENTIFIED: Where is Lake Greenwood in the slide?

MR. QUEBBEMAN: It's right --- there we go, there's Lake Greenwood.

MR. STUART: That might help David out if we had this in the slide so you could show people the areas of land, what you are talking about.

MR. HANCOCK: Anything would help us out. But so many people call us, and you would not believe the number of phone calls that come in; and why the Lake isn't rising, or

whatever. Especially in a summer like we had this past summer. And historically, you know, in February we could get a good bit of rain and it fills that watershed up very quickly during those months. And the whole thing is -- the watershed is getting the rain, not just like a summer event like you are talking about. But, it would help to show graphs like this, and to show those gauges, I think, where

those gauges got waterfall. In other words, if there was some availability to, say we got three inches of rain at a -- wherever those gauges are located. Say we got three inches of rain in the area of those upper gauges. It would sure help us to say, "There is a website you can go to to see how much rain we got in those upper region gauges."

MR. QUEBBEMAN: Yes. And all that data is available online. Go through NOAA's, and also through NCBC, the National Climatic Data Center. You can view specific gauges, when the rain occurred, total rain fall for a day, and compare them where those gauges are. There isn't a site specifically set up saying, "This is the watershed, and here are the gauges, and here is the total storms for that event."

But, as an example, that data can be put together pretty easily.

UNIDENTIFIED: Alan, can we do a link of some sort to those websites? Maybe in the re-licensing thing? Or, Joy,

maybe even your group?

MS. DOWNS: We get the gauges, some of the gauges about once a week. But we put that --- we put it on our website, but we don't always show the graph --- we have shown the graph if there is a reason to. But we are trying to make this more and more public. In fact, Dr. Badr at one of our meetings, and I am just sitting here thinking who

wants to come to Newberry, we are having one next month. But, I thought the thing you might mention, isn't it about 2,700 square miles, or something, in that watershed? Which is unbelievable, that it's covering that much area.

MR. QUEBBEMAN: I believe it's 2,400 --- 2,420. Yeah, within Lake Murray's watershed.

MR. STUART: David, as you well know, the past couple days we have been talking communication, and public outreach. That may be something that we could --- you guys might want to consider incorporating as part of your website. You know, just as informational purposes since you are having the Lake level, and flow, and that type stuff. So, that may be something we could put on the table for consideration.

MR. HANCOCK: How much of that 2,420 flows through Greenwood, Lake Greenwood?

MR. QUEBBEMAN: 1,370.

MR. HANCOCK: So, they run more than half.

Of course, it takes a long time to come down from the border down to Lake Greenwood, that's farther west.

MR. QUEBBEMAN: Any other questions?

(No response)

MR. QUEBBEMAN: Okay, thank you very much.

(Applause)

MR. STUART: With that, we are prepared to take about a fifteen minute break. We are pretty much on schedule, I believe, maybe a little ahead. The next presentation, as Jon kind of alluded to, is going to segway into Mike Schimpff giving the presentation on the HEC-Res and HEC-Ras simulation models for Lake Murray. This is part of our relicensing effort. It's kind of a water budget model, and I think it would be very helpful and informative to look forward in this process. So, if we can come back about 10:45, and get started, that would be great.

(Off the record - break)

MR. STUART: Gentlemen, could you please take your seat. This is Mike Schimpff, he is a hydrologist with Kleinschmidt Associates. He is a modeler, does a lot of

hydrologic modeling with respect to FERC projects. And he is going to give us a presentation on the HEC-resSim model.

(Off the record)

MR. SCHIMPF: Those of you who haven't seen this, we are going to talk about Res operation models using two models, the HEC-ressim model, which is the reservoir simulation mode, and HEC-Ras model, which the downstream Riverine modeling. And HEC stands for the Army Corps of Hydrologic Engineering Center. Get off right off in this. Why are we doing the modeling? And what are we doing here?

And as a result of the relicensing we have needed to develop a means to evaluate the demands that are going to be place on Lake Murray and the Lower Saluda River. We talk about things, we have issues of minimum flow; we have talked a little bit about that this morning. We have levels --- issues on Lake level, we have issues with operation. Many of these constraints may actually be competing against each other, and we need a way to evaluate the impact on the system with the various constraints that are starting to come to light on the project operation. And this modeling is going to be the means which we are going to evaluate those impacts. Just a little bit on how this has been set up. Modeling work is really being done as a Technical Working Committee under the Operations Resource Conservation Group,

the RCG. And the operations RCG is one of six RCGs. Is that correct on that? There are six. Okay, seven. We'll have to

work with Alison on that. One of seven RCGs that have been formed as part of the relicensing to review the various issues that need to be addressed in relicensing. The Technical Working Committee is made up of a group of people, and I have listed the members. Dr. Badr, South Carolina State Hydrologist. Larry Turner, a representative from DHEC. Mike Waddell, from Trout Unlimited. Ray Ammarell, from SCE&G. Bob Olsen, from NRE. And then, myself and Jon Quebbeman,

from Kleinschmidt; and we are putting the model together for these people. But the Committee is actually reviewing it and all the aspects, and reporting back to the Operations RCG. Early on at the beginning of our effort, we developed a Mission Statement which tries to keep us in focus as we go through this process; and we put it up here just to establish a baseline of current hydrologic, hydraulic and operational conditions, and aid in analyzing and understanding the potential upstream and downstream effects of changes to project operation. And these changes, again, could be things like minimum flow, changes in the guide curve, lake level issues. You name it, there's a whole bunch of things that go on, on what these are going to be. Again, the model objective is what --- when we get to the end of the day, when we do all this work, we need a means to assess

the impacts of various environmental constraints on project operation; assess the project operations in terms of feasibility; and ultimately end up with a realistic plan for future operation. The model selection. Model came up, there is actually two components, they are inter-related, they are both put out by the Army Corps of Engineers. But we have one model, the HEC-resSim models, the reservoir levels, and outflows. And then once we get that data, the outflow data, from the HEC-resSim model we can put that

directly into the HEC-ras model; and that will model the Lower Saluda, and we'll be able to look at velocities in the River, River levels and things like that all the way downstream through the confluence of the Congaree. One of the requirements that we came up with, were imposed upon us, when we started this process was we wanted to have publicly available software. Anybody can go out on the website and download this software, and have it for their use if they are so inclined. The HEC-resSim model for any of you old timers, the updated Windows based version of the old HEC-5 model, which has been around for a long time; it was specifically created for reservoir modeling and management.

It has a lot of graphical interfaces, the "gooies" (phonetic), as they are called, that the group wanted to see; so, the data is to be presented in graphical format

very easily. It has a lot of flexibility in managing large data sets. We are running the model currently for sixteen years on a daily basis to see what happens with the reservoir system. It also allows Rule based decisions on daily time steps. And these Rules will be the constraints that are going to be imposed on the operation of the project. We comply with daily rules, seasonal rules, and then the model has the ability to prioritize the rules and try to develop this operating system. The HEC-ras model,

again also publicly available. It's the upgraded Windows version of the old HEC-2 model, which is the flood profiling model. It's been around for a long time. Again, specifically created for Riverine modeling. And we are using this in the Lower Saluda work. Being both HEC models, they integrate directly with each other; we can take the output from one and go right into the other. So that facilitates our efforts. And the other thing, one of the big things, is that the HEC-ras Model has been upgraded to model dynamic flow conditions. And that is --- by dynamic flow conditions, we mean that every hour in time steps a flow can increase, we can model the operation of the reservoir like on an hourly basis as the flows go up and down, because if the

model unit comes on and goes to from minimum flow to 12,000 CFS, you know it's very sharp, it goes like that, it's on,

on fifteen minutes, it's a fifteen minute click. Downstream at the Zoo, you are not going to see that, it's going to flatten out, and we want to see what the impact and how that wave, that flow wave, changes as it moves downstream in the Lower Saluda. So, these are the two models we picked out to do this process, and how it is structured. You guys have any questions at this point? Models? The process?

MS. JOY DOWNS: Joy Downs. Are you having any difficulty --- I mean, do you feel that these models

accomplish what you need to accomplish? Do you have any problems with them?

MR. SCHIMPF: Absolutely. We picked these, and we will show you where we are with these. We are pretty well along with the process. But, you know, in the way that the system is set up, the structure that we have, the review group, again all our work is being reviewed by the Technical Working Committee, and being --- you know, a lot of good input, especially from Dr. Badr, is very familiar with these models. So, we are not trying to pull the wool over anybody's eyes, or anything. This is what it is, and we are just doing the modeling. And the group is, I guess, representing the entire RCGs, and bring that data into us.

Okay, and the Model Process. And what we have done is, we needed to develop the model, the watershed system. And Jon

has talked to you a little bit about the watershed and the components of the watershed. Once we have that, we need to calibrate the model; and we are calibrating to historical conditions. So, we have gone back once we have had the model set up with it's physical characteristics, actually modeled the sixteen years of historical data and tried to match --- you know, have the model simulate the historical conditions. Once we have that data we have now a model data set, we are deriving inflows; and we have a set of inflows

into the reservoir, we can then model any type of conditions, we have a data set to work with. And then all of the conditions will be assessed against the same data set. And so, that's using the derived inflows. And we need to calculate inflows because there is not means available at Lake Murray to actually determine what the inflow is exactly. It's not gauged, it's a combination of various processes that we went through to come up with the actual inflows into the system. Again, the models were prepared by Kleinschmidt, Jon and myself. The models are reviewed and are currently being --- actually in process right now being reviewed by the working group. Last week we did present the results to the Operations, RCG. What is going to happen

then is, we are going to receive constraints developed by the stakeholders through their respective working groups.

And they could be in the form of minimum flows, lake level issues. And these flow constraints are all being reduced to two variables: flow and elevation. And when you think about them, whatever they are, they will come down to something in flow or elevation. And the other factor that is in there would be time. You know, I want the lake to be at this level because I want to do something in the spring; or, I want the flows to be high during the summer downstream for some purpose. So, there is time in there, as well. But,

really flow and elevation. The working groups, I guess, are in process of developing these constraints, and they will be brought to the Operations working group for analysis, and then given to us to run the simulations. And the HEC-resSim model, we looked at --- Is there any question before we get into that on the process? I think it is very important that we all understand the process, especially the stakeholders.

MS. DOWNS: I know that some of the groups are going to present specific numbers to you.

MR. SCHIMPF: Yes.

MS. DOWNS: While others probably will --- I don't know how their information is going to be presented, but you will present different numbers into the model and see how

many of the constraints you can accomplish, I guess, or how many people you can satisfy, maybe is the word.

MR. SCHIMPF: I guess, going into this you will need to be --- I can't have all I want all the time.

MS. DOWNS: Right.

MR. SCHIMPF: And the model will show you how much you can get with all the other various constraints.

MS. DOWNS: What was occurring to me was, when you said there are special events, for example SCE&G is asked by special groups to put more water into the Lower Saluda at various times. And in my mind, some of those things are

better done at a more appropriate time as far as it affects Lake level. There was a canoeing event, for example, that everybody talked about this summer. And, of course, we didn't have much rainfall. But, will it be able to look at things like that and say, "Well, this canoeing event would be better held in October than in April", for example? Based on inflow and outflow, and the other constraints?

MR. SCHIMPF: I think if you had a one day --- somebody came in and said, "We would like to have a one day canoeing event, and we need 2,000 cfs." I mean, the Lake is so large you are not even going to see that.

MS. DOWNS: Well, I realize that, I was using that just as an example, and it probably wasn't a good example. But,

I know the White Water people, and so forth, like to have more flow. I am just wondering if the model is going to be

able to specifically say, "These events need to be done in the spring or the fall," or anything like that.

MR. SCHIMPF: Good point you bring up. We actually did an example in here. And we will get to that if you can hang onto that for a minute. As mentioned, developing inflow as the challenge in developing the model. And we looked at two methods for developing the inflow data. One, we tried to use the upstream gauges, and there is several gauges in the watershed that are upstream of Saluda. And we then, we tried

to make an adjustment for the gauges that are --- the area that is ungauged, and then that would derive our inflow data set. The second method we looked at was doing a mass balance analysis and hind cast from the outflow data, which we know; because there is a gauge right below the Dam at Lake Murray, and also using historical Lake level data. The model area, once we looked at that we need to include all the flow from the entire watershed; we are calling that the Virtual Inflow. Again, we have seen schematics of the watershed. And then we wanted --- the inputs also included the data, both directly upstream and downstream of Lake Murray. And the input data, we know the reservoir stage/storage data. SCE&G provided us with that data. We know

the Dam release, the outflow hydrograph data; because that's the USGS gauge. And again, we have the daily Lake levels.

In this slide, the watershed of the Saluda basin. Lake Greenwood is right here. There is a gauge right here, the Chappells gauge. And that is, controls provides us with information on the water that is coming out of the Lake Greenwood. And so, everything upstream of that is controlled by what is at the Chappells gauge. The other gauges that we have are input nodes, or the circles, the red dots with the white circles. You see Lake Murray, the Dam, and then the Broad River, and the Congaree River. The components of the

model that we needed to include were, of course, the upstream inflows. We need to know all the data on Lake Murray, operations, stage storage, the guide curves, discharge characteristics. We have the downstream gauges; and we also have gauges on the Broad and Congaree River because it's been requested. We actually carry the modeling down the Congaree to include the --- I have forgotten the name of the park --- the Congaree Park, okay. It's got a tricky name. This is just a blowup of that same slide showing a little better detail, a schematic, of the area downstream, with Lake Murray Dam being here. And then the Saluda River, the Broad, and then the Congaree. And this is our model structure. Again, upstream this is Lake

Greenwood, this is the Chappell's gauge, and then the various gauges, and our flow combination nodes. CP2, I don't

know how well, you can see those. CP3, CP4, just bringing the flows together at those points. And then we have the Lake itself. So, these three slides are really just blowups of that one watershed slide you just saw. Available data sources. We have talked about that we have the generation data that's available. Of course, SCE&G provides us with that. We have the lake level data, both from SCE&G and the USGS gauge. We have downstream flows from the USGS gauge. We have the precipitation data, which Jon alluded to from

the National Weather Service. And we have, of course, the USGS flow data for all the gauges that we mentioned. These are the various gauges that are available. Address this as the gauge on the Saluda. But the Saluda River gauge at Chappells, the 1360 square miles, I think that was mentioned earlier. That's the gauge that is just below Lake Greenwood. We have the Bush River. The Little River. The Saluda River downstream of Lake Murray. And then the Saluda River at Columbia. And their respective periods of record. The most common period of record for everybody extends from probably about 1988 to the present. Location of the gauges, where they are within the watershed. Again, orientation Lake Greenwood is up here. Lake Murray is, of course, down here.

And then the various gauge locations. Okay, we talked about the method of deriving inflow from the gauges. We have three

gauges up stream of the watershed, upstream of Lake Murray, that we have data for: The Little River, Bush River and the Chappells gauge. We add those together, the problem is we only come up with 1705 square miles out of the 2400 that are noted for the Lake. We have 30% of the drainage area ungauged. So, we know the Lake stages, we know the outflow and we know the gauged inflow. The unknowns in this method are the direct inflow to the Lake. And we have to deal with evaporation, which Jon indicated is a huge number, 31

inches on an average year out of the total 47 inches of precipitation. Also, as he mentioned, it's never the same, every year is different. So, if you apply a constant in the modeling to account for evaporation one year, you may get it right and the next year it could be a cold and rainy summer, and the next year it's hot and humid, and the evaporation could be 35 inches, and one year it could be 28 inches. So, that becomes a real big variable in this modeling. But what we tried to do with this was to take the gauges, the three gauges, which are 1700 square mile, and include a factor to increase the flow, increase the flows from these three gauges, to equate to the inflow that you could expect from the 2400 square miles. Again, applying a single factor to the gauges is like the same deal with the evaporation, it can change every year. The Bush River gauge is very small,

only has like 115 square miles. You could have a thunderstorm on that gauge, which affects the flow greatly, but nothing has really happened on the Chappells gauge. So, how do you inter-relate these gauges with a constant factor? It becomes a difficult process. The other method that we looked at, the mass balance method, here we know the lake levels every day. We know the outflow, correspond to that, every day. We have a relationship in the stage, or lake level, and the volume of the reservoir of Lake Murray.

We have that data. And using this method, we only have one unknown, the inflow. And we can back calculate using this relationship where the inflow equals the change in storage in the Lake, plus the outflow. It automatically includes the evaporation. We don't have to pro-rate gauges, and we don't have to do a lot of things; it becomes a very straight forward method. And what you do is, you calculate the inflow to derive --- back calculate, compute the inflow using the outflow and the change in storage. One of the problems with this, Lake Murray is 75 square miles, almost 50,000 acres of surface area. A couple of little waves, a little windy day, the gauge on the Lake can vary. I think Dave Ammarell indicated that they are using about 600ths of a foot of fluctuation, the gauge, just as, quote, "noise" in the data.

So that gauge is bouncing around. 600ths of a foot, I

figured out for a 10th of a foot, so it's a little bit more. It's equivalent to about 2000 cfs. So, our arrow band with the gauge data on a reservoir of that size is fairly large. But something you need to keep in mind when we are looking at this data. Once we have the model developed, again we need to develop the inflow hydrographing; the calibration process here is the key to the whole thing. We need to get a good set, data set, that represents existing conditions. One, how well does the model follow the stage hydrograph and

match the lake levels? And, you know, we want to follow the stage hydrograph and adjust discharge. We must follow historically observed water levels. And once we run the model with those constraints, we are going to compare calculate stage to observe stage; and we are going to correlate calculated outflows, or observed outflows; and if the inflows are a good fit, we are going to consider the model calibrated. And we did the same process for both methods that I just outlined. This is a graph from the model for sixteen years. Elevation here in five foot increments on the y scale, and then the years across the bottom. As you can see, we match the historic lake levels, which are --- I forgot which ones are which now, the green.

Green is calculated and the red is the actual. So, we matched those pretty closely in our modeling effort. Again,

this is with the mass balance method. We have a few places here when the reservoirs are very low that we tend to diverge a little bit; and we are investigating that right now. We think that has to do with the stage storage data.

A review of the literature indicates that most of the models --- most of the people who use this model in the way we are using it have problems at the low reservoir elevations. But for the most part over the sixteen years of data we matched fairly closely. And I would even go as far as to say that we've matched

very closely. This is just a blowup of that same slide because you can expand the scale, extending from November of '92 through I think March of '93; and again, the top scale here you can see the green is calculated, the red is our historic; and then we have our guide levels are the black dash lines. So we match the elevations fairly closely. Again, this is flow down here with the actual and the computed. The flow is a little bit off because of some of the fluctuations they are making with the way they operate. We are doing things on a daily time scale, and some of the flows could be --- it could run for a couple of hours; and the averages are not working out. But a real critical test

was to match the stage elevations. This graph we threw in here just for adjustments, just for illustration. One of the

things we had --- the problems we had with the Lake being so large, the Lake gauge from day one to day two showed a couple of tenths of a foot change; it could have been from waves, it could have been from a variety of things. Also, the readings are instant snapshots, they are not averaged for the day. So, you have taken a reading, the Lake could have changed over that course of the period of time. So what we did to try to remove that is, we did some smoothing of the data and we took a three day moving average, we took a five day moving average, and we tried to determine which

one would give us the best relationship. And statistically, it's shown that the three day moving average produced a better fit of the historic data. The other thing that is interesting to know on this graph is when we get down here, in the below the 2000 cfs flow, we start getting into that area where the gauge --- that fluctuation in the noise with the gauge is resulting in expansion of the scatter and the data points; because as we get out here, that data seems to fit much better on the line. So when we get down to this low part, we start having a few issues, and mainly just because of the size of the reservoir and the ability to gauge to measure that closely. And you are talking 600ths of a foot on the Lake, and an inch or less. With the HEC-resSim model, it was our conclusion that the mass balance

method produced the best results. And this is basically what we are presenting to the committee that we are going to proceed with using this mass balancing. We have a pretty good data set to go ahead with the HEC-resSim model. So, that model with the concurrence of the Technical Working Group is sitting there now waiting for input from the various working groups with their constraints. And we will start then actually running the models and the simulations on the HEC-resSim model. Before we get into HEC-ras, which is the downstream portion, any questions about the resSim

model? A lot of stuff and we are going through it fairly quickly based on what Jon gave you as background on precipitation data, and everything else. All right, with the HEC-ras model, this was used to develop analysis of the downstream, the Lower Saluda River, because the issues on velocity and the flow levels, and a variety of issues on the Lower Saluda. Again, the model extends from the Saluda Dam downstream through the confluence of the Congaree River. The model was calibrated to known water levels based on the US Flow Gauges, both at the Dam and at the gauge at the Zoo.

This is just an aerial schematic of the model layout. Let's go back one. You have got Lake Murray and Dam here, and the Saluda is coming down through here. All these little light flags are our cross-sections. The Broad River here, and then

the Congaree down here. So, just the layout of where everything sets with the HEC-ras model. That reduces to this, this is a schematic model produces; again, every one of these green lines is a cross section. Some are interpolated, the green are interpolated; the black ones are actual cross sections. This, I guess, filler here for waiting for a commercial break. This is just a plot of a cross section with the water levels, one of the cross sections that are in the model. This is the calibration curve for the results of our HEC-ras model. Just extracted

the area where the gauge is at the Lower Saluda; the black diamonds are the USGS elevations; and the blue lines are our computed values. We fit pretty close. And these are only a tenth of feet apart. So, we are --- you know, I think we are in pretty good calibration with the historic data versus the model. They look like they are far apart, but when you look at the scale over here that's only --- we are only talking a couple of inches apart with these flows. Okay, we are sitting here now with two calibrated models, the HEC-resSim model for the watershed, and the Dam, and the operation of the project; and the HEC-ras model for the downstream conditions. What are we going to do with them? And we are going to take them and evaluate the environmental constraints. And we will evaluate the temporal change in the

Lake level. Once we get those, what's the temporal or time change with the discharges, and then what are the downstream impacts looking at water levels and velocities? We also want to determine what frequencies on these various constraints may be violated. And by violated, you are not going to get everything you want all the time. And how many times will that occur? And how we can provide data back to these groups, and to SCE&G, and how we are going to develop this management plan for the reservoir. As I mentioned, we are going to need to get the constraints in two basic variables.

Specific elevations, specific flows, and then time may also be a factor and some other constraints. So, the various groups, whether it's a water quality constraint, somehow we have to reduce that to a flow. And if it's downstream water quality we need --- maybe an example would be, if we need to maintain DO downstream, we need a flow of a 1000 cfs; or, if we need certain lake levels. Or whatever it is, but it's going to be those two variables. They will be compiled, we will get all the various flow constraints, and we will get them input into the models, and then we will evaluate the constraints to determine reasonableness or, you know, how they are working out in the system. Just so you can --- an example, show you how one of these is going to work. This is again a hypothetical we have thrown in here just for review.

And it gets back to your question about White Water Rafting. We came back supposed sample constraint; minimum flows between June 1st and August, should be a minimum of 20,000 cfs. So, they could have extreme white watering. And that's a condition that somebody proposed. So, we have flow, we have a time, and we are good to go. We put that into the model. And the results of the model would indicate that --- here is the black dash line, is our guide curve; in this particular example we are using a guide curve that ran between 352 and 358; and then the flows. And if we ran

30,000 or 20,000 cfs for the white water rafting, this is what would happen to the reservoir every year. It would drop right down to 346, but we also put a cutoff in there; so once we hit 346, that's the bottom, we are not going to go any lower than that. So, obviously you can see that --- and then in some years, when we had the dry years of 2001 and 2002, we were unable to refill. So, this is the kind of results that we are going to illustrate with the model when we get the constraint data. You know, how does it really work out as we go through the various years that we have here? Does that illustrate, you guys understand how this is going to work?

UNIDENTIFIED: 346, that's pretty ---

MR. SCHIMPF: We are going to change that tonight to

340. But this is the kind of data --- so, okay, that obviously being such an extreme about it, that's not going to work. But, you know, what are the --- you know, that's just too much. We just can't provide that kind of flow. The slide is out of order here, but --- This is just what the data --- you know, we want to provide June, July and August with the minimum flow. No flow on Mondays or Tuesdays. So, this is kind of how the constraint data would come back in.

Somehow I got the slides mixed up, this one should have gone first. I will go back one. Okay, go to the next one.

Again, this is just how the models, some slides from the model. This is just screen shots. We didn't put the constraint. You know, here we are going to use 30,000 cfs for the constraint, July and August --- or, June through August. And this is just the hydrograph coming in. This is the daily schedule that we put in. So, there is no flow on Monday and Tuesday, but the rest of the week we are going to run 30,000 cfs. So, just an example of how the model would work.

MS. DOWNS: That would be 30,000 cfs for what period of time?

MR. SCHIMPF: That's --- what, five days a week?

UNIDENTIFIED MALE: Five hours, ten hours, or twenty-four hours? Or, what?

MR. SCHIMPF: It's twenty-four hours a day for the two months --- or, three months, five days a week. We tried to make is something that nobody thinks it's going to happen. But, I mean, the idea was to show, you know, okay, this is how the constraint would be entered, this is the kind of data we would need, and then how the results would be displayed.

UNIDENTIFIED MALE: You could put in there two hours a day.

MR. SCHIMPF: Put in whatever you want.

MR. QUEBBEMAN: The reason that it's twenty-four hours is because we are doing one day time steps right now. But if there was a need, if someone needed a six hour run, we usually can break into that.

MR. SCHIMPF: But for our example here, just as a constraint would work, and you know, that's the kind of information if it comes back, if they want two hours, or --- we can do whatever time step you want. But we are not at that point. You know, this is just illustrative at this point. And again, the data comes out in a tabular format. So, we can have it both in tables, graphs, which is one of the requirements when we started trying to pick a model that

we could get data out in various formats. So, this gives you the lake levels, the date, more data than you could ever

want. But this is what is coming out. Over here, here are the flows. You have got 30,000 and then there is only 27, 21, 19 and then we are back to our minimum flow where we ran out of water. Again, the operation results, just as we review the curves. Looking at that graph, we visually drain the reservoir to a minimum of 346. We talked about the dry year, not having sufficient flow to return to the guide curve. And this curve here is just the frequency of occurrence. And you can see that at the 50% point of time, we are going to be somewhere around a little less than 2

feet below the guide curve 50% of the time; 20% of the time we are going to be 8 feet below the guide curve. So it kind of gives you a little bit of a frequency and the magnitude of the impact.

MS. DOWNS: I am not understanding what you are saying about the guide curve. I mean, I know what the guide curve is.

MR. SCHIMPF: Okay, we picked a guide curve and said we want to fluctuate the lake between 352 and 358, and it's set up for monthly target levels. In this particular instance, we are saying that if we ran that scenario of the white water rafting issues, --- okay, in that scenario we

are going to be --- we won't make the guide curve, we'll be two feet lower half the time. And, of course, you know,

that's --- you know we are using the guide curve as our base. And in this particular example, now, the guide curve can be whatever we want. But, you know, say how are we going to --- we need something for comparison. And in this case we picked the guide curve. Well, here we are, we are at the -- - what happens now? We have the two calibrated models. So, we are ready to go. The RCGs, I guess, are well underway in developing their resource constraints in terms of flow and elevation. When we get those results, we are going to run model simulations using these constraints as input. And we

will determine the impacts of the constraints individually and together on project operations in terms of lake level, or just general management of the lake. Project generation. We have talked a lot about how the project is used for generation. What's its impact on downstream flows? Flood frequencies, is one of the issues that comes up. And then, of course, everybody is concerned about lake levels. So, what are the impacts of these various constraints? If they came back with a minimum flow that they wanted 5,000 cfs minimum flow, you know, what is that going to do to the lake levels? What is it going to do to generation? What is it going to do to a whole variety of things? And there could be other factors. I just listed the ones that seem to stand out. And we will compile all that data and try to end up,

as I mentioned in an earlier slide, at a reasonable solution for an operating plan. So, I know it's a lot of information, went through it fairly quickly, and I will try to answer any questions. And the people from SCE&G are going to be quizzers, because this is the second time you have been through it.

MR. KIMBLE OLIVER: I am Kimble Oliver, and I have just been elected to the Lake Murray Board. So, that comes into this late. I don't know whether this is related or not, but has any thought been given to correlating, using GIS data

and correlating it with the contour layers of the lake to show what happens when you reach certain levels? For example, when you get to a certain level on the lake, there are islands in the middle of the lake that are dangerous, especially to people who are sail boating and things like that. It would seem to me it would be fairly easy to develop some sort of visual model, dynamic model, of the lake that people could actually look at.

MR. SCHIMPF: My understanding of that, and the answer, and Alan, you can jump in here, is that the group that's concerned with boater safety, and I don't know which group that is ---

MR. STUART: Safety.

MR. SCHIMPF: Safety, okay. You guys are tricky with

the names. Anyway, with that group, they are kind of using that to determine what their constraint will be. So, they are going to say, you know, these islands if they are unsafe at 352, whatever it is, what we need is to have more water to improve safety. So, their constraint might be, "We don't want to go below 356."

MR. OLIVER: My other question would be, should that data be available to people who are actually boating on the lake? Or, landowners on the lake who, if you bring the lake down to 348, do they have water or not?

MR. STUART: There have been some discussions in that group to provide contour maps, and things kind of like what you are talking about, as part of the informational thing. It's still in the discussion stage, but it has been discussed as part of that. David might have something.

MR. DAVID HANCOCK: David Hancock, Lake Management. We already, when we drew the lake to 345, there already is a map depicting the 345 elevations.

MR. OLIVER: Both of you answered the question.

MR. HANCOCK: Right. There already is that map. And the GIS maps are available, showing contours. So there are some maps out there.

MR. SCHIMPF: Does that answer your question?

MR. OLIVER: Part of it, I'll talk to you later.

MR. SCHIMPF: If there are issues, that would be some of the constraints that that Safety Committee would come back with, say, "Well, we really like ---" The Safety working group is going to come back and say, "We ant higher levels in the summer, or we don't really care what happens in the winter," or something like that.

MS. DOWNS: A limited audience here.

MR. SCHIMPF: Questions are thin.

MS. DOWNS: I do understand that each one of the groups will present this in terms of level, and what did you say?

MR. SCHIMPF: Flow.

MS. DOWNS: Flow. How will SCE&G present their generation? Will it just be an estimate of what you have done in "x" number of years since you have gone to reserve? How do you estimate your --- how do you put your generation in there?

MR. ARGENTIERI: We will provide a number of reserve calls based on 18,000 cfs for one to two hour periods. We will pick a number of estimated times that we feel would need to have the water available for these reserve calls. And that all equates into a flow number, and also a storage number. I mean, now much water is necessary to be in the lake for us to use that amount of water. So, we are working

on putting all that together.

MS. DOWNS: And will these be instantaneous? I mean, what's the model --- will we be in a room and Bill says, "We need this," and the Safety Committee says, "We need this much elevation," and somebody else says something --- will it be that instantaneous that you will put the figures in? Or, will it be, "We'll have to put all these numbers in and come back in twenty-four hours," or, a day or a week? Or, how is it actually physically going to work?

MR. SCHIMPF: We would like to see that. Interactive

approach. I am kind of a little bit leery of that because you can make a --- you know, a typo can make a mistake very quickly and lead people down the wrong path. And we would like to get the constraints, and we could have the models set up, and we can then have ten different versions so you can scroll between those and see what the impacts are. But if somebody comes up with a new condition, I think we would like to at least get a data prepared. It doesn't take long to run, the model runs in minutes. But, preparing the inputs and everything, everybody would be kind of sitting around, and, you know, wanting the answers, so ---

MS. DOWNS: Are people going to be bargaining with each other in a room, or something to make it work? It's possible, huh?

MR. SCHIMPF: I mean, theoretically, yes, we could do that. And, you know, if it comes down to that maybe that's where we will get down to the final decisions, or we are only going to maybe tweak a couple of cases. But, you know, if somebody comes up with a brand new constraint, we might say we need a day to put it together and review it.

MR. STUART: Joy, one thing I explained at the last meeting is, what's likely to happen is each RCG is going to give their pie in the sky, first answer. And what I kind of requested that they do is, obviously everybody is not going

to be able to get everything they want. So, they need to begin thinking of alternatives as part of that. So, you know, we would have something to fall back on. So, that would be at least the first step. The first steps.

MS. DOWNS: I guess, that's what David said the other day (inaudible). --- membership.

MR. HANCOCK: Yes. What I would love to have, and then what I can live with.

MS. DOWNS: Thank you, very much for the presentation. I feel like this has clarified some things in my mind. And I apologize for not being at the last meeting.

MR. STUART: We are glad you could hear this one, because otherwise we wouldn't have much of a meeting.

MR. SCHIMPF: Anybody else, or any other questions?

(No response)

MR. SCHIMPF: You know, I think you were saying there were 30,000 cfs in that rafting example. It's a lot to much, maybe we can make it 20,000. That's pretty a simple change, and we could do a simulation.

MS. DOWNS: And timing, if there was enough advance notice and you knew that your life (inaudible)

MR. HANCOCK: Like on that model, you could take --- say for instance, they changed the minimum flow from 250 cfs to 1500 cfs, y'all can plug into what the historic data was

for this past year, and say, if the minimum flows were this, what would that have done to the lake elevation? Based on the rainfall, and on the historic data that we have, realistic ---

MR. SCHIMPF: Right. If we took that and, you know, minimum flow is 400 but now they want 1200 for July and August, and 800 for October through December, we can put that in and see what that would have done to the lake level over the time period of the analysis. And, you know, there are wet years and there are the dry years, and we could see what the ---

MR. HANCOCK: And that is something that you guys would want to know, that's a realistic case.

MR. STUART: And also, you know, with respect to

operations, I know SCE&G is interested in trying to come up with a low or draught contingency mode of operation as part of that. So, that certainly will occur.

MS. DOWNS: And the same question about --- starting at 352, that really doesn't have a lot of --- it doesn't make any difference much where it starts or not. You are talking about finding a guide curve. Is the guide curve flexible at different times of the year? Or, could it be flexible?

MR. SCHIMPF: The guide curve is for the entire year. Is that what you are ---

MS. DOWNS: I understand that. But, I am talking about the levels, the levels on the guide curve.

MR. ARGENTIERI: Yes. His were just hypothetical, though.

But, yes.

MS. DOWNS: Right. But it doesn't make any difference what you put in there to calibrate it particularly.

MR. SCHIMPF: No, we have used historical data for calibration; but now we are beyond that. Now, give me your guide curve versus what others, and we'll see how well that works with everything else.

MR. ARGENTIERI: Basically, if we put a guide curve up there that's dated between 358 and 354 all year round, we plug in on the flows and all the constraints that everyone

is asking for; and this will show us just like that one graph showed, okay 50% of the time, we are going to miss that guide curve by "x" number of feet. And 10% of the time, we are going to miss it by "x" number of feet. So, you know, that guide curve in his example is hypothetical. But whatever we do plug in there is what everyone is trying to shoot for. It will still show us how many times we are going to end up violating it, depending on the hydraulics, the flows and the --- that we have coming in.

MR. SCHIMPF: Alan, just mentioned, I think, that we can run the thing so you either look at it on an annual basis, like we have on the graph; we could blow up the scale

and look at it, okay, what about all the summer seasons? You know, that particular curve does not work for the summer periods, or --- but that's the level of analysis we are going to get into and see if these work or not. And rather than just, you know, say, "Okay, let's pick something. We have some data to work with." And everybody will understand it, and hopefully everybody is on the same page of understanding, so it does come out that this is what is going to happen. And everyone is, I guess, satisfied with the result.

MS. DOWNS: The ideal versus what we can accept, it doesn't make any difference.

MR. SCHIMPF: No. No, make the guide curves 356 all year round. Make it flat. And then you go from there to whatever, if that works, you know, works some of the time, doesn't work all the time. You know, not everybody is going to get everything. Anything else?

(No response)

MR. SCHIMPF: Well, tell your friends we will be back at 6:00 o'clock.

END OF PUBLIC MEETING.

SALUDA HYDROELECTRIC PROJECT RELICENSING

FERC PROJECT NO: 516

Joint Agency & Public Meeting

October 26, 2006

6:00 P.M. Session

HOST:

Alan Stuart, Kleinschmidt & Associates

PRESENTATIONS:

Skip Smith, SCE&G

Carl Hoadley, SCE&G

Jon Quebbeman, Kleinschmidt & Associates

Mike Schimpff, Kleinschmidt & Associates

Comments and Questions from the Public

(Transcribed from recorded cassette tapes of Proceedings)

Capital Video
405 Timberpoint Court
Columbia, SC 29212
(803) 781-6747

PUBLIC MEETING, OCTOBER 26, 2006, 6:00 O'CLOCK P.M.

MR. ALAN STUART: If we can go ahead and get started, this looks like about all the individuals we are going to have show up. This is our Saluda Hydro Relicensing Quarterly Public Meeting. It is our last meeting for the 2006. Our next one will be in January of 2007. So, tonight we are going to have three presentations: one on Alternative Energy Source for Saluda Hydro, if Saluda Hydro was not available for reserve capacity. The second one is what we call Hydrology 101; it's understanding the hydrology surrounding Lake Murray. And then our final presentation is the presentation on the HEC-ras model and the HEC-res model that we developed as a relicensing tool for Saluda Hydro. There is a couple of things that we have identified the definitions that you may hear tonight. Generation is basically the station output in megawatt hours. Peak generation, energy generation during daily peak demand; it an example would be possibly from like 8:00 in the morning till --- or 10:00 in the morning, and then again maybe from 4:00 to 8:00. We have peak demand, capacity. System demand in megawatts. And then Saluda's role is what is called reserve generation. And that's station capacity in megawatts held in reserve for unscheduled system outages. An example of that would be the McMeekin Coal Fire Steam Plant

there

right at Saluda Hydro was generating and it went down, unplanned outage; then they would crank up Saluda to try to balance the grid. So, as the presenters go through this, if you have additional questions, then each one of them will certainly be available to try to answer those as they go through. With that, I am going to introduce Bill Argentieri from SCE&G, and he is going to introduce our first two presenters.

MR. BILL ARGENTIERI: Thank you. The two gentlemen that are going to make our first presentation on alternative energy source are Carl Hoadley and Skip Smith. Carl is a Professional Engineer in Mechanical Engineering, and has over forty years experience in the power industry. In the last ten years, Carl has worked in our SCE&G New Generation Department, and has experience in numerous retrofit and new generation projects, including the LM6000 Quickstart Gas Turbine at our Urquhart Station; 875 megawatt Jasper Gas Turbine; and the 450 megawatt Urquhart Repowering Project. Skip Smith is a Civil Engineer with a degree from the University of South Carolina. He has managed several engineering and construction of new power plants, in particular our Cope, Urquhart Repowering, and Jasper, and he is presently the Manager of Fossil Hydro Construction and New Generation Development. At that, I am going to turn it over to Carl and Skip.

MR. SKIP SMITH: Thank you, Bill. We appreciate the opportunity to be here and to give you some insight on our evaluation of new generation, specifically looking at alternative generation for Saluda Hydro. What we would like to do is, we have a fairly brief presentation we would like to go through; and if you would please hold your questions, at the end of the presentation we would be glad to try to answer whatever your questions are. But again, we appreciate you being here. First of all, a little bit about Saluda Hydro. At Saluda Hydro we have total generation capacity of 206 megawatts. Actually, we have five units at Saluda Hydro. Four of the units generate 34 megawatts each; also, we have a fifth unit that generates 70 megawatts electricity. The start time is less than 15 minutes, and we will explain here later. This does have a quick start, what we call a quick start capability. Whenever we get the call from the dispatch we can get up and running, and put power on the grid in less than 15 minutes. And this is important to us, especially with Saluda Hydro. Reliability, is greater than 95%. And reliability is also very important to us. When we get a call from the dispatcher to put power on the grid from our plant, we've got to be able to respond. The plant has got to be available and ready, and reliably it has to put the power on that grid without having any mechanical, electrical, or any kind of problem. So, this reliability is very important

to us. And Saluda Hydro has a very good reliability at greater than 95%. And, we also have the quick start reserve of 206 megawatts. Again, the quick start relates to being able to come on line in less than 15 minutes. And we have a black start capability to VC Summer. And to explain what black start is, most of our power plants do not have the black start capability. Basically, a power plant in order to start up needs three things. Got to have fuel, got to have water, and also most of our plants need to have electricity from an outside source in order to excite the generator, to get it rolling. And VC Summer is one of our plants that does not have that black start capability. Saluda Hydro does. Saluda Hydro does not need that outside electrical source in order to start generating electricity. So, Saluda Hydro does provide a --- helps out VC Summer and helps with the black start capability if VC Summer were to go down. Saluda Hydro also gives us the opportunity to help manage our Lake level, to generate electricity; we can also manage the level of the Lake. Some of the evaluation options that we looked at --- and again, I want to emphasize that in looking at alternative generation for Saluda Hydro we tried to hone in on options that were very --- that were reasonable facilities that we could build. There are a lot of options out there, but some of them are just not practical for our purpose. So, we are looking at primarily

two options that are very viable. In considering our evaluation we are looking at electric generating equipment, which Carl will explain to you in a few minutes, the equipment that we are using in this evaluation. We also need to consider plant siting; and also, the capital and O&M dollars. And we will try to give you a better appreciation for this as we go through the presentation. In looking at the equipment evaluation, I am going to turn it now over to Carl.

MR. CARL HOADLEY: Thank you, Skip. One of the first things we looked at was the size of the unit. And since Saluda is roughly a 200 megawatt unit, we looked at the capacity of the replacement would have to be 200 megawatts.

The other characteristic is it needs to be able to start up rapidly, and be efficient, and be reliable. And the last thing we wanted was, we wanted to make sure that it was a proven technology that there was a history of this equipment out in the field that proved that it would be reliable. The types of technology that met this criteria were diesel generators and gas turbines. And we are talking about aero derived gas turbines. An aero derived means that these gas turbines have their origins in the aircraft industry. I will get into that a little more later. Looking at the diesels, we wanted to get something that we could start from

cold metal to full load. And this put us into the 2 to 2 1/2

megawatt size diesels. Once you get bigger than that, you have to have what they call those diesels in hot standby, which means that you are putting power to them at all times.

The gensets for diesels that are generated by different manufacturers include Cummings, Genbacher (phonetic), Caterpillar, and others. When you look at 2 to 2 1/2 megawatt size, you are looking somewhere between 80 and 100 of these units. And even though a individual diesel will start very rapidly, probably in 30 seconds, you can go from cold standing still to full load. To start up 100 of these, or 80 of these, it is going to take a period of time. And the way we have looked at this is that we could start all of those within about 10 minutes. The efficiency of the diesel is approximately 37%; meaning of the fuel I put in, I can get out about 37% of that energy as electricity. And they are very reliable. Here is a typical genset with an engine, and a generator on the back of that. And here is a conceptual design of putting all of these 80 diesels in one building, which would be about 650 feet long and about 100 feet wide. If you look at the total area that you are going to need for this, the whole site with the storage of fuel, the step up transformers, pulling towers, service buildings and control centers, you are probably looking at about 10 acres of land. Now, the gas turbines we looked at are 50 megawatt in size, and they are manufactured by General

Electric, and they are LM6000's. This means we would have four of these units, and their start time is about ten minutes, also. Their efficiency is a little better than diesel, they are about 40% efficient. And their reliability is about the same, about 90% of the time. Here is a typical LM6000 installation. The turbine generator is in the little rectangular building next to the red bottles there. Above that is the air intake, because you have to filter the air. And then the exhaust and the stack. And in the stack you have a silencer, most likely you would have a SCR and a CO catalyst also in there. Here is a installation showing four of these at a given site. Again, it takes about 10 acres by the time you put in all the service buildings, the fuel oil storage, the water storage, and things of that nature.

MR. SKIP SMITH: Okay, let's take a look at our plant siting evaluation. And again, I want to point out that this is what we normally go through when we site a new generation. First of all permitting. Permitting is a very significant issue for us that we need to look at. I will cover a little more details on the permitting on my next few slides. Our water availability. Water is getting more and more of a critical issue in our area, probably throughout the whole country. And the water availability is most important. We have got to have water in order to operate these machines. Also, interconnections. We need to have a

site that is near transmission lines. You know, once we get our plan in service, we have got to get the power out. And we need to have transmission lines that are in the near proximity so we can tie into our grid. Also, we have to have fuel to run these plants. So, the proximity to the gas lines, especially the gas turbines, natural gas turbines, are most important for us. And we need to have gas and make sure we have the right capacity as well as pressure. So, these interconnections are most important for us. Plant layout constructability. We need to have land, we need to have a site that we can build a plant on. We have got foundations to consider; we have got equipment access during construction. After the project is completed, we need to have access in and out for operations, you know, to cover equipment coming in during outages. And so, the plant layout and the constructability also from a design point of view is most important to us. And, we have to have land that is available. Land is getting to be more and more of a precious resource, so we need to find land preferably that is out and away from any built up area that we can locate a facility. And also, the PSC approval. These projects need to be approved by the Public Service Commission. We have to through a siting, a process, a hearing process, with the Public Service Commission; and we have to obtain a certificate of necessity and need for the siting prior to

even starting construction. Okay, taking a look at our permitting, I think everybody can appreciate the issues surrounding air emissions. It's getting to be more and more a significant issue for us, especially because of the concern of a global warming. We are in the process now of spending a lot of money putting bag houses, SCR scrubbers on our existing plants in order to cut down on our emissions. So, this is a big --- even for the natural gas and the diesels that Carl talked about, we have emissions concerns, and we have to go for our permitting with DHEC and also EPA, as far as meeting the emissions limits. Water intake, again water being a lot more emphasis on water because of the concern about the resource. Any time that we take water in, or we build a intake structure, we make provisions to build a plant near any body of water, we have to go through a permitting process. For example, on an intake structure if we were to build on a lake or a river, we would have to go through the Corps of Engineers, we would probably have to deal with dredge and field type permits. So there is a lot involved in the permitting process for the water intake. And water discharge, although plants have some waster water that we control, we go through out MPDS permit with DHEC; we have certain control, certain commitments that we have to meet. And we have to prove that we will be meeting these commitments even prior to building our facility. Storm water

control, before we break ground on any project, we have to have a storm water control, erosion control plan, in place, approved by a State Agency to show that we are not going to cause any significant impact on any adjacent property or in the waterways. Also, wetlands. We try to stay away from wetlands on any of our plant siting. Sometimes it is kind of hard to design around it, but we do everything we can to stay out of the wetlands because --- and going through if we do impact wetlands, we do deal with the State Agencies and also the Federal Agencies. And it is pretty much of a involved process to get a permit for wetlands. County Regulations. This is an area that we fairly recently are really getting more involved with in the Counties in our new projects; and even some of our existing projects that we have on some of the environmental equipment that we are adding. Counties are more and more being very pro-active in their planning and their planning of land use, and also their zoning regulations. And we have to comply with those zoning regulations. For example, Richland County is very, very active in the zoning and planning. So, this is one thing that we have to deal with, we have to make sure that we are complying with the County Regulations. All of this does have an impact on schedule. We try to plan as much as we can and foresee what issues we will have on our permitting. But, if everything goes well, we can expect a one to two year impact on our permitting schedule. If we do

run into issues, it can be a lot longer. Again, this is something that we try to plan ahead. Okay, looking at the dollars. In doing our dollars evaluation, we considered capital cost, and also we considered life cycle cost of 30 year period of time. And we considered the cost of land, the cost of permitting, the generating equipment that Carl was talking about, the diesel generators and the gas turbines. Balance of plant. We have equipment that we have to build. We have to engineer. And we have to build in order to support the primary generating equipment. We have engineering that we have to perform. We have construction, of course. We have start up commissioning. And we have project management. And all of these add up to dollars. Some of the parameters and assumptions in doing our dollar evaluation, and the dollars that we will show you, we are presenting this as an order of magnitude estimate. Also, we are assuming an accuracy of plus-25%, minus-10%. And I would say that it is going to probably be on the plus side. And the 25%, to be honest with you, is probably pretty conservative. The way the market is right now in building new facilities in our industry, it's really gone wild, to be quite frank with you. Because of the effects of Hurricane Katrina, all the building on the Gulf Coast, also the Chinese market. And a lot of utilities now are putting in a lot of environmental equipment, utilities are getting ready

for base load in the future. We are, as you probably know, we are driving very hard to try to build a nuclear unit, one or two nuclear units, that we are trying to get on line by 2015 for our next base load generation. And all the other utilities are doing the same thing. And everybody is kind of at the same gate trying to go through a narrow gate, and to go out and buy equipment, and try to lock in shop space, and contractors. And it's really driving the cost up. The cost of materials has just been sky high within the last couple of years. And we don't see any relief. So, any estimate that we give you here is going to be way on the plus side. We are doing our best to try to keep within this range in order to give you these dollars. Okay, for the capital dollars that we will show you, we are giving you those dollars in 2006 dollars. We are using 2010 dollars for the life cycle, 30 year life cycle, because of the fact that we are anticipating --- if we were to build this facility we would have it on line in 2010. We are excluding escalation. You know, escalation because of the things that I talked about, because of price of materials and labor, escalation is very hard to determine at this point. So, we felt like it would be conservative just to take it and keep it out of the dollars. But, at some point we will have to pay escalation, it will drive the cost up quite a bit. And also, the cost of money is excluded from the dollars that we show you. Just

like the other companies, if we build something we have to go out and we have to borrow some of the money. And it does cost us. And, as Carl indicated, we are assuming --- we are using proven generation technology. There's other technologies that are on the drawing boards right now, we are looking at it. But, in order to make any kind of recommendation as to a project that we would build at this point, we want to use proven generation. And also, we are assuming a new plant site. We are assuming the availability of natural gas, the availability of transmission connection, and also availability of water. I will say if we run into problems on any of these three things that we need, that could drive the cost up quite a bit. If we are not near a transmission system, we would have to spend a lot of money in order to try to get to that transmission system to get our power out. The same thing with water, and also with natural gas. Okay, these are the dollars, the capital cost of the diesel generator, which Carl explained to you. And the total project cost that we estimate would be a little over Eighty-six Million, Eight Hundred and Fifty Thousand Dollars (\$86,850,000). If you notice the two main costs for the equipment, that would be the diesel generators themselves, and also the balance of plant, which is pretty high in this case, Thirty-eight Million Dollars (\$38,000,000). And the reason it's high is that the diesel

generative packages are not as contained with some of the controls, some of the electrical equipment, some of the other equipment as they are with the gas turbines, which I will show you. So, we have to put in a lot of extra equipment in order to balance the plant equipment in order to facilitate the operation of this equipment. For example, electrical. We have to put in a lot of electrical equipment, transformers for the many units, diesel generators that we have. The capital cost for the gas turbines is a little more, it's at Ninety Million, Three Hundred and Ninety Thousand Dollars (\$90,390,000). So, you can see the equipment cost at a little more than the diesel generator, it's around Fifty-eight, Eight (\$58,800,000). The balance of the plant's dollars are less. And again, these gas turbines are more contained, they have equipment in them that we don't have to expend in the balance of the plant category. And just to show you a comparison: we have what we estimate for the capital cost of Saluda Hydro in the future. The relicensing cost, we are trying to keep under the Twelve Million Dollar (\$12,000,000) range. The equipment, the Twenty Million Dollar (\$20,000,000) equipment is for going in and adding what we call runners, or internals for these turbines. Kind of like wheels, you know, that the water turns to generate electricity. We would need at some point to upgrade the Saluda turbine, and we

estimate Twenty Million Dollars (\$20,000,000) for that. That would include some of the rest of the items that we had broken out in the previous dollars that I showed you. But the total here would be Thirty-two Million Dollars (\$32,000,000). Plugging this all into our life cycle cost, and this performance that we run is actually run by a rate. We have our generation planning department, and they use these models for all of their financial modeling; and they ran these numbers for us. We are including capital, we are including O&M, operation and maintenance, as well as fuel. And the Saluda costs over thirty years, we are estimating at a Hundred and Seventy-four Million (\$174,000,000). The gas turbines at Five Hundred and Eight --- a little over Five Hundred and Eight Million (\$508,000,000). And the diesel generators at Seven Hundred and Five Million (\$705,000,000). So, in looking at all of this, trying to put all of this together, and looking at the advantages that Saluda offers, we see lower life cycle costs, better reliability, no air emissions, no new plant siting impact, available quick start reserve, and also the VC Summer nuclear station black start capability. What does that mean to the bottom line? You know, what are the impacts that the alternative generation will present? We feel like the big one would be high rates electricity, higher emissions, land use. And that concludes our presentation. So, with that we would be glad to answer

your questions that you may have.

MS. ALISON GUTH: If you do have any questions, we are video taping this, so I would rather you use the microphone, and if you could state your name and who you are with, or if you are a landowner, that would be wonderful.

MR. MALCOLM LEAPHART: Malcolm Leaphart. The question I have is, what do plants do for these alternative needs that do not have hydro facilities? Have you looked around the country? And I am sure there must be some, but I really don't know.

MR. SMITH: Do you want to try that one, Carl?

MR. HOADLEY: I am not sure I heard the question. Would you please repeat it?

MR. LEAPHART: What do other hydro electric companies do around the country that don't have hydro plants? I am thinking of some down in Florida, for example; like in the Southwest area, I know they burn chips and --- wood chips and different things for electricity. So, you know, it's obviously going to be different in different areas.

MR. HOADLEY: Some of them have diesels to provide the --- I am going to call it cranking power, for wood fire, coal fire plants, gas fire plants. You can get your energy to start up a gas turbine from a diesel. You can also use a diesel to turn the gas turbine to get it started, also.

There are a lot of different methods, and I am not

sure I can tell you what every utility has. But there are other methods. Hydro is a very convenient, very reliable one. And we would prefer that, to be able to use that.

MR. ROBERT YANITY: This is Robert Yanity with SCE&G. Malcolm, just to give you an example, and the reason I know this, I used to work for Progress Energy, they are one of our partners in the FACAR sharing agreement. They do have quick start CT's over toward Darlington County, I believe. And that's what they use for their reserve portion of that agreement. So, that is just an example of what another utility does.

MR. SMITH: It would be like the LM6000 that we showed you. Any other questions?

(No response)

MR. SMITH: Well, if not, we appreciate your attention.

MR. STUART: Our next presenter is Jon Quebbeman, he is with Kleinschmidt Associates, the company I work for. He is a Hydrologist and a Engineer, and a Modeler. What he is going to talk about is what we have up here, is Hydrology 101 as it pertains to the Lake Murray basin. He will go into some discussions on --- you know, there is a lot of question of why does it rain and the Lake doesn't fill? And I think it will be very informative for those folks that haven't had a good understanding of the whole hydrology of this basin.

Jon.

MR. JONATHAN A. QUEBBEMAN: Thank you, Alan. Hydrology 101. This actually is sort of a --- it's a lead into Mike Schimpff's presentation, which will be the third one this evening, which talks a lot about how are we going the reservoir? What kind of parameters are we modeling? So, this is kind of more of holistic approach of what are we looking at? And, why are things the way that they are? A basis of hydrology. Tonight we are going to cover a couple of different things. Once again, hydrology, what is it; and secondly, why is it important? We are going to learn about watersheds. You know, you hear that term being thrown around a lot. Someone says, "You know, this watershed is such size." What does it actually mean? What is a watershed? Precipitation. Obviously, it's hard to fill a reservoir, it's hard to fill the streams, without any precipitation. So, how does that process of precipitation work? How does it actually get monitored and evaluated? And then, when you have that precipitation, how is it transformed over to runoff? Is precipitation always going to result in runoff? Maybe, maybe not. Routing. Once you have runoff, what happens to that flow? Where does it pass? How long is it going to take to get there? If it goes through a reservoir, what happens to it while it's in the reservoir? And then finally, we are going to cover a couple specific --- cite specific examples regarding Lake Murray. We are going to

talk about some of the precipitation, some events in 2006; and in general what happens with precipitation both in the watershed and outside of the watershed? And of course, then we will have some questions when we finish here. Watershed, who lives in a watershed? And I really like posing this question to a group of people because not everyone realizes that they actually live in a watershed. You don't need to see water to be in a watershed; you don't have to live next to a stream to be in a watershed. Everyone at some point lives in a watershed. You are always in some watershed. So, with that in mind, what is a watershed? Well, it's basically a boundary that is encompassing all the area draining to a specific point. So, you can take any point on a landscape and you can say, "What is the watershed to this point?" Lake Murray has a watershed, the Saluda River has a watershed, Bush River, the Little River, all of them have their own independent watersheds. And what are some of the parts of a watershed that actually define the runoff? Because you can have the Bush River watershed versus the Little River watershed. They are two totally separate watersheds. They are next to each other, but they have different characteristics. And some of those characteristics that change between these watersheds may be land cover. You can think of a watershed that you have out in the desert, that's going to have certain characteristics versus a

watershed that's in the Rocky Mountains, versus a watershed that's in South Carolina. They are all going to be very different. Land cover is also the percent developed. If you have a lot of impervious areas because of development, or if you have a lot of --- if it's woods versus barren land, fields, agricultural land. All of those characteristics really once again help you to define what your runoff is going to be. The slopes that you have in the watershed; the very flat watershed is going to have --- when we talk about routing, it's going to have a slower response versus something that is a steep watershed where you are going to have water that's going to be able to move much quicker because it's on a steeper slope. The amount of water, once again defining the runoff, the amount of runoff is dependent on the area. So when we are looking at a watershed, what is the area of that watershed? And then what is the precipitation that comes on it? And that can define how much runoff is coming into that specific point. And then, finally even the shape of a watershed can dictate how much runoff you are going to see. If you have a very round watershed, that is going to contribute to a point quite quickly versus a very long and narrow watershed, which it might have to travel a long distance to get to basically the other side of the watershed. Here is a schematic of the Saluda River

watershed. It encompasses both Lake Murray, Lake Greenwood,

and this point right down here is actually the junction between the Congaree and the Saluda --- I'm sorry, the Broad River and the Saluda, which forms the Congaree. The Saluda River watershed is about 2,520 square miles. If we look at just the watershed of Lake Murray itself, which is inside of the Saluda River watershed, it is about 2,420 square miles.

And then Lake Greenwood, the upper reaches of the Saluda River watershed is about 1,360 square miles. So, we have the larger scale, we have the Saluda River inside of that, we have the Lake Murray watershed, and even inside of that we have the Lake Greenwood watershed. They all contribute, they are all part of the same Saluda River watershed. So, hydrology by definition is basically the study of waters of the earth, especially with relation to the effects of precipitation, and the evaporation upon the occurrence and character of water in streams, lakes, and on or below the land surface. And why is it important to understand hydrology? There is mainly two things. One, because it affects all of us. Once again, as we stated earlier, we all live in a watershed, we are all affected by it in one form or another. And secondly, we have no control over the watershed, it is a defined boundary. It is a specific point. You cannot make the Saluda River watershed or the Lake Murray watershed any bigger; it is what it is. And secondly, with respect to the hydrology and the

precipitation, it is going to vary from year to year; there is no control over how much rain is going to fall or not fall over your specific watershed. So, thinking of that, let's go to precipitation. So, what happens to the rain? I mentioned earlier one inch of rain, if that occurs in your watershed at a specific point, it will produce less than one inch of runoff. One inch of rain does not always mean that you are going to have one inch of runoff equivalent coming off of your watershed. And why is that? That's because of what's called losses. You actually lose part of the water once it hits the ground. The first thing that happens is you get initial abstraction. An initial abstraction is actually when things become wet. The trees become wet. The ground becomes wet. The roots become wet. That's actually absorbing some of the water. So, you can get point one inches of rain; you can get point o five inches of rain. It's going to basically make things wet, but you are not going to have any runoff whatsoever. After you go through the initial abstraction, things become wet where basically the water is being absorbed onto the landscape. You move on to the next part, which is infiltration, and the water will actually pass down into the ground. At what rate does it pass? That is going to depend upon the season, infiltration is going to vary during the winter months versus the summer months. Also, it is going to depend on when was the last

precipitation event? You could have had a rainfall just the previous day, the ground is already saturated, it's going to be more difficult for the ground to absorb that flow; versus if you have been in a drought for several weeks or a month and you haven't had any rain, those drops that come down are immediately going to be absorbed down into the ground. And then another loss that happens is evaporation. The Saluda River watershed gets an average of 47 inches of rainfall per year. Of that 47 inches of rainfall, approximately 31 inches is lost due to evaporation. It's hot. It can be dry.

Water hits pavement, it may pool, it may not actually turn into runoff, and it's going to be lost because of evaporation. Evaporation is also significant on the reservoir itself on Lake Murray reservoir along with Lake Greenwood. There are 75 square miles in drainage area there and that during the heat of the summer can result in a lot of loss of water. So, we talk about all these rainfall totals. How do we actually get them? And we get them through gauging stations. There are measured points that measure the total rainfall, or the total precipitation, that has occurred. This isn't accounting for losses, this isn't accounting for evaporation; this is just total rainfall. You can start with that raw piece of data. This is a map showing the watershed. And it is outlined in several rain gauges that are throughout the watershed. And it is important to

note here, this is the watershed of the Saluda River, any

drop of water that falls inside of this red line is going to pass into the Saluda River. It's in the watershed, that's where it has to go. Any drop of water that falls outside of this boundary is not going to pass into the Saluda River; it can't, it's in a totally separate watershed. We are limited to this 2,520 square miles of drainage area. So, we measure our precipitation. How do we actually convert that over into runoff? We have one inch of precipitation, four inches of precipitation. What happens? Well, once again it depends on how much is lost. That is going to vary by seasons. The winter months are going to result in more runoff because it's harder for the water to become absorbed through infiltration into the ground. The temperatures are lower. You are going to have lower evaporation rates. And the initial abstraction is even lower because you have less leaves on the trees, that can be significant. When I say how much runoff is there? I'll take a step back. What's the volume of runoff? Because we have been talking about one inch of rain, but how do you convert that over to a volume? And the volume is actually totally dependent on the drainage area. You would define it as one inch of rain spread evenly over the area of your drainage basin, or your watershed. So, if your watershed is one square mile, it would be one square mile with one inch of rain equally spread amongst it, versus 2,520 square miles when you might have one inch of rain spread equally over it. And that's

going to be a lot more volume in a larger drainage area, or a larger watershed, versus a smaller watershed with the same amount, the one inch of rain. So, the amount of runoff is very dependent on both how much is lost, what was the initial precipitation, how much is lost, and then what is the drainage area from that? Once we develop runoff, we have gone beyond the initial abstraction, we have gone beyond the infiltration, we are now actually producing --- we have gone beyond the evaporation, we are now actually producing runoff. Water is now passing over the ground surface and being collected into streams, into gutters, and passing down into the rivers. What happens to it from that point? It must literally pass down the stream. The shape of the watershed that I mentioned earlier is quite important. A drop of water takes at the upper end of the watershed, will take at least a day to pass down to Lake Greenwood. That specific drop of water. And because of that time that it takes for something to pass downstream, you get what is called attenuation. Attenuation is basically the filling up of the reservoir --- or, the streams. It's the time of the flood wave from where this water is coming in to spread out. It takes time for it to reach a specific location at, say, the outlet of your watershed. Reservoirs themselves also attenuate flows. And this happens sort of similarly, too, in streams where you get a rise in the

stream level, and a

dropping of the stream level. Reservoirs actually hold the flow; and when the water comes in from a storm event, will actually raise the water up and retain it. It will hold it as volume so it does not pass downstream, or only a small portion of it will pass downstream. And that affects both the timing of the flood wave, and also the volume that will pass at a specific point. Lake Murray, we are going to talk about a recent event, actually just last week, a recent event of precipitation. This is a precipitation event on October 18th, last week. And it shows for a total of 24 hours. And it shows between --- this is the watershed up here in South Carolina. At the upper reaches, about point four to point six inches of total precipitation. Down in the lower reaches, it's about point two to point four inches of precipitation. So, in general it was a well distributed event across the watershed. What happened from this event?

And these are stage data that were taken from the USGS website just yesterday. And it outlines this event, and we can see that prior to the event, the event was on October 18th, prior to the event both the Lake Greenwood stage was dropping, and also Lake Murray stage was dropping. They had lower inflow than was coming into the reservoir. You had so many cubic feet per second coming in, but you had more going out. Because of that, the reservoir levels are dropping.

Then on October 18th we had a storm event fairly well distributed over the watershed. Because of that, if we look at the effects on Lake Greenwood, there is no detention --- or, I should say no reservoirs upstream in Lake Greenwood. You do have attenuation from the streams but there is no major storage reservoir upstream in Lake Greenwood. You can see you get a significant rise in the water level because of this storm event. It went up from roughly 351.4 to 351.9, about a half a foot, went up six inches because of this event. Oh, I'm sorry, it went from 348.2 to about .8, so it went up about .6 feet. Whereas, Lake Murray, it did certainly receive some rain; there was certainly some water that had passed into the reservoir. It did not have a significant increase in reservoir levels. There is two reasons for this. One, probably because the Lake Greenwood has a higher response because there is nothing upstream that is attenuating the flows. Lake Murray, was it 65%, roughly 70% of the watershed of Lake Murray is controlled by Lake Greenwood. The other big difference is that the area of Lake Murray is much larger; it's harder for that reservoir to respond because it has so much more surface area than Lake Greenwood. Lake Greenwood would have a much higher response from a precipitation event than Lake Murray has. This is a very colorful graph that shows the watershed for a recent precipitation event that

was on July 16th of this year. The green areas down here, this is total precipitation for a 24 hour period on July 16th. The green areas down here represent zero precipitation. The red areas represent about .6, .7 inches of precipitation. And we can see that there is a large band of rain that had passed by the reservoir. Only the upper reaches of the watershed received a portion of this rainfall. What this is really showing is that part of the reservoir --- or, part of the watershed can receive rainfall. Just because there is a significant storm event that may be nearby, it doesn't mean that it's contributing to Lake Murray or to the Saluda River. It must be within -- - any kind of rainfall that falls, must be within the bounds in order to be received by Lake Murray or the Saluda River.

Conversely, it can also happen that if significant events can happen directly over the reservoir and nothing may be passing upstream. This is just one example to show that this is a very large watershed, and that there can be a larger difference in where this precipitation is occurring and the response that may be seen in the reservoirs because of this precipitation. We discussed the effects of precipitation as a recent example, let's talk specifically about the precipitation events over the summer of 2006. This is a comparison of local rain or local precipitation gauges inside of the watershed between 75 years of average precipitation values versus the year to date total

precipitation that we have received. And this came off of the NCDC website, the National Climatic Data Center. We can see across the board, the red bars are the current year to date precipitation values; whereas, the blue bars describe the average precipitation that is seen for this specific gauge. So, at Pickens on average they receive about forty-two and a half inches of rainfall per year, it's been over a 75 year period. Year to date for that same rain gauge, it's been about thirty-two inches. Across the board there isn't a single gauge that has received more rainfall than the average. And in fact, currently it's 71.6% of average. Our rainfall total for 2006 year to date has been 71.6% of average. We are missing a quarter of the flow; it has not come in during this period of time. And that is going to vary year to year. The thing with precipitation values is that they change over time. Next year you can have a lot more rain, the following year you could be in a drought. There is no control over how much precipitation is going to be received or where that precipitation is going to be received. It must be within the watershed in order to have those effects be seen within Lake Murray or within the Saluda River. Just to go back and cover a few of the important points that, once again, only precipitation within the watershed will contribute. Not all precipitation results in direct runoff. You can get point one inches of rain, or

point two inches of rain, and you may not have any runoff

that will result from it. Precipitation can vary widely across the watershed, as you have seen. It's a large watershed, you can have a significant event in one section of the watershed and nothing in another portion of the watershed. Runoff into Lake Murray is partly controlled by upstream routing. Lake Greenwood takes a significant portion, or a significant percent of that water and stores it, and will release it slowly over time. So a rain event will not always result in a direct increase in water levels at Lake Murray. The conditions vary annually and that would lead to --- Any questions? I have tried to cover a lot of information here within a short period of time about hydrology. But I hope it kind of sparks some questions in your mind, or at least has brought about a little understanding of where rain is coming from and what happens to it once it falls. So, does anyone have any questions?

MS. REBECCA DICKSON: I am Rebecca Dickson, I am a home owner on Lake Murray. We have spent two summers here now. I am frustrated and actually you have done a great job because you caused me more frustration and caused me to think about some of the information that you presented. I would like to know in your opinion being that you are the professional and you are the professional that studies all this. In your opinion as the professional to me, the home owner, when is

my water level going to be such that I can start docking my boat at my dock and use my property that I paid a significant amount of money for a year and a half ago? You are the professional.

MR. QUEBBEMAN: It is very dependent on the rainfall.

MS. DICKSON: And also dependent on the water got through the use of the SCE&G Hydroelectric Plant. Correct?

MR. QUEBBEMAN: It certainly has an effect, as does evaporation rates, as do the amount of rainfall and when that rainfall occurs. All of those have an effect.

MS. DICKSON: Can I ask a followup question?

MR. QUEBBEMAN: Sure, of course.

MS. DICKSON: Do you or does your company provide recommendations or information to the people that are determining the rate of loss where water spent through the hydroelectric plant, who does the recommendations? Does your company provide the recommendations to the flow that should go through the plant?

MR. QUEBBEMAN: Actually, I think that's a great lead-in to Mike Schimpff who is going to be the third presenter tonight. What we are doing --- and we do make those recommendations, or at least we do those evaluations of different opportunities. Part of the process is the study of the models, of the varying conditions. If we change operations, if we change minimum flows, if we change the

water levels that we need to maintain the reservoir, how are we going to do that? Is it hydrologically possible to meet those requirements? And the models will actually be able to tell that. We have gone through and developed a model that will help us evaluate all those scenarios. So, we don't have the answers right now because we don't know what the constraints are; but that is kind of where we are headed. And Mike Schimpff will certainly get into that a lot more.

MS. DICKSON: On the raising of the water level? Or what is he going to --- He will get into what more? Put it that way.

MR. STUART: To better answer your question. Our subsidy does not make recommendations on what flows go through the project. Those recommendations --- as part of this relicensing, your State and Federal Resource Agencies are making recommendations to --- or will be by the time this is over, on minimum flows, to protect fish habitats, and enhance aquatic fisheries and communities downstream. Right now the project is operating on what they call reserve, or reserve contingencies. That means they operate it only when one of their plants goes off line, and to stabilize the grid. What that entails basically is operating it for an hour, an hour and a half. It may not happen for three months, it may happen twice in three days.

So, that's the way the project is currently operating.

There is a minimal flow that is released and that minimal flow, part of it is an agreement with the South Carolina Department of Health and Environmental Control, the environmental overseer, one of the environmental overseers, at State; and it is to currently protect the fish and downstream interests. Again, it is not what we talked about earlier, I think you came in late, it does not operate in a daily peaking; it doesn't come on every single day. Like I said, it may not come on for seven continuous days, ten, twenty. It just depends on --- the example I used earlier was at the McMeekin Coal Fire Steam Plant there at the Dam, if it's putting out 200 megawatts and all of a sudden it shuts down for whatever reason, if it goes haywire, then what they do is they call on Saluda to stabilize the grid, to make sure you don't have a brown out; and as soon as they get things stable, whether they have to go buy power from somewhere or can get their Urquhart plant up and running in North Augusta, say. Once they do that and stabilize the grid, then Saluda goes off, and it may not operate for ten, twenty, two days. Nobody knows. So, that's the value to SCE&G is to keep the lights on, basically is what it does.

MR. MALCOLM LEAPHART: Malcolm Leaphart. If I could just add a couple of quick comments. One of the key things, Alan, is that the downstream discharges are needed so that those waste water discharges that are permitted by DHEC are

able to run in compliance with the discharge limits.

In other words, they run out of compliance if there is not enough water in the stream. So, that's a very important point. The other thing, I think I have got the map here, but a lot of people don't realize there is 17 waste water discharges, I believe, up the Twelve Mile Creek, and 4 or 5 major ones on the Saluda. So there is a lot more waste water going into that watershed than a lot of people realize. And, Bill, you might want to give that statistic that you calculated the other day, if you ran 18,000 cfs for what period of time? It was 4/10ths of an inch.

MR. BILL ARGENTIERI: 18,000 for one hour was --- 18,000 was maximum generation at Saluda, if you ran it for one hour you would level at Lake Murray by less than half an inch.

MS. DICKSON: Well, I know we have a significant drop in the past two weeks, three weeks. We've had a significant drop. We (inaudible) boat close to the dock, and docking on the end of the dock, and now we can't even do that. So I know we have had a significant drop in the past couple weeks, and now (inaudible) the land (inaudible) supposed to occur. And I know it's affecting the fish in our cove because I feed the fish everyday in our cove to monitor the health of our cove. So I know we are taking significant drops, but that's what I understand we weren't supposed to

take. And as a homeowner I don't appreciate that. I appreciate knowing

what's went on so everybody is on the same page. But the drop wasn't supposed to last this long, and I want to know about when it is going to start --- we see it continually rise. Because I understand the rainfall issue and the runoff issue. And I understand the waste water issue.

MR. STUART: Well, I asked Bill, and they have not had a reserve call in the last two weeks; which means ---

MS. DICKSON: It's dropping.

MR. STUART: And I think that goes back to Jon's point about the influence that evaporation and everything else has on the watershed. They have been releasing the minimal flow and have had no generation in the last two weeks. So, I think it goes exactly back to what he has been trying to explain the effects of the losses and not having any rain.

MR. ARGENTIERI: Most likely, Greenwood is not having any rain either; and they have been holding back their water and haven't been releasing it. And so, our minimum flow is greater than the inflow coming in. And you also have your evaporation issues.

UNIDENTIFIED: Why don't you mention all the sprinkler systems on the Lake?

MR. STUART: There are some water withdrawals within the Lake. A lot of people irrigate their lawns, and to my

knowledge some people actually use it --- City of West Columbia, City of Columbia--- Newberry, there are about four or five water draws on the Lake.

MR. YANITY: The best analogies I have heard as far as Lake Murray is right now is it's basically a big bath tub without a faucet there. There is not enough water coming in to make up for the losses from evaporation, from waste water treatment plants, and things like that. There is just not enough water coming from the upper basin from the lack of rain that Jon just spoke of.

MR. QUEBBEMAN: Once again it comes back to that fact that the size of the watershed is out of control, what area it contributes, and where the rainfall is, is totally dependent upon nature. We have these water withdrawals, we have evaporation. And if that outflow is greater than the inflow, there is going to be a drop in reservoir levels; and, without operations for energy from the Dam.

UNIDENTIFIED MALE: I would like to make a comment. That Lake will still generate power, and that's what it should be doing. And, I mean, basically the loss of the rain, it rises in the winter time and the spring, and it drops in the summer. And if you go anywhere else to some of the lakes, what little bit its dropped and what lower it is ten feet is minute to some of the lakes I have seen. I

mean, you go up North Carolina, it's 80, 90, 100 foot. And I

apologize because you don't have water up to your lot. But this is a watershed did not only fix this area in Columbia but

all the way down to the coast, both the Congaree, the Santee and the others. And until you get rain, you are not going to have this water. And that's the bottom line. Now, I have one other question for you people. I hear that y'all are fixing to block some natural river on the Saluda River, napped waterway down below the Power House. Is that true?

MR. ARGENTIERI: Bill Argentieri, SCE&G. We have an issue with Homeland Security and we are as part of our Homeland Security Program, we are putting a --- we are working on putting a barrier across the Lower Saluda River near the USGS gauge station.

UNIDENTIFIED MALE: What Homeland Security thought this up? The Federal Government or State?

MR. ARGENTIERI: The Federal Energy Regulatory Commission and the Homeland Security, the Federal Homeland Security. We are working in conjunction with each other.

UNIDENTIFIED MALE: Well, the thing is I called the Homeland Security here in Columbia, and they ain't heard nothing about it. Well, I mean I am very displeased with that, you blocking natural water that belongs to this whole community for some (not transcribeable). I think an ungodly reason. There is not a problem up there. If you want to

just block the river.

MR. ARGENTIERI: As long as this is a Homeland Security issue, it's really not a debatable issue.

UNIDENTIFIED MALE: Who with Homeland Security do we need to contact to see if we can't rectify this situation?

MR. ARGENTIERI: I don't have that name. But, I will have to check with my security people.

UNIDENTIFIED MALE: Well, you know it's mighty funny you go to block a whole natural river and nothing was mentioned about it anywhere.

MR. ARGENTIERI: Actually it was. An application with DHEC was filed back in 2004 prior to this relicensing process, and as far as I know it went through its proper notifications and Notices to the Public. And we actually have received the permit to do that back in 2004.

UNIDENTIFIED MALE: Well, you sure didn't advertise it very much --- neither today. But you just about ruined half of the River for fishing and natural water. And I'm really disappointed. Not only have you done that but here is what really --- I was hoping y'all would rectify where you could go down behind the Power House and fish like I used to do thirty years ago, where I could walk down there and walk up on the pines and everything else.

MR. ARGENTIERI: Well, times have changed. I don't know if you know about 9/11, but times have changed.

UNIDENTIFIED MALE: That's an excuse for everything. But, I mean, times have changed, that's right. And you dump Saluda Shoals because you couldn't clean out (inaudible) and continue to walk through. So, now have to pay Fifty Dollars (\$50.00) to use that and put my boat in, where I have gotten it free.

MR. ARGENTERI: This is Saluda Shoals area?

UNIDENTIFIED MALE: Yes. Used to be free. But because y'all didn't maintain it, you didn't try to guard it, you dropped the bottle and gave it to them. And now it's costing Fifty. Now, you talking about taking more water and more fishing rights that are very limited and very crowded as it is under pretense of Homeland Security. Sounds like a bunch of stockholders to me.

MR. ARGENTIERI: As far as I know, I think if you go across the River to Hope Ferry, that's still a public ---

UNIDENTIFIED MALE: (not transcribeable - talks over Argentieri)

MR. ARGENTIERI: I understand your frustrations, but I am sure you probably ---

UNIDENTIFIED MALE: Power line across my land and I didn't want you. You wouldn't want to go around either. So, I mean, you know, it's a two way street. And I think y'all ought to reconsider this, and take a good look how you can

work with the community, the sportsmen, and do a better job

than what you are doing. I used to really think highly of SCE&G, but lately you have gone down in my estimation. Big time. And I mean, I know y'all took a raw deal on the flow

and the height of the Lake, which I can understand that. I am not stupid. And I am very disappointed, and I think a lot of times the homeowners appear self-centered and selfish. When I was a kid you could walk anywhere on Lake Murray and fish, go across yards, go along side yards with no problem because of the high water mark. Now you can't do that; y'all allowed people to go in there and cut the banks down to nothing, manicure them perfectly. And I mean, how much more are y'all going to do damage? That's a good question for y'all. And I tell you what, you are competitor to Southern. I don't know if they are doing the same thing y'all are doing, but they sure make themselves look good on TV.

MR. ARGENTIERI: Who is that?

UNIDENTIFIED MALE: Southern Power, or whatever they call it. Southern Company.

MR. YANITY: One thing I know about Southern, and I can safely speak, that when it comes to the infra-structure and their plants, that they have done everything possible to make you safe and secure. And when it comes down to a safety or security issue with our plants, I mean I that is

just something that there is really no negotiating. We have

to make sure that our plants are safe and that somebody is not going to come up there in a boat full of explosives. Ten years ago that would have been unimaginable, but we know now that anything is feasible.

UNIDENTIFIED MALE: Well, here is what I am trying to say to you. You could make it safe without blocking that much of the water off. Secondly, what are you doing --- what are you going to do about your sub-stations? The other day, six months ago, one of them accidentally got hit by a construction worker, knocked off the USC (inaudible). And I don't see any one of these crazy ideas of trying to do something for sub-stations. So, why pick on one little ole' power generating plant.

MR. ARGENTIERI: Well, it's not just one ----
How much of the River do you believe is being blocked off?

UNIDENTIFIED MALE: From the trestle all the way up to the power house.

MR. ARGENTIERI: And how far do you think that is?

UNIDENTIFIED MALE: That's a long way for us not fishing from. I fish from where the spillway is to the power house, and that's one of the best areas to fish. I been doing it for thirty years now. Now, if you want to put a block off at the end of the wall at the power house, I can understand that. If you want to put lights up there, I could understand that. But you haven't even done that. So, the

security issue is a joke. Maybe you have to light the place up. It's pitch black dark up there. So, I mean, you know, don't ---

MR. ARGENTIERI: Just to help you understand, we are talking about a half a mile out of about a ten mile stretch of River, now.

UNIDENTIFIED MALE: Yeah, that's the best half a mile, and what's more you don't have any land to get out; so, I go upstream so that if my boat breaks down, I can float back home without any problems.

MR. ARGENTIERI: Well, you can still do that with the barrier, you could float back down.

UNIDENTIFIED MALE: Huh! From the barrier, there ain't nothing to fish, it's one little hole for everybody to fish. You have got one big hole from the spill way to the trestle. And then from the trestle up to the power house is some of the best fishing there is. I have done it for thirty years. And it's not a problem up there. If you put a fence around your plant, put some lights up there, people could come and go as they please. And you could put a guard up there, if you wanted to. But you want to take the easy way out and shaft everybody. And you blame it on Homeland Security. That's a crock.

MR. ARGENTIERI: Okay. Thank you.

UNIDENTIFIED MALE: You're welcome.

MR. STUART: Well, with that, I think it's probably a little pertinent to take a break right now. And after we come back, Mike Schimpff will give a presentation on the HEC-Res and the HEC-Ras model. What that model is, and it is going to be a tool to help evaluate the potential impacts of some of these minimum flows that I referenced earlier on Lake elevations, and I think you will find that to be very informative based on some of the questions that you asked. So, if we could come back in say about ten minutes at twenty-five 'til, we will go ahead and get started.

(Off the record - break)

MR. STUART: Mike Schimpff with Kleinschmidt Associates, has had thirty years experience working with reservoir models. And with that, I am going to let him explain what he does the best. Mike.

MR. MIKE SCHIMPF: All right, good evening. We are here to talk about the reservoir operations modeling that we are doing for SCE&G as part of the relicensing. And this modeling effort is being done using two programs developed by the Army Corps of Engineers: the HEC-ResSim model, which is a reservoir operation model which will address the reservoir operations and the outflows from the Dam; and then the HEC-ras model which is a flood profile program which will handle modeling of the Lower Saluda River, which we have extended from the Dam out through the confluence with

the Broad River and down the Congaree. Question? Why are we doing this modeling? I think one of the questions that was raised about developing a plan for operating the

reservoir. We need to develop a means to evaluate the multiple demands that are going to be placed on operation of Lake Murray and the Lower Saluda River as a result of this relicensing: issues such as minimum flows, issues such as Lake level management. There is a whole bunch in those, just the two that I can think of right off the top of my head. But, how is that going to affect project operation? Some of the constraints that will be brought up actually compete against each other. I mean, people want water in the Lake, people want water in the River. They are competing. And, how are we going to deal with them? So, we have a model which will help us evaluate these various constraints. For those of you who have not been attending the RCG Meetings, this modeling work is being done as a Technical Working Committee under the Operations Resource Conservation Group.

They have taken a bunch of folks from the Operations RCG and created a Technical Working Committee to develop the models. I will say that the Operations RCG is one of seven RCGs that have been developed as part of this relicensing work. And they are things that are safety, fish passage, I guess, cultural resources. There's a whole bunch of them

that are out there. To see who the members of the Technical

Working Committee are, we have Dr. Badr, who is the South Carolina State Hydrologist; Larry Turner, from DHEC; Mike Waddell from Trout Unlimited; Ray Ammarell, from SCE&G; Bob Olsen,

from NRE; and myself; and Jon Quebbeman, from Kleinschmidt, who are actually developing the model with review and suggestions and guidance by the rest of the Committee. This Committee then reports to the Operations RCG and presents the results and kind of lets them know where we are in this process. Just so everyone is clear, we have developed a --- at the beginning of this process we had a Mission Statement, and we are trying to hold to this. But the statement is to establish a baseline of current hydraulic and operational conditions; and, aid and analyze, and understand the potential of upstream and downstream effects of changes to project operation. So this is what we are trying to do, and the modeling is our tool that we are going to use to evaluate these. So, the model objectives or, "What's in it for me?" The various groups are going to be presenting constraints. And we are going to use the model to assess the impacts of these environmental constraints on project operation; we are also going to use the model to assess changes in the project operation schemes for their feasibility in the generation. But the ultimate end of the

modeling effort will be to determine a realistic plan for

the future project operations; one that everybody can buy into, not everybody is going to get everything. And not everybody is going to have to give up everything, but one that is going to work for all the groups. Before we go any further, do you have any questions? The stakeholders that are here as to how this is set up?

MS. DICKSON: Who owns the hydraulic plant? Or, what is the deal with the Lake? Who are they intending to get the license from?

MR. SCHIMPF: The license comes from the Federal Energy Regulatory Commission, grants them a license to operate the hydroelectric project. So, it is a Federal license; but within it combines approvals from DHEC, the Army Corps, U.S. Fish and Wildlife ---

MS. DICKSON: So it is an Agency that is within the area that are affected --- and need to contribute to this.

MR. SCHIMPF: They all get a say, and a commenting, as well as the stakeholder process, what we are doing tonight.

And the fact they have all these RCGs, all go into this mix to develop the license that comes out. And when the license is finally issued it may have conditions in it that says, "You will operate the project in such and such a manner." And there could be a whole list of conditions that need to be complied with to run --- to continue operation of the project.

MS. DICKSON: But there is no "Joe" public members here today.

MR. STUART: Tons of them. Lake Murray Association, Trout Unlimited, Lake Murray Homeowners Coalition.

MS. DICKSON: So they are just not listed on your Committee Group there.

MR. STUART: That's correct. One of the first couple of public meetings we had, we identified those members that were on each RCG. And those individuals represent the homeowner groups, and various affiliations. So, there are probably more "John Q" public members than there are agency members, to be perfectly honest. You are well represented.

MS. DICKSON: I just wanted to make sure. I had heard that, and I just wanted to make sure.

MR. STUART: You can go to the Saluda Hydro website, and it actually lists members of each of the RCGs.

MR. SCHIMPF: To make a point, this is not being done in a vacuum. We are actually actively soliciting comments and inputs from all these various groups. And we want their comments earlier than later so that we can get these addressed. So with that, with the public involvement, we have gone through and at our initial meeting here, I think it was probably six or seven months ago when we started this modeling process, we went through a review of the various models that are in the market place. And we picked the two

models that we mentioned, the HEC-ResSim model and the HEC-ras model. And these two models we picked, one --- because they are inter-related, they are produced by the same company, the Army Corps of Engineers, their hydrologic

engineering center. And again, as noted, one models the reservoir level and outflows; the other model models the downstream river conditions; and they feed on each other. One will provide input to the other. Some of the criteria that we needed to evaluate when we picked these is, one, it was publicly available. Anybody can get on the website and download this model. So that was a criteria we needed to have. So, the HEC-ResSim model is the current version, Windows based version of the old HEC-5 model, which is a reservoir simulation model. As noted, it was specifically created for reservoir modeling and management analyses. It has great flexibility in managing large data sets; it allows you to input rules so you can make rule based decisions on daily time steps, hourly time steps, whatever time interval that you want to work with. It can put an application of seasonal rules; one of the examples that we might be looking at is bearing a minimum flow based on season; or, lake level based on seasons. And it has the ability to prioritize the rules. The HEC-ras model is, again, publicly available. You can download it. It's specifically created for riverine modeling. And it integrates directly with the output from

the reservoir model. So, we are going to get output from the ResSim model as the outflows and will pick them and route them down the River, down the Lower Saluda River and see what the impact is to look at issues on the River. The HEC-

Ras can also model the dynamic flow conditions that exist downstream in Lake Murray. One of the things that happens is the flow is very variable to come on within the reserve operation, the flow could go from minimum flow to 10 or 15,000 cfs for a few hours and then drop off. What happens down at the Zoo, down at the confluence with the Congaree as that wave of water travels downstream, is attenuated. I think Jon was mentioning stream attenuation; and that's what is going to happen to that. That's what happens to that flow. It starts out at the Dam at 15,000, by the time it gets down to the Zoo it may only be 5,000 cfs of a peak flow but it lasts for a very long time. So you are stretching that out. The HEC-raz model can make that type of analysis.

Once now we have the models picked, we are developing the watershed system inflow data set. And once we have that, we are going to calibrate the models to historical conditions. We are using historical data to derive the system inflows, and then once we have the system inflows we go into the simulations using the derived inflows to assess the various constraints that we are going to impose on the project. And these can be a whole range of different conditions. As

noted, the model is being prepared by Kleinschmidt; it's being reviewed and accepted by the working group, the Technical Working Group, as mentioned. And so, we have buy in from a variety of sources; Dr. Badr, DHEC, Trout

Unlimited, they are all on board with this model, where we are at with it. So, it's not Kleinschmidt, myself, or anybody trying to push something by without reviewing it; and so we are fairly confident in our approach and our analysis. The stakeholders from the various groups are in process now of developing constraints that they will provide to us for analysis. The Safety Group might provide a constraint about downstream flows. The Homeowners Association might provide a constraint on Lake levels; some of you question, this is what we would like to see in Lake level. And then these will all be presented to the Operations Working Group, which will bring them to the Technical Working Group for analysis. We will do the analysis and bring back the results and see how we can meet, or best meet, all these various constraints. Again, some are competing, some of you may not get all the time; but we will try to work on a solution that best fits all the various constraints that are brought forward. Any questions with the process?

(No response)

MR. SCHIMPF: Okay. Well, here we are, Model

Development. You have seen this watershed slide, Jon was showing that. The components of the model include the upstream inflows, what's contributing flow to Lake Murray. Of course, Lake Murray itself, the stage discharge curve, the stage storage curve. And by "stage", that means level.

Okay, that's the lingo that we use all the time; but that's the water level versus the area. What are the conditions on the Lower Saluda where there are cross sections with the geometry of the River section. And also, what is the cross sections on the Broad and Congaree River. And these lines here really show the model. We start up here at the outlet of Lake Greenwood because there is a gauge there. We come down through into Lake Murray, down to the Lower Saluda, and we have the Broad River here, into the Congaree down here. Our model considers the entire watershed. Inputs are located both upstream and downstream of Lake Murray. And the input data includes reservoir stage data. We have daily data regarding the historic flows being released from the Dam, and we have daily data on the watershed there, the Lake levels. So we are using this input. Just a little better schematic, a blowup of the downstream areas. Again, we have Lake Murray here, the Lower Saluda, the Broad River and then the Congaree. And this is our model scope downstream of Lake Murray. Upstream of Lake Murray, again, we begin here at the USGS gauge Chappell, the Chappell gauge, run down the

Saluda River into the Lake. And then Lake Murray itself with the various inputs; and these circles are input nodes that we have for flow inputs into the system. Available data sources to mention: we have generation data from SCE&G; we have the Lake level from USGS; we have downstream flows from

the USGS gauges, they are two gauges, one right below the Dam and one down on the lower Columbia by the Zoo; we have precipitation data from the Weather Service; and we have USGS flow data for other gauges within the watershed. And we are using all that data in our analyses. And all the USGS and National Weather Service data is available on the internet. Various gauges that are out there that we have: we have the Saluda River at the Chappells gauge, again 1360 square miles that gauge controls or monitors. That data runs from 1926 to the present. And then you can read the rest of these. The Bush River, Little River, Saluda River downstream to Lake Murray, and the Saluda River at Columbia. We have about 18 years of daily data that is in common, and that is what we are modeling right now, from 1988 to the present.

(same man--- UNIDENTIFIED MALE: Do they have any down below in the Congaree?

MR. SCHIMPF: There is a gauge down in the Congaree that's downstream a little bit below our project area; but we are also combining Broad River data with the Saluda River

to get the confluence. You know, adding them together on

the same day. Location of the gauges: again, Lake Greenwood, and then the various gauges in the upper part of the watershed, you have the Dam, the Lower gauge, and then there is a gauge here in the Broad River, and a gauge on the Congaree. In our development of the model, the challenge in

getting the model set up is developing the inflow data. We have --- there is no direct measurement of inflow into Lake Murray. So what we have done, we looked at two methods for developing inflow data. We have tried both of them to see which gave us the best results. The first method, we looked at using the upstream gauges. And we have three gauges: we have the Chappells gauge, we have the Little River gauge, and we have the Bush River gauge. And we took those three gauges, and we added them together, and then we had to make an adjustment because the three gauges do not total the total drainage area of the drainage at Lake Murray. It's about 1700 square miles versus 2400 square miles. So, we had to make an adjustment to the ungauged area. And then we tried the mass balance analysis; and that is an analysis we actually worked backwards. We know the outflow from the Lake, we know the Lake level; and using a relationship that is where inflow is equal to outflow, plus the change in storage in the Lake, we can derive inflow. So we actually hind cast from the outflows to derive the Lake level data.

This is just a little schematic of the process used for the

gauge process, Method 1, as we call it. Again, we have the three gauges here. They all contribute into Lake Murray. And this is an example: in this system we know the Lake levels, we know the outflow, we know the gauged inflow. So we know, this data here we know the Lake level here and we

know the outflow here. What we don't know is the contributing area that is the difference, that 700 square miles of drainage area. So we don't know that, what's the direct inflow into the Lake. And the other factor we don't know is, we don't know evaporation. I think Jon mentioned how significant evaporation is in this watershed, 31 inches out of 47 inches. Again, evaporation is highly variable from year to year, from month to month. And to put a constant into the model, to model all 18 years, some years you might be good, some years you are too much, some years you are not enough, it leads to a lot of potential error in the analysis. And also, what number, what factor, do we apply to the gauges to be a constant to upgrade these gauges to predict the flow that is directly coming into Lake Murray? We tried all kinds of methods, and we just didn't get a good correlation in matching the outflows or the lake levels for Lake Murray. The second method, the mass balance method. Again, we know the same data. We know lake stages, we know the outflow, and we know the stage storage data, stage volume. So, you know, that's the area of the Lake

that is under the water, how much water is actually in the Lake. We need drive inflow. So we knew the Lake level data, we knew the downstream flows coming out of Saluda. And basically used this equation, this mass balance equation and derived the inflows for the Lake. One of the issues that we

have to talk about a little bit in this method is the Lake level data. Jon mentioned Lake Murray is 75 square miles of surface area, 50,000 acres. We are measuring flow to the hundredth of a foot. You know, this much. And we have come up with due to waves, wind, various factors that influence the level measurements on the Lake. We came up --- SCE&G indicated that there is about six-hundredths of a foot of -- - I will call it noise or flutter in the gauge data that typically occurs. If you take six-hundredths of a foot over that 50,000 acres, that equates to somewhere 1500 cfs difference in the numbers. One inch is two thousand --- twenty-two hundred cfs. So that little bit of fluctuation makes a very large difference in the flows. So to adjust that, we went and actually smoothed the Lake data by a variety of methods; ended up using a three day moving average of the various Lake level readings to try to take out some of that fluctuation in the Lake. So, the calibration process we talked about, we needed to develop the inflow hydrograph. We needed the model of all the stage hydrograph by automatically adjusting discharge. We had to

follow historically, observe water levels. And then we compared the calculated stages to the observe stage. And we checked the correlation to a calculated outflows and the observed outflows. Inflows that reached a good fit would be considered calibrated. As mentioned, we tested both methods.

As noted, the gauge method didn't work all that well. But here we are presenting the graph. And this is just a screen shot from the model itself. And one of the requirements for the model was that we could have this simple graphic display. And this is years 1990 to 2006 across the x-axis; and up here is elevation. The red is historical levels; the green is computed; and our model the way we set it up predicts things very closely across the sixteen years of daily data. So, with this we have a few spots in the very low periods that we either had a draw down for maintenance, or there is something going on that we had a little bit of issue with, and we are working on to see if we can resolve that. But we do note in the literature that everyone who uses this model in reservoir modeling has a common issue under low flow and low level conditions. So we think we are pretty close. And we presented this data to the Working Group. And so, we are pretty confident we have a good model in regards to the Lake level and operations. Yes?

MR. LEAPHART: I am trying to understand the discharge.

Is that just the water that passed to the Dam, or was that

the ---

MR. SCHIMPF: Total discharge measured at the gauge just below the Dam.

UNIDENTIFIED MALE: That's taking in effect all the water plants?

MR. SCHIMPF: I am sorry, sir, I cannot hear you.

UNIDENTIFIED MALE: Does that take --- that took in concern all the water plants, too, right?

MR. SCHIMPF: It is whatever is coming out of the Lake. This is just a blowup in scale for about four months. And you can see the green and red lines follow pretty close. There are some variations here, but for the most part we are pretty much right on with the --- and feel we have a good model in regards to the HEC-resSim model. Then moving on, we did a similar thing with the downstream model. We needed to develop a model that went from the Dam downstream. And that model will consider things like water levels, velocities, and issues as mentioned, you know, how things are going to operate once they leave the Dam and run down the Lower Saluda. And for that model we need to develop cross sections at key locations downstream. And the model extended from the Saluda Dam downstream to the Congaree. And we calibrated the model to known water levels based on the USGS gauge data. This is just an aerial view showing the model. All these little flags are where our cross sections

are. This is Lake Murray here; come down the Saluda; the Broad River; and then the Congaree. And you have all these cross sections in the model. Again, just a screen shot from the computer showing the cross sections. The model also interpolates sections in-between our actual cross sections to

give us a finer resolution. Just a cross section plot of a typical cross section in the model. And then the key here is the results of the calibration. We have modeled several different flow conditions. I think we started low flow about 800 cfs, and we go up to about 10,000 cfs. And the diamonds here are the actual elevations as measured at the USGS gauge. For the most part we are within a couple hundredths of a foot of the modeled results versus the actual values measured at the gauge. So we think we are in pretty good shape also with that correlation in the HEC-ras model. So, we have the models. Now, what? What are we going to do with these? We have taken these calibrated models and we are sitting here now waiting for the constraints to be developed by the various Working Groups. And they are going to provide us these conditions; and then we will evaluate the stage impacts on the Lake, impacts on discharge, and impacts downstream, which may include water levels and velocity in the stream. Also, get to determine the frequencies that these constraints may be violated. So, if we set a flow, we

want some flow downstream 1000 cfs, you know, can we deliver that all the time? Maybe we can't --- we can or we can't. But we'll determine how many times we can't meet that, we will determine what the impact is to the Lake level, what's the impact to discharge, and then what's the impact to downstream conditions? We talked a lot about constraints.

The various RCGs have been tasked to provide this required data for each constraint; whether that is water quality constraints, or Lake level constraints, or downstream flow constraints. And the constraints need to be in a specific format, and we have requested that they be identified as specific to elevation, and in terms to Lake level. Provide us a constraint that says, "I want the Lake level to be constant at 1156 all year round." That would be an example of a constraint in the Lake. Or, some things specific to flow like the downstream conditions, "We want 5000 cfs downstream all year round." And those are some examples. But they are specific. We need flow and elevation. What will happen then is that they will be assembled and input into the models as appropriate. And then they will be evaluated in various constraints to determine their reasonableness. And by reasonableness, I mean, "How can we provide them?" Some may not be at all reasonable, there is just no way we can meet them all. Others, you know, we will find they are reasonable and they are going to work out.

Also, as I mentioned early on, some compete against each other. You know, water in the Lake or water downstream. What's it going to be --- you can't have both. So, you know, how are we going to work that out and work on compromise, I guess, is maybe the best word. And just as an example, we put in a sample so you can kind of see how things are going

to shake out; and we came up with something that's totally hypothetical and made it so large that no one will even think it's real. But we have looked at a request for an extreme flow release during summer months for white water rafting. And they have come back with a constraint because they want to operate during June, July and August; and they want a minimum flow of 30,000 cfs. And they want this every day but Monday and Tuesday. So, five days a week we want 30,000 cfs during the summer months. I know it's absurd, but we are going to go with it here. So, we have put the constraint minimum flow between June 1st and August 1st, should be a minimum of 30,000 cfs for extreme white water course. That's what the White Water crowd wants to have. Just some examples here, this is just shots from the model on how the data would be put in. And see, the constraint goes in here and the months; and also, you can select the days. And we can select pretty much any time period that you want, whether it's hourly or any type of constraint. This is just some shots from the model. Yes?

UNIDENTIFIED MALE: With that model like that, can you tell how much water will have to come in, and how long they could keep it running, and how much that come in in that time span, say if the Lake was full?

MR. SCHIMPF: I think you work for me, because here it is. Okay. Here are the results of the --- we ran the

simulation with this constraint. The green line is the predicted water levels. Up here on the stage, the black dash line is our desired guide curve, if you will. And we call it the guide curve, but in this case there is a guide curve every year that allows for an eight foot fluctuation. In this particular example, we are using 352 to 358. When we hit the button and we try to provide that 30,000 cfs the Lake drops like a stone; and we said, "We can't go any further than 346, cut it off." And so then we can see what is required to get back up to the guide curve again in every year. And so, here we go. And obviously providing this flow is very dramatic. If we had a Lake level constraint in there, obviously we can't provide 30,000 cfs and meet the guide curve. So that is one issue. And we get over here during the dry period, I think it was in 2002, we tried to provide the flow but we never had enough water coming in to refill. A condition pretty much maybe like this year, we've never had enough water to get back up to where we should be.

And then, so that year was kind of a bust, we could not

provide that. And what the model will tell us is one, what the impact is to Lake level. We can see that on this graph. We can tell how many times we can provide the 30,000 cfs. Can't do it five days a week, you know, for those months without running into problems. We just draw the Lake down too hard and too fast, so that doesn't work out. And we tell

a whole bunch of stuff in here. But imagine now we are going to add all these other constraints into this. This is just one constraint. We could have ten in here. And they are all going to be trying to work out a solution. Again, just an example, the model also gives you tabular output. And over in here you can see you hit 30,000; the next day we didn't have it, 27, 23, 21, 19, we are out of gas. We don't have enough water, and we are back down to 400 which is our initial minimum flow. So, with these results, again we said we follow the constraint visually, drain the reservoir to a minimum of 346. The dry years we didn't have enough water to refill, to return to the guide curve. And the data shows that when we plotted the tabulations, 50% of the time we would be almost two feet less than what the guide curve should be. Not a place we want to be. I think that it is, you know, it is safe to say that it's in SCE&G's interest as well to have the Lake full. Keeping it low doesn't do anybody any good. The more water --- the fuller it is, the more water there is for all the various uses. So we want to

get the Lake back up on the guide curve, and that's where we want to operate. This is just a plot of the violations and the frequency; and at the 50% point we are down here just under the two feet fluctuation. And this is kind of the results and how we are going to assess the various impacts or constraints on the Lake level and violations. So, that's the key "violations". How many times are you going to not get what you want. If this line was flat, and we are only a foot off the curve, maybe we could do that, we could live with that or cut it down to four days a week, or three days a week. And we could live with that. Or, the White Water folks could live with that and bring that violation number down. So, with all that, here we are. We have two models that are calibrated, set to go. The RCGs are out busily developing their Resource constraints in terms of flow and elevation. As we get those, as they come in to the Operations Group, we are going to get them and we are going run the model simulations using the constraints as the inputs; and we are going to develop or determine the impacts of the constraints on a variety of things. And I have listed a couple of them here. Probably the most obvious, the Project Operations. What's the impact on Project Generation? What's the impact on downstream flows? Flood frequencies? That's an issue downstream. If we change operation of the Lake, we could potentially affect flood conditions. And then obviously, Lake level. And we will have that analysis to

report back to all the Groups and try to end, come back around full circle back to that reasonable operation plan for the Lake. So, with that, I will try to field any questions that you may have. A lot of stuff going on with these models, and try to address any of them. If you all are still awake?

MS. DICKSON: I have one.

MR. SCHIMPF: Fire away.

MS. DICKSON: I didn't hear you start actually. When you included your documentation of the facts from all these years, apparently before we relocated here there were three years where the Lake was drawn down for the building of the new Dam.

MR. SCHIMPF: Right.

MS. DICKSON: Were those years of factual information as far as input and draw down, was that information included in your --- you know, your spread on your information? Or, were those years taken out because of the --- you know.

MR. SCHIMPF: Right. Every day is strictly factual information for the whole period.

MS. DICKSON: So, included those years where the draw downs were significant based on the renovation?

MR. SCHIMPF: Right. In here, it's right ---

MS. DICKSON: I just wanted to make sure I understood the example.

MR. SCHIMPF: Right in this period here. I am not quite sure what happened back in here or in here; but they were maybe maintenance draw down.

UNIDENTIFIED MALE: (inaudible)

MR. SCHIMPF: I can't hear you, I'm sorry.

UNIDENTIFIED MALE: The one right here is like '87 is right up here.

MR. SCHIMPF: Right in here is like 1998 ---

MR. STUART: 1990 draw down, for the plant control?

MR. STUART: '96 was for maintenance on the intake towers. And then you see the remediation work going on.

MS. DICKSON: I thought it was included in there and I was just trying to confirm that, and make sure that I understood that.

UNIDENTIFIED MALE: What about the times in the '60s where you had to open the flood gates?

MR. STUART: That was a little --- I couldn't recall that. Yes?

MR. STEVE SUMMER: Steve Summer, SCANA Services. And just to make sure I am clear on this. These are calibrations. You plug this data in to make sure that when you run the model that it matches up with the existing --- the real conditions. So by running this, the red line and green line being together you know that your model will predict the correct number when you actually plug in.

MR. SCHIMPF: Right. What we are trying to get at is

an inflow data set now that is the actual inflow to the Lake. Now, from now on all the simulations will be using that quote, "calibrated inflow data set". Okay? So, now the only thing we have is inflow coming into the Lake. So pretend the Dam needs are not there, could be a simulation.

Or, whatever you want to do to the system, here's the

inflow coming into the system. And we will then put these various constraints on it and --- I mean, this is just strictly calibration. We have that inflow data set now, and now we will go forward and use that to assess all the various impacts. Did that help you follow that?

MR. SUMMER: Yeah, I was just ---

MR. SCHIMPF: Okay.

MR. SUMMER: But this is just more ---

MR. SCHIMPF: Our calibration.

MR. SUMMER: Yeah. More for my information, was for the Groups information that this is for calibration purposes. That really doesn't --- having a low number in here doesn't mean that the model will give you lower readings on the output.

MR. SCHIMPF: No.

MR. SUMMER: It just makes sure that your output lines up with the real data.

MR. SCHIMPF: Right. These green lines --- if this red and green line here were way off, and if we had the plots

from the other --- there were a couple years where the green line just kind of went off the chart, and said, "What happened there? We are not calibrating well." And with this system, we follow that really close. So we are pretty confident in our calibrations. And now we can go forward and do the analyses. You know, confident that we have existing conditions. The inflow, which is the engine that's going to drive everything, is in good shape. Yes, sir?

MR. MALCOM LEAPHART: Malcolm Leaphart. I was just curious if you know the percentage of discharge that is attributable to the municipal water plants? In other words, how much water are they really taking out compared to the total amount of discharge?

MR. SCHIMPF: I don't know exactly, but you are talking gallons per day versus cubic feet a second. And that's --- you know, it's orders of magnitude. So it's pretty small.

MR. LEAPHART: It's pretty minimal.

MR. SCHIMPF: You know, with the total flow that is coming into the system.

MR. STUART: Malcolm, I can't recall, but it may be in the initial stage document, if you go back and look through that, and the water use, water quality section. There may be some rates in there. You can do the math.

MR. LEAPHART: Well, the reason I ask that, you know,

it's a problem all over the country. Populations are growing and water is --- you know, what it's all about. The fuel to cities, they are talking about inter-basin transfers. And demand won't shrink probably, you know.

MR. SCHIMPF: You know, a big city water system could be on the order of 75,000,000 to 100,000,000 gallons a day.

And, that's not that much compared to the volume that's coming in in here. Anything else?

MR. STUART: Point of clarification. I had the '90 and '96 backwards. '90 was for the maintenance on the intake towers, and '96 was for the quality (inaudible) management.

MR. CHARLENE COLEMAN: I am Charlene Coleman. I am with American White Water. And you put that nice 30,000 cubic feet thing up there. I just want everybody to understand that recreational boaters are not interested in a full force release in the Saluda River. Let's welch that right at the start here. We like all the different levels, and we also fish. So, it is not to our well being or the well being of the River.

MR. SCHIMPF: I tried to pick something that no one would have any problems with, and I guess I did miss that one. Anything else?

(No response)

MR. SCHIMPF: And so we are waiting now, the Groups are still working, and the various RCGs continuing their

work. We will get these constraints in and run the models. And I guess at some point either later this winter or in early spring start actually cranking out some results.

MS. DICKSON: What's the time? Like, when do all those Groups meet? A big article what's been hanging on my freezer for the last winter about published. This is

actually the first one (inaudible) date. When do you want these meetings (inaudible) timeframe for (inaudible).

MR. STUART: The Groups meet --- well, for instance, this week we had three of the Groups meet this week. Some Groups meet more frequently, depending on if there are studies requested. A lot of times if there is a study requested and they need that study to move to the next step, they may not meet until after. If you go to the website, there is a calendar and it actually --- when we establish the next meeting date if the current meeting --- it's posted for to that website. So, I know, for instance, Lake and Land Management Technical Working Committee, it probably meets four times a month. And, you know, the Instream Flow Group probably meets once every three months, you know, because there is a study planned for that. Operations, like I said, when these guys were doing the model, there wasn't a whole lot of sense in these guys being the Technical Working Committee, the main RCGs we call it, there was no sense in us meeting because it was all depending when they get

finished.

MS. DICKSON: When does the license come due? Or when is that determination to be ---

MR. STUART: The filing of the application has to be filed by August of 2008.

MS. DICKSON: So we have a ways yet to go.

MR. STUART: Is not as away as you think it is. We have been doing this probably for almost two years now. And you see, we are just --- we are not event to the point of getting constraints in the model. So, there is still quite a bit of work to be done. And as Mike said, there is an instream flow study that is scheduled for the Lower Saluda, it will probably will not occur until at the earliest next spring because SCE&G is committed to try to raise the Lake levels. And that flow study will require significant releases from Saluda Hydro. So, we are trying to balance --- or, they are trying to balance the Lake users wants and needs with getting these studies on board. But it's a Federal law that they have to file this application by August of '08, and it will be filed, bar none. There may be some clean up work after, but we hope to have everything going at that time.

UNIDENTIFIED MALE: Are y'all trying to raise the --- is there anything to keep the Lake from rising now except the water coming in?

MR. SCHIMPF: That's it. And rain.

UNIDENTIFIED MALE: So, if we get a good wet December like we've had November and December, that Lake would be full by the first of January.

(Everyone speaking simultaneously--not transcribeable)

MS. DICKSON: Believe that the homeowners are reasonable and intelligent, it did concern me as I have seen a significant drop and in the last couple weeks. And the conditions for evaporation and input right now, like we have had some (inaudible) lately up, you know, up not River, but wherever, up in the upper end of our watershed. You know, that is what concerns me. Now, in my view, that was unexpected to me as a homeowner. And it (inaudible) that this grass was coming out, we're monitoring, we don't have to wear shoes across the --- my deck and kick up dirt so we can get in the water. We don't --- we have to walk to our boat to go fishing. You know, I have to fish from --- you know, like knee depth to go fishing. You know, for improvement. And I think that was awfully (inaudible) The last two or three weeks we have seen a good drop. And to me that is a concern to me because it is not something that I as a Lake user was anticipating. And that's really what kind of concerns me, that's what ticked me off.

MR. STUART: Well, one thing you need --- what we

understand is SCE&G within their current license can operate from around 358 all the way down to 345. What they have chosen to do is have a normal operating range from that 352 to 358 because it helps serve their purposes and helps the Lake owners. So, I guess what I am trying to say is these maintenance events are just those. You see, that it was

three I think in the last eighteen years, or whatever the period Mike had up there.

MR. SCHIMPF: You're just coming off one right now.

MR. STUART: Yes. So, you know, things could be worse every year as opposed to just these three events.

MS. DICKSON: Since they've utilized them now for two summers now. Now, our first summer was perfect. Perfect. And then this summer was supposed to be good, not perfect but good. And the water never came up because of the lack of rain. You know, I just want to make sure that my record doesn't go from one and one to one and two, and one and three, and one and four. You know, that's really where I am concerned, you know. And I think if these people are willing to work with everybody on that, they just --- you know, the surprise. But I think it's (inaudible) in the last two or three weeks of the process.

MR. STUART: Well, like I said, I know the commitments there because I am trying to tell them we have

studies we have got done, and they are telling me, "No, you

can't do it because we are trying to raise the Lake." So, you know ---

MS. DICKSON: And we like to fish in the River . We take our (inaudible) down and fish a lot, you know, beneath the Dam. And we go down and fish even at Saluda, beneath the Dam. And, you know, we like to use it below the Dam and

above the Dam. You know, I could (inaudible) and get beyond where we are now.

MR. SUMMER: It might be helpful, you can check the USGS website, too, to see the water that's actually coming out of the Lake, to see if there's any high flows personally. www.usgs.gov. Jon just pulled it up.

MR. SCHIMPF: I have it on my speed tab there. Yeah, and the real time data.

MR. STUART: Those are on the travel link site, I think DNR has one, too.

MR. SCHIMPF: Well, water is fuel. And the more we have, the more fuel we have. So, like to get that level up and the volume. You know, it's like a funnel, the higher it is the more water we have. Any other questions about the modeling, the process, or anything like that that I can answer? I hope not.

(No response)

MR. SCHIMPF: Perfect. Well, thank you very much.

We'll see you, I guess, all again soon. But Jon is going to

call up that website if you want to just see what's coming up on that. Thank you.

MR. STUART: Thank you. Are there any other questions on the relicensing process, deadlines, due dates?

(No response)

MR. STUART: One thing I will say is, these Resource Groups do meet quite frequently. Everyone is invited, even if you are not an active member, you are invited or welcome as an observer. You just need to let us know that you are interested in attending.

END OF PUBLIC MEETING.

Saluda Hydro Relicensing Quarterly Public Meeting

Meeting Agenda

July 18, 2006
10:00 AM & 7:00 PM
Saluda Shoals Park

- 10:00 to 10:05 **Welcome - *Alan Stuart***
- 10:05 to 10:20 **Lake and Land Management RCG Update – *Alan Stuart***
- 10:20 to 10:35 **Fish and Wildlife RCG Update – *Shane Boring***
- 10:35 to 10:50 **Water Quality RCG Update – *Shane Boring***
- 10:50 to 11:05 **Operations RCG Update – *Bret Hoffman***
- 11:05 to 11:20 **Cultural Resources RCG Update – *Bill Green***
- 11:20 to 11:35 **Recreation RCG Update – *Dave Anderson***
- 11:35 to 11:50 **Safety RCG Update – *Dave Anderson***
- 11:50 to 12:00 **Final Questions and Close – *Alan Stuart***

Adjourn



**SALUDA HYDROELECTRIC PROJECT RELICENSING
FERC PROJECT NO. 516
Joint Agency & Public Meeting
July 18, 2006
10:00 A.M. Session**

HOST:

Alan Stuart, Kleinschmidt Associates

PRESENTATIONS:

Alan Stuart, Kleinschmidt Associates

Shane Boring, Kleinschmidt Associates

Bret Hoffman, Kleinschmidt Associates

Bill Green, S&ME

Comments and Questions from the Public

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By: Annette Gore, Court Reporter

MR. ALAN STUART: If I could have everyone's attention, we can go ahead and get started. I want to welcome everybody to our Third Quarterly Public Meeting for this year. We have had two others around January, and then again, I think, in April. Today what we plan to do is try to give an update to everyone on the work that the RCG Groups, Resource Conservation Groups, and the Technical Working Committee, have been doing for about the past ten months. And, we have got a pretty full agenda because there has been a lot of work that's been done. We have a number of facilitators who are part of this process and each one is going to come up and give a breakdown of what the groups have done. My name is Alan Stuart, I'm with Kleinschmidt Associates. I see some new faces in here. I see some regular faces in here, as well. So, I am going to give an update on the work the Lake and Land Management Groups have been doing.

We developed a Mission Statement, for those that have not been a part of this, and I highlighted to me what's the most important part here:

Gather and develop information, study, consider all issues relevant to and impacting upon the Saluda Hydroelectric Shoreline Management Plan.

Basically, we are developing a new Shoreline Management Plan for Lake Murray, and the lower Saluda River corridor.

This kind of recaps the RCG, the Resource Conservation Group, who met on November 2nd, of last year, and developed a Mission Statement, formed what we call a Technical Working

Committee. This is the group that actually makes the nuts and the bolts of the Shoreline Management Plan and the issues. The RCG met on April 26th to discuss the progress of the Technical Working Committee, and we developed a draft outline of the new Shoreline Management Plan. Our next meeting is scheduled for next month on the 22nd.

These individuals basically form the Technical Working Committee for the lake and land management. As you can see, it represents a very diverse group of interests from SCE&G to Lake Murray Association, to your Natural Resources Department, and to Parks and Recreation & Tourism. These individuals were --- I want to say selected by the Resource Conservation Group members. To date we have completed a first draft of the items:

- buffer zone management guidelines;
- shoreline woody debris;
- bank stabilization guidelines;
- erosion & sedimentation guidelines;
- residential dock permitting;
- limited brushing guidelines;
- excavation guidelines;
- environmentally sensitive areas mapping and management; and
- perennial intermittent stream mapping.

I highlighted this --- or a bold, the word "draft" here. Once we've developed the entire --- or gone through all the issues and developed drafts, they will go back to SCE&G Management for review, and then they will go back to the Resource Conservation Group for their review and comments.

Other items that we have addressed in the meetings include moorings in the Lake, boat and personal watercraft lifts at docks, permitted water withdrawals, and aquatic plant management. Here's additional issues that were raised in reference to the initial stages that we issued: multi-slip dock permitting is our next item; sale of fringe land; land reclassification, which includes re-balancing for recreational wildlife needs; general permit conditions that SCE&G administers around the Lake; developing a shoreline management education program. The goal of that is to help educate Lake owners around the Lake, who live on the Lake, of the importance of buffer zones and managing those buffer zones. Also, we will be dealing with commercial marinas, and looking at the lower Saluda River corridor.

Here is our schedule, tentative schedule. We hope to have a draft of the new Shoreline Management Plan to SCE&G management, for view by April of next year; a draft to the Resource Conservation Group by July; and a draft Shoreline Management Plan out for public review by September of next year. It's a pretty tight schedule, but we have made a lot of progress in this Technical Working Committee. So, I think we can pretty much meet that schedule. Are there any questions on the Lake and Land Management, Resource Conservation Group, or Technical Working Committee?

UNIDENTIFIED: I have. What is the difference between Lake and Land Management and Technical Working Committee?

MR. STUART: You talking about the Resource Conservation? The way we structured the Resource Conservation Group is the large group that we formed that has --- anybody can be part of it if they want to participate. The Technical Working Committee, we tried to identify those individuals who have technical knowledge that could develop, be the best candidates to develop the recommendations that we put in the Shoreline Management Plan. That's why it includes a lot of your Resource Agency Personnel, and some of your Lake Homeowners around the Lake who are very well versed in the issues along the Lake. Other questions?

UNIDENTIFIED: Is this the one that's (inaudible)? Is this where that comes in, or it comes up later?

MR. STUART: I think it may come up later in the recreation. RCG. One thing we can do, at the end we are going to have about fifteen minutes to ask questions, so that may be the proper time for that. One thing I would like to say is, if you have a question, please state who you are and who you are with, and then state your question clearly. The proceeding here is being audio and video taped, so we need to make sure we have an accurate record of who is speaking. Anything else?

(No response)

MR. STUART: Well, I am going to turn it over to Shane Boring, who is going to discuss fish and wildlife and water quality.

MR. SHANE BORING: As Alan mentioned, I am Shane Boring. I am a Wildlife Biologist with Kleinschmidt Associates. I am just going to review, I am going to have a little bit more material than Alan did. There are seven Technical Working Committees between the Wildlife and Fisheries RCG, and the Water Quality RCG. We are going to start with the Wildlife and Fisheries group. This is a Mission Statement that was developed by the RCG at one of the initial meetings. I am not going to read the whole thing, it's on the website if people want to read it more in depth. The most important thing is the first sentence:

The mission is to develop a protection, mitigation, and enhancement agreement relative to Fisheries and Wildlife Management for inclusion with the Saluda Hydroelectric Project License Application.

And that's the license application that will be submitted to the Federal Energy Regulatory Commission. There have been three meetings of the RCG since its inception. Like I just said, the November 10th Meeting, which was for development of the Mission Statement; the December 7th Meeting was a joint meeting with the Water Quality RCG; and those were technical presentations that were --- there was interest expressed in having presentations relative to those topics in both of those RCGs. So, we had a big joint meeting that was all presentations. The last meeting we had was on February 22nd, and that focused on review of the study requests that were assigned to the Fish and Wildlife RCG, and also formation of the Technical Working Committee. After some discussion, the RCG formed six Technical Working Committees for Fish and Wildlife: Diadromous Fish, Rare, Threatened, and Dangerous Species; Instream Flow and Aquatic Habitat, Terrestrial Resources; Freshwater Mussels and Benthic Microinvertebrates; and Fish Entrainment. We are going to start with the Diadromous Fish Technical Working Committee. And these are the members, membership listed at the top. And apparently Gerrit is

so important that he rated two entries in my list here. So, I just notice that this morning. The group has had three meetings so far, and we will review the status of those in a moment. Just to quickly review what the group has been working on, I should mention that this group was actually formed prior to the beginning of the Relicensing Process. This is a study, diadromous fish study, was something that we knew we were going to have to do; it's pretty standard for relicensing proceedings. So, we met with the agencies and NGOs in November, 2004, and had an initial meeting; and we went ahead and started sampling in, I believe, it was February of 2005, which was really before the relicensing ever got going. But we've done sampling during the Spring of 2005 and 2006; involved gillnet sampling for blueback herring, American shad, and hickory shad, which are all diadromous species. The gillnetting was done by Dr. Jeff Isley (phonetic) at Clemson University. Also, we had eel pots out to sample for adult and sub-adult American eels. These are the locations of where the sampling took place, I believe. The circles are the gillnetting locations, and the squares are the eel pot locations. Some of these have been adjusted a little bit due to logistical constraints with flow and other things, so they had problems fishing their net. But this just gives you a general idea of the distribution down the river of the sampling locations. Just a quick run down of the results. The 2005 gillnetting, there is a report, final report, available on the Saluda Relicensing website that details the study and the results; but, just in a nutshell 14 species were captured, but no shad or herring. 2006 gillnetting wrapped up on June 1st. The report is not out yet, it is forthcoming from the folks at Clemson. However, I do know that there were, again, no shad or herring captured during that study. Now, what that means is left up to some interpretation; it could mean that the densities are so low that we are just not detecting those fish in there. No eels were captured during the eel pot sampling, at least during the sampling period, there were several incidental captures, I think. Where is Alison?

MS. GUTH: Over here.

MR. BORING: There was an eel captured the day you went to pick the traps up, wasn't it? After the study was over with?

MS. GUTH: There was an eel captured during our taking samples.

MR. BORING: Okay. And then several others during SCE&G and DNR fisheries, their electro fishing for the lower Saluda River. So, none during the study but we caught a couple when we didn't mean to. Due to the ineffectiveness of the eel pot, we decided to undertake a different method. We are using an experimental eel ladder, and not only are we trying different methods but this also allows us to sample for different life stages. What we will be sampling for here is in-migrating, what they call, yellow eels, juvenile eels that are migrating from the ocean back up into the rivers to live. This is the location in the Saluda spillway where the eel ramp has been installed; the rocky area up on the top there is where the leakage flow comes down from the spillway gates and trickles into this little plunge pool area, for lack of a better term; and that provides an attraction flow which guides the eels upstream. This is a picture of what the ladder looks like. You can see the attraction flow coming in on the right hand side. There is hose that comes down and through gravity through a cycling provides flow down the pipe, which serves an attraction flow, and there is a collection box at the top. This method has been used at some of the Santee Cooper projects, and I know there was a project in Virginia that used this method very effectively. In fact, some projects have caught thousands of eels using this. So, we have only had it in a few weeks, but we'll see if we find anything.

The next group is the Fish Entrainment Technical Working Committee. This is a smaller group, and mainly focused on those people that have experience developing fish entrainment studies. To date the fish entrainment group has not had any formal meetings; however, a study plan has been developed for a desktop entrainment study, which was drafted and submitted to the Technical Working Committee over e-mail, and was reviewed and approved. And I believe the final is on the website. We will begin pulling that study together very soon. And what that will do is it will take existing entrainment studies, field studies, that were done for similar projects and it will compile those into a matrix, into a database that will allow us to develop estimates of entrainment for the Saluda project. This, again, is another one of those sort of standard studies for relicensing.

Now, the Rare, Threatened and Endangered Species Technical Working Committee. This is the group that has a lot of work to do. Again, this is something that is pretty standard with relicensing. A lot of the same people that are on the other group; we have had two meetings to date, March 8th and May 3rd. Right now we are working on developing a database type tracking tool that will allow us to look at what species have been documented as occurring in the project area. And comments filed in response to the initial consultation document, the U.S. Fish and Wildlife Service listed 47 species as occurring in the four county region around the project. That certainly does not mean that all 47 of those species occur at the project, but that's the standard starting point for this procedure. So, now we will start looking at where these species have been documented; we will also look at available habitat. And if there is no habitat and it has not been documented there, then working with the Fish and Wildlife Service we will start marking those off the list, and we will get down to the ones that we really have to deal with. And Kelly Miller from Kleinschmidt is in the back of the room; she has been working pretty hard on this database. This information will provide a baseline for the license application that we filed with the FERC, and also for a process called the Section 7 Consultation which is required under the Endangered Species Act for any major Federal action in issuing the licenses considered Federal action. Just a couple of studies that the Threatened and Endangered Species Technical Working Committee already has in process: woodstork surveys have been going on since, I believe, February of 2005. This is a species that typically is coastal, oriented toward coastal areas; but in the Summer of 2004 there were some that were discovered in the upper end of the Lake almost in the --- basically in the Saluda River. And we are trying to figure out what their status is, why they are there. Since 2004, we have done almost two years worth of study, or a year and a half worth of study, and those wood storks have not been back yet. There is a report of the 2005 study on the website; and the 2006 study is ongoing. We fly a monthly survey, in a small aircraft, and survey all those areas of potential habitat and also the areas where storks have been seen in the past. Also, on May 31st of this year we did a survey of the lower Saluda River for rocky shoals spider lily. This species has been documented in the Broad River downstream, a Columbia project, but there were some uncertainty about its status in the Lower Saluda. There were two potential rocky shoals spider lily plants located in the Ocean Boulevard rapid area of the Lower Saluda. Probably what needs to happen is we need to go back and check those again, to double check their identity. But other than that, we don't know of any in the Lower Saluda. Shortnose sturgeon is another Federally listed species that we will be looking at. You have to have a permit from National Marine Fishery Service to sample for this species, and from what I understand that permit is on the Director's desk in Charleston waiting to be signed. So, we should have that in time to begin our sampling in 2007. I should mention that there is a study plan for the sturgeon on the website if anyone is interested.

The Terrestrial Resources Technical Working Committee, this is the membership, again, a lot of the same folks. We try to hold these meetings, two or three of these Technical Working Committees, the Fish and Wildlife Technical Committees, we try to hold them on the same day to cut down on travel for the agencies and make things a little more expeditious. So, again, we met on March 8th and May 3rd. One of the study requests assigned to this group is the request for a bird survey of project lands. After the Technical Working Committee started looking at some of the available data from Riverbanks Zoo, Columbia Audubon, and just other birders around the area, I think there was a notice that went out on the Carolina Bird website, or "listserve" (phonetic), which is run by Duke University. And we had a number of responses, and based on that, the TWC decided that this issue could be addressed through existing data. We are compiling a final species list now, and that will be submitted at our --- when is the next meeting, the 26th. The meeting on the 26th, and that should pretty much close out this issue. There was also a request for water fowl surveys, a study plan is being developed. It will document water fowl usage during the winter months. That will most likely be performed by a Savannah River Ecology Lab, which is run by the University of Georgia, and will involve a monthly aerial survey.

The next group is the Freshwater Mussels and Benthic Macroinvertebrate Technical Working Committee. Again, a lot of the same folks. Dr. Jim Glover from SCDNR is not correct, he is at DHEC. He is an expert in macroinvertebrates, and provides a lot of insight in this group. Meetings on May 3rd and June 14th. One of the major items that this group is dealing with is the mussel survey at Lake Murray, lower Saluda River, and the Congaree River. That was completed last week; we did our last survey last Wednesday, I believe. So, those results have not been compiled yet. John Alderman in North Carolina is the expert that was hired to do this work, and he is still preparing the report. I believe there is somewhere in the neighborhood of about sixteen species between the Lake and the Congaree River, below the Dam there were no species in the Lower Saluda. None of these species were Federally listed. Benthic macroinvertebrates study is another study request that was assigned to this group. There are several years of existing data for the Lower Saluda. I believe those years are correct; but if anyone is interested in any of these reports, they do exist and I can pass those on to you. They were done by Shealy Environmental. Right now we are doing a study plan to incorporate a multi-habitat component into the methodology that is already being performed. After the TWC had a look at these existing reports it was decided that the methodology that is being done now is acceptable, and we are just going to continue that for maybe a couple of years. We haven't quite settled on the number yet, but that work is going to continue as long as we add this multi-habitat component, which is the EPA Rapid Bio-assessment Method, which is dipnet type method as opposed to an artificial sub-strait which we are using now.

The Instream Flow/Aquatic Habitat Technical Working Committee is a larger group that has a lot of work to do, is typically one of the major issues for the relicensing. You can see there are quite a number of folks from different agencies, and American Rivers, NGOs. Two meetings so far. We just kicked this group off on May 3rd, so we are just really getting rolling on this. There is an existing instream flow study that was conducted by South Carolina Department of Natural Resources in 1989, and '90, in that range. Before we start an inflow stream study associated with this relicensing we have a technical expert for instream flow studies within Kleinschmidt that is reviewing the existing study, and is preparing a brief to present to the Technical Working Committee so that we can determine the applicability of this existing study to the current relicensing, and whether any further studies are needed. Another study request has been assigned

to this group is the Potential for Self-Sustaining Trout Fishery in the Lower Saluda, which I believe was submitted by Trout Unlimited. After some technical discussions the working group has decided the best way to deal with this issue is to prepare a technical white paper which from a scientific standpoint will analyze the potential for this type of fishery. One of the other study requests assigned to this group is the flood plain flow evaluations. There are a number of studies that are available from the National Park Service associated with Congaree National Park. We are gathering those studies together now to assist their applicability to the current relicensing and will move forward from there. Also, there was a request for a comprehensive habitat assessment. And the agencies, South Carolina DNR, Fish and Wildlife Service, are developing a list of what they would like to see in terms of the GIS coverages for the habitat assessment and we'll begin developing those as soon as we get that framework. Questions about Fish and Wildlife?

MR. TONY BEBBER: What did you say about mussels in the lower Saluda River?

MR. BORING: There are no mussels in the lower Saluda River. There were some where --- when you get into the confluence area there are a couple little rivulets (phonetic) coming out from the Broad River, and there were some blowout from one of those little rivulets, there were the species that were in the Broad, some shells and other things were being kicked out. It's right in that area where there is the rocky shoal spider lily, it's just upstream of Highway 12 Bridge. There were some species right there, but I think they were associated with the Broad. Could you state your name, please?

MR. BEBBER: Oh, I'm sorry. Tony Bebbber with South Carolina Parks, Recreation and Tourism.

MR. BORING: Thank you. I think there were seven or eight species in the Lake, and about seven or eight species in the Congaree and the Broad. But that's purely from memory. I haven't seen the summary of the data yet, so --- and some of those species may be common between the two but I don't think so. Anything else?

(No response)

MR. BORING: I successfully bored everyone to death. The next group will be the Water Quality Resource Conservation Group. Again, this is the mission statement, similar to what was developed for Fish and Wildlife. Again, the most important part is that the mission of this group is to develop a what we call a protection mitigation and enhancement agreement to submit with the license application. There have also been three meetings of this group so far. The November 9th meeting focused on development of the mission statement. The December 7th meeting, as I stated before, was a joint meeting with the Fish and Wildlife Group that consisted mostly of technical presentations. And the February 21st meeting focused on formation of the Technical Working Committee's review of the study requests and then assignment of those study requests to the various Technical Working Committee. This is the Water Quality Technical Working Committee, again, a little bit larger group because this is the group that has a lot of work to do. Water Quality, there is a number of study requests that we are dealing with, so we have a very diverse group working on it. There have been, I believe, five Water Quality Technical Working Committee meetings so far. One of those by a conference call. And the notes for all of these are available on the website if you want to get caught up with what's been going on with this Technical Working Committee. Just to quickly review the status of a couple of the study requests that this group is actively working on: Effects of Project Operations on Summer Habitat for

Striped Bass, Jim Ruane from Reservoir Environmental, Incorporated in Chattanooga, Tennessee is working on a model to evaluate the effect of Unit 5 on Summer Habitat for Stripers, and that should be --- what's the status of that, Alan?

MR. STUART: Should be out in August.

MR. BORING: Should be out in August. Okay. DO and Temperature Effects on Fresh Water Mussels: again, we can't look at temperature and DO effects until we know what species we are looking at. And as I state before, the mussel survey was completed on July 13th, and a report will be forthcoming. The Technical Working Committee will have a look at this report, or have a look at the findings, and will decide where to go on this issue from there. Downstream Temperature Effects of the Cold Water Releases, we currently have a study plan in place that was developed by the Technical Working Committee. And that can be found on the website. And that's currently being executed. We have paired temperature sensors in nine locations ranging from the Lake Murray Dam all the way down to roughly the 601 Bridge on the Congaree River, which is sort of a downstream extent of Congaree National Park. And, we have some summary information on that data if anyone is interested, just get in touch with me.

Evaluation of Potential for TMDL Development, a total maximum daily load. That's a method for controlling point and non-point source input. It's kind of a framework. SCDHEC would be the agency that would have to implement that. It is a regulatory thing. And DHEC has expressed that they are not in a position to develop that at this time, but they are continuing to develop a strategy. So most likely, this will not fit into the relicensing process or timeline. The status of Existing Downstream Waterfall, its conditions, it's something that was requested by South Carolina DNR and other agencies. In essence the hub baffles and other things that have been installed at Lake Murray Dam to improve the water quality of the water that is coming out of the Dam, that has changed what the baseline is. The conditions are better than they used to be. So, we are trying to figure out now what the effectiveness of the hub baffles are. And there was a report issued in June of 2006 that summarizes --- which units, Alan?

MR. STUART: 1 and 5.

MR. BORING: 1 and 5. And the other units will be tested this Fall. And that will provide the baseline in terms of the aeration efficiency of the unit. The final study plan that's being actively dealt with by this group is Cove Water Quality in Lake Murray. Lake Murray Association has developed a study plan and methodology for sampling water quality in some of the coves. And I believe they began their studying or began their sampling about six eight weeks ago, I am not certain. There might be somebody from that group that could confirm that. But we are going to have a look at this data as well as what SCE&G and DHEC, and other agencies have collected, and then decide where to go from there to fulfill this study request. And that's just about all of the requests that they are actively working on. With that, I will take any questions. Steve?

MR. BELL: Steve Bell. Has there been a consensus by the Technical Water Quality Technical Committee that we are not going to do a TMDL as part of the relicensing?

MR. BORING: Alan, you were at the most recent meeting, do you want to --- or, at least in the meeting that there were TMDL. Do you want to field that one?

MR. STUART: Alan Stuart of Kleinschmidt. The latest thing that we have heard, and Shane pointed out, the DHEC is not in a position at this time to pursue a TMDL. They are the only ones that can implement a TMDL, our Technical Working Committee does not have that authority. If it appears that DHEC, you know, can develop a schedule that does coincide with the relicensing, if they come forward; but right now from my understanding in discussions with them, they are years out from implementing a TMDL.

MR. BORING: And we have to file a license application in when?

MR. STUART: August, by 2008

MR. BORING: Any other questions? Joy.

MS. JOY DOWNS: I am Joy Downs, Lake Murray Association. What does DHEC propose to do? They just said that their survey will not fit into the timeline, do they have a timeline? Or have they spoken to that at all?

MR. BORING: Actually, as Alan said, they are not in a position, I think, budgetary and other reasons, to pursue a TMDL at this time. They never stated any sort of schedule at all, from what I understand.

MS. DOWNS: Well, my understanding is that DHEC can use partnerships to help with the financing. And so, I am wondering if we can pursue that.

MR. BORING: Okay. I don't know if there is anyone from --- anyone that wants to speak to it. I really can't respond to that, I am just here to facilitate the meeting. So, I really can't speak to that at all. Anyone else?

(No response)

MR. BORING: Well, thank you for your time. And the next speaker is Bret Hoffman. And, Bret, what are you going to talk about? I don't even know.

MR. BRET HOFFMAN: Operations.

MR. BORING: Operations.

MR. HOFFMAN: Good morning. I am Bret Hoffman with Kleinschmidt Associates. I am an engineer working on the project, and I am going to go over the --- we will talk about the Resource Conservation Group for Operations, the projects of what we have been doing. We have got our Mission Statement here, and again I am not going to read all of this. But, the primary objective of the Operations Group is to create a model of the Saluda Project, both the physical and hydrologic input for this model will be used to balance inflows and outflows that is going to help determine the various interests of water, both in the Lake and in the Lower Saluda, and even down to the Congaree River, how much water is allocated in different areas and take into consideration physical constraints such as storage of the Lake.

List of our meetings that we have had thus far, the first three or four meetings were RCG meetings where we developed a Mission Statement and discussed what model to use, or to have for different programs that are available to do this type of work. The Technical Working Committees were formed in the January timeframe and have met April, May, July and we got another one scheduled for August. Now, we have two Technical Working Committees. The Operations Technical Working Committee is actually creating a model and is going to put all of the various requests from the different Resource Conservation Groups into the model; and that will determine different simulations that come out of the model. Generation Review is another Technical Working Committee that was formed and basically they are reviewing the existing function of the Saluda to provide power demand. Participants in the Operations Resource Conservation Group, we have people from all of the other RCGs because there are some interests within every Resource Conservation Group that are affected by the operation of Saluda Hydro. Other participants are Hydrologists, these are the people that understand how to do this water modeling, this resource allocation modeling. I think there is an individual from DHEC; there is an individual from DNR. And we have a certified hydrologist with Kleinschmidt who is actually generating the model and putting all this information together. And SCE&G has some representatives in the Technical Working Committees as well, they have historic knowledge of the hydraulic model for Saluda. Again, the objective of the model is to balance the resource of Lake Murray and all of Saluda. There is only so much water that we could clearly see this year, and where and what you do with that water? Do we want it in the downstream areas, well that's going to affect some areas of the Lake, and to balance those issues out? That is exactly what the program is designed to do. Again, taking in the physical limitations basically storage, and the availability of water, rainfall and the basin. These are a few of the issues that are being balanced for this; obviously the fisheries, and the upstream and the downstream areas, hydropower, flood control. We haven't had significant heavy rainfalls recently, but it has happened in the past and it will happen in the future. Drought events, that's an interesting one; where your allocations go when there is not enough water for everybody who wants it for their purposes. The model we've chosen is the standard for national relicensing efforts. Now, it's called HEC-Res-Sim. The Army Corp of Engineers developed this. HEC, is their hydrologic engineering group. And Res-Sims stands for reservoir simulator. Again, it's user-defined goals which are basically issues that I covered on the previous slide about water quality, or fisheries in the lake, different requests from different REGs, or user-defined goals that they want in different areas. It takes specific points within the system, and you tell it exactly --- you tell the model exactly how much water or how much flow you want at that point, and it balances all these versus each other. Hydrologic inputs, is how much water is available to satisfy all these needs. Long term planning, that's what we are using the model for in relicensing. You can also use it for operations if SCE&G chooses to use this exact same thing, and in the future they can. And like I said, it is the National Standard for relicensing efforts. Model structure, water shed extent that basically consists of the entire drainage basin. I am not sure, maybe 2000 some square miles, I can't remember how large the drainage basin is. And the downstream river system, things below the Saluda Dam; that include not just the Saluda River but above the confluence, the Broad River upstream, and downstream down to the Congaree State Park. There are interests in the Congaree State Park, so we have to include inputs from Broad River. This is a basic map of --- doesn't go all the way up, but you can see the magnitude of the watershed that affects Lake Murray and the Saluda River project. You can see Lake Greenwood and east, all these little points here are areas of interest. Most of these -- or, some of these are going to be watershed input. For instance, this one here up by Lake Greenwood, that's going to be how much water comes out of Lake Greenwood at Chapel Station, and comes into the Lake through that route.

All of this information is input into the model as hydrology. There is a little bit closer zoom in there, you can see Little River, there is a gauge there. That's water that is coming in from that area. The inputs are both gauged and ungauged sources. We use gauged sources when we can because the USGS puts these gauges in, and that's data that we can get right off the internet. There are areas where it's ungauged. You have tributaries in the basin runoff that basically you have to study from weather events. SCE&G has had an individual working on that for sometime now involved, and has supplied us a good bit of information about the watershed. Outflows and evaporation, that's pretty self-explanatory; what water is released from the plant. And evaporation is a big consideration with Lake Murray because there are days in the past where we lost more water into the air than was actually coming into the Lake. They will use a typical year for a lot of the planning, and then they will also look at a very heavy flow year, and also a very dry year to give consideration to both flood events and droughts.

As I said earlier, all the requests that come from the different RCGs, we are asking them to be related to the stage and/or flow at a specific location. If you have got a water quality issue at this point, water quality models can turn those requests to how much water you need at that point. So things like that would be input into the model as to different user defined requests. We will run the simulation model with all these requests, input it, and there is almost guaranteed not going to be enough water for everybody; so, what you do, if you look at how much --- you know, how much did you satisfy this individual's needs, you know, maybe 80% of the time. And than that 20% of the time when you weren't able to satisfy what they wanted, how bad did you come up short? And that's going to go back and forth with the groups. We will run the model, we will give the results to the groups, and we will have to go back to individual stakeholders; we will take the results and say, "Can we live with this, or can't we? Do we need more here?" This is an interactive process, it's going to go back and forth. I wish it would take one route, but it is not going to happen that way. And the final outcome, once everybody comes to terms on what they can agree with, is going to be included in the PM&E agreement.

We have another Technical Working Committee, on the 23rd of August, where we will be finalizing the base model, presenting that to --- subsequently presenting that to the Operations and other Resource Conservation Groups. And after that, we will be submitting from those groups their requests for what their user defined inputs are going to be. What are their needs from the model? What are their needs in different areas of the project? Questions?

(No response)

MR. HOFFMAN: All right. In that case, I am going to turn it over to Dave Anderson --- oh, Bill. I'm sorry, Bill Green. Sorry, Bill.

MR. STUART: After Bill's presentation, I will offer that we take a break for about five or ten minutes, we are ahead of schedule. And give people a chance to use the restrooms, or get refreshments if you need to. So, if everybody is in agreement with that, we will break after Bill's presentation.

MR. BILL GREEN: I am Bill Green with S&ME. And I am going to talk more about the Cultural Resource surveys that have been done, rather than the Conservation Group; because, the Cultural Resource Conservation Group has only held one meeting so far, about nine months ago, and we are scheduled to have another one on September 8th, because we felt we really didn't

have much to discuss in the interim until the surveys were almost completed. So, I will talk about what we have done to date.

Primary participants in this process are the Federal Energy Regulatory Commission, or FERC; South Carolina Electric and Gas; State Historic Preservation Office; The Catawba Indian Nation; and the Advisory Council on Historic Preservation. Other participants include South Carolina Department of Natural Resources; South Carolina Institute of Archeology and Anthropology; Eastern Band of Cherokee Indians; other Federally recognized Indian Tribes on a limited basis; and Cultural Resource Conservation Group; and the public. Here is just a list of the CRCG participants to date. The list floats back and forth, if people want to join, that's fine; or, some people left.

The Laws, Regulations and Guidelines regarding Cultural Resources in this process include the National Environmental Policy Act; National Historic Preservation Act, which is the primary one that we have to deal with, and that includes Section 106, which is the most important Section for this process and its implementing Regulations, protection of historic properties. There is also FERC Guidelines for Environmental Assessment and Historic Preservation Management Plan Preparation; there is Secretary of Interior Standards and Guidelines for Archeology & Historic Preservation, and State Historic Preservation Office Guidelines for Archeological Investigations and Survey of Historic Properties. Since this is the primary section, I am going to read it briefly. This is why SCE&G has to go through this process. "The head of any Federal Agency having direct or indirect jurisdiction over a proposed Federal, or Federally assisted undertaking ---" in this case, the relicensing, "shall prior to the issuance of any license take into account the effect of the undertaking on any District site building, structure or object that is included in or eligible for inclusion in the National Register. The head of any such Federal Agency shall afford the Advisory Council on Historic Preservation a reasonable opportunity to comment with regard to the undertaking."

There are four basic steps to protecting historic properties. The first part is to initiate the Section 106 process. The second part is you identify historic properties that may be out there. Third is you assess any effects that may be caused by the undertaking by the relicensing. And then you resolve any adverse effects that may be occurring.

Step 1) Initiate the 106 process. You define the undertaking, in this case the relicensing. Identify participants and coordinate with SHPO, the State Historic Preservation Office. And we have completed that step and define the area of potential effects. That's the area that could be affected by the relicensing. And not necessarily limited to Lake Murray, but sometimes includes the surrounding area; and in this case also includes portions of the lower Saluda River. We have completed that stage.

Currently, we are in the second stage, which is to identify historic properties. We did a Stage I reconnaissance survey about a year ago where the goals were to identify previously recorded historic and archeological sites, sites we already knew about. Identify areas for additional archeological survey, and record historic structures that might be out there surrounding the Lake and lower Saluda River. Areas examined during the Stage I survey consisted of 620 miles of shoreline along Lake Murray, and 25 miles of Riverbank on the Saluda, Little Saluda, and lower Saluda Rivers and their major tributaries. The results of the reconnaissance survey were that 42 previously recorded archeological sites were found in the records. We identified 40 new

archeological sites. There were 7 previously recorded structures that are listed and are eligible for listing in the National Register of Historic Places, including the old Power House. And there are 8 newly recorded structures, only one of which is eligible for the National Register. We are currently in the process of doing a Stage II intensive survey. And those are the areas that we identified as having a high probability of containing significant archeological sites. This included 735 acres on 139 islands in Lake Murray; 89 miles of shoreline in a 177 different areas along Lake Murray; 4 miles of Riverbank along the lower Saluda River; and 19 acres on seven islands in the lower Saluda River. To date, we have examined 71 islands in Lake Murray; 21 shoreline areas in Lexington County; 2 miles of Riverbank in the lower Saluda River, and Corley Island. What we still have left is 68 islands in Lake Murray, most of which are small privately owned islands; 79 shoreline areas in Lexington County; 77 shoreline areas in Richland, Newberry and Saluda Counties; and 2 miles of Riverbank and six islands in the lower Saluda River. The results so far as the Stage II survey are, we found 15 new archeological sites so far; 4 sites were revisited from the Stage I survey. These sites include 12 prehistoric sites ranging from the Early Archaic Period to the Lake Woodland Period, which is roughly 10,000 years ago to about 1,000 years ago. We found 31 historic sites, mostly 19th and early 20th Century home sites; and five cemeteries; and there are 7 sites with both prehistoric and historic components to them. By far the most interesting site we found to date is 38LX531. This is located along the lower Saluda River, and you can see in the top right corner there is a picture, of course, of the site. It is almost 12 acres in size; there is excellent preservation; very deeply buried artifacts; and numerous features. A hearth feature, how easy it is to see, but right here you can see some fire burnt hobbles eroding out of the Riverbank. And that was from a fire pit that we think is probably about 4,000 to 5,000 years old. There are no occupations at the site going back more than 5,000 years. This potential occupation is going back as much as 13,500 years ago. And it could prove to be one of the most interesting important site in the Southeastern U.S. That's it. Any questions?

MR. GEORGE DUKE: My name is George Duke, Lake Murray Homeowners Coalition. And the question I had just to follow up your last statement, that's on the lower Saluda River. What do you do next? You know, if the water continues to rush down there and erodes that site away, it goes away.

MR. GREEN: Right. We are currently talking with SCE&G and FERC, and the Catawba Indian Nation, about what to do about how to --- I think the site is going to have to be excavated, or at least a portion of the site will have to be excavated because there is active erosion occurring at the site. So, we are in the process of preparing a plan to deal with the --- what's the best way to go to the next stage and start to recover some of the data from the site. One of the questions we still have is how deep the artifacts are. Because our traditional methods of testing are is we dig a shovel test, and we can only go down about 3, 3/12 feet at the most. We had a geomorphologist come to look at the site from the University of Georgia; and there is potentially stuff down as much as 15 to 20 feet, just above the River. So, we need to come up with some innovative methods to find out what is actually down there and we may start in the Fall on looking at that.

MR. DUKE: Is that more time consuming?

MR. GREEN: Yes. Any other questions?

(No response)

MR. GREEN: Okay, thank you.

MR. STUART: How about if we adjourn for about ten minutes, and get back around ten after eleven.

(Off the record - break)

MR. DAVE ANDERSON: All right, I know most of you. My name is Dave Anderson, I am with Kleinschmidt Associates, also. I will be talking to y'all a little bit about the Recreation RCG and the Safety RCG. Like you have seen before, here is the Mission Statement that we have developed within the Recreation RCG. Basically the premise is to come up with a recreation plan for Lake Murray and the lower Saluda River. What that plan entails, we will be talking about on Friday. We have a meeting coming up on Friday, July 21st; prior to that we have had four meetings of the Recreation RCG. Within those meetings we have developed a Mission Statement; we are working on what I call a work plan which will outline what the Recreation RCG is supposed to be accomplishing. And there is a couple of other documents that I will go over real quick with you guys. I don't think anybody has mentioned it, maybe they have, but if you are interested, all of meeting notes, obviously except for July 21st, are on the website. So, if you are interested in what's been going on in detail, you can go back and review those.

The process that the Recreation Group is using - and I apologize, but I couldn't make this any bigger, but I can go through at least the steps with you. It is what we are calling a Standard Process which involves four steps. The first is to determine the desired future condition. And that is where we have come up with a vision statement for Lake Murray and the lower Saluda River. It is still in draft form, we are planning on finalizing it on Friday. Basically, it's a statement that says what the Group expects Lake Murray and the River to look like in thirty to fifty years from a broad perspective. The second step is to establish a baseline condition; and that is kind of the step we are on right now. We are documenting existing conditions, we are researching any agreements that SCE&G has with any other entities as far as O&Ms, and projecting future demands. And like I said, we are kind of on this step right now and we are conducting this study, which I will talk a little bit more about in a little while. The third step is to determine what is needed and when. Once we have what is out there now, as a group we are going to get together and say, "Well, how do we get from where we are now to where we want it to look like in thirty years?" And that will involve identifying new sites, identifying upgrades to existing sites possibly, setting aside SCE&G-owned lands for future recreation; are some of the steps we can take to make sure that your vision of Lake Murray and the River comes to fruition in thirty years. Finally, we will determine how needs will be met and who is responsible. Like I said, we will identify possible new recreation sites, possibly upgrade some existing sites, and try to identify who is responsible. SCE&G has indicated that they are interested in coming to agreements with some of the County Governments for O&M costs on existing sites or new sites, with the PRT hopefully. Though SCE&G, while they are in the recreation business they don't want to be as far into the recreation businesses.

All right, Work Products coming out of Recreation RCG. I talked a little bit about the work plan. We have a list of issues that have been identified, which are listed on the work plan. We have a list of tasks and responsibilities that we need to accomplish to hopefully solve most of the issues, and also, work scope and product. What are going to do to make sure that we get a consensus based recreation plan by the time this relicensing process is over? I have already mentioned

something about the vision statement. The solution principles is basically, there is about ten of them. What they basically say is, "How do we want to develop new recreation sites as far as agreements with other entities; impacts to commercial operations, trying to reduce those impacts so those commercial operations aren't affected by any new public sites; coming up with a schedule of improvements; so on and so forth. We are also using what I call a standard process form, which is a list of about I think around forty questions that we are going to answer over the next year that tie into this four step process. You know, where are the recreation sites located now? We obviously have a map to help us. Are they being used at capacity? We are trying to figure that out through this study we are conducting. And finally, we will develop a recreation plan which will outline what steps we are going to take to ensure that the public has access to Lake Murray and the lower Saluda River for the term of the new license.

A brief list of identified issues, it certainly gets more detailed than this. This is kind of my breakdown into five bullets of what we are dealing with:

- Recreational facilities, both looking at existing sites and identifying possible new sites;
- Conservation of land, we will be working with the Lake and Management RCG to make recommendations as to what lands we think should be set aside for recreation access in the future;
- This concept of adaptive management has been brought up, and the best --- I guess the best way to explain that is, it's like a sail boat trip. We are at Point (a) right now trying to get to Point (b), which is good recreational access at the project. Well, thirty to fifty years is a long way down the road, so what we are trying to do is set up the process within the Recreation Plan that as we go through our course of thirty or fifty years down the road, we can make adjustments as necessary to the plan;
- Downstream flows is an issue that we are dealing with, both within this RCG and also within the Safety RCG, identifying preferred recreational flows for downstream users and safety impacts related to those flows;
- And also, lake levels, trying to identify what lake level provide best access for the majority of Lake users. And we will make that recommendation to the Operations RCG for inclusion in the model that Bret talked about.

We have formed three Technical Working Committees to deal with these issues:

- The first is the Recreation Management TWC. They are dealing with identifying the existing sites, cataloging existing sites, and making recommendations for new sites to the larger RCG.
- We have a Downstream Flows Working Technical Committee that is looking on issues on the lower Saluda River; and
- Also at Lake levels TWC that will be working on Lake levels in Lake Murray.

Right now we have three ongoing, or plan studies:

- The recreation assessment study plan is in place right now; it has been finalized by the TWC; it is available on the website;
- We are going to talk about a boat density study on Wednesday within the Recreation Management TWC; and

- Also, there is a draft downstream recreation flow assessment that will be going out to the Downstream Flow TWC, hopefully within about a week.

And we will finalize those and get those in place by the end of Summer.

The goals of the Recreation Assessment are to characterize existing recreational use of SCE&G's recreation sites on Lake Murray and the lower Saluda River and to identify future recreational needs related to public recreation sites on the Lake and the River. There are basically about three steps within the study. The first step has been completed where somebody from Kleinschmidt has gone out to --- I think there are 16 or 18 sites that we have identified that are SCE&G owned and also the mill race area down at the zoo and Saluda Shoals, the one right across the River, Metts (phonetic) landing, and Gardendale on the River. And we have cataloged a number of variables, a number of restrooms at the sites, a number of boat launch lanes; whether the site is ADA compliant, which is the American with Disabilities Act. Basically there are about, I think, 2 or 3 pages that our clerk went around and checked them off, and what we are going to be doing is putting that into a database that SCE&G and the RCG can use to determine what's out there now, what do we need in the future? Future recreational needs will be determined from a variety of sources. RCG is serving as a stakeholder group to make recommendations on what new sites are needed. We will be using population projections for the counties surrounding Lake Murray to determine if the sites are not being used at capacity now, when might they be, when might we need new sites to accommodate the growth in this area? And then also there is existing studies that we'll be using like the Lower Saluda Corridor Plan, and a couple others.

The boat density study, like I said, it's in draft form right now; the TWC is meeting Wednesday afternoon to discuss this. Basically what this is going to do is, using existing data, we are going to look at the number of boats per acre in Lake Murray, using some existing research that suggests how many acres per boat you need for a given activity. We will determine if there are certain areas of the Lake that are being used that are over capacity, or either under capacity, and what might attribute to that capacity. You know, is it shoreline development? Maybe there is a boat launch in the area, and people tend to stay around where they are. That study plan should be in place, I'll say within the next month, and will be available on the website.

The downstream flows, this is still in draft form also. The goals of this study are to characterize existing recreation opportunities on the lower Saluda River, which is being done in conjunction with the recreation assessment; and we have gone to the sites on the River and identified what activities are taking place at those sites. Understanding the rate of change of the lower Saluda River at various flows at various River reaches. This is to document what happens when water is coming through the Dam, how fast does the River rise, how does that contribute to safety concerns, what can we do about some of these possible safety issues? And we will try to identify the public safety issues associated with the lower Saluda River flow. Our schedule, right now, we are about mid-2006, got some clean up items that first bit. Like I said, Friday we'll be finalizing most of those, or in fact all of those on that first bullet. We are completing identification of studies, most of the studies should be completed by the Spring of next year. We are sampling the entire recreation season for the Lake. So, we have people out there now that are counting people coming in the sites, doing some interviews with people asking them about their experience that day. Once those studies are completed in 2007/2008, we will use all of the data that we have gathered and start working toward this recreation plan. Does anybody have any questions on the Recreation RCG? Yes, sir.

MR. REGIS PARSONS: My name is Regis Parsons. I am one of the landowners that's on a cove, Two Bird Cove. The last quarterly meeting you had, the issue of Two Bird Cove being designated as a special recreation area came up; and one of the answers that was given was that that designation was being handled under a separate process from the process that you are going through today.

MR. ANDERSON: Correct.

MR. PARSONS: I wonder if you or somebody else could explain? Is that the case, is what you are doing irrelevant to the actual designation of that cove? And there is a separate process for consideration of designation for boat anchoring?

MR. ANDERSON: I will tell you what I know, and then maybe Tommy or David can speak a little bit. Right now SCE&G is required to update their shoreline management plan every four years? Five years? Every five years.

MR. BOOZER: That designation took place with doing a review of --- a five year review of the SCE&G shoreline management plan.

MR. PARSONS: And that is the existing shoreline management plan.

MR. BOOZER: Yes, sir.

MR. PARSONS: Not this shoreline management plan.

MR. BOOZER: Not this one. No, this is of the relicensing, I guess, we do need to separate them a little bit. But what we are talking about today is the relicensing. But as far as Two Bird Cove, we have orders that apply to some land sales and land classifications, and also the identification of some type of special recreation area. There are two areas that were identified for the areas. The Hurricane Cove, which is up there across from (inaudible) by the big gap; and then also Two Bird Cove. Those two areas were identified as areas that a lot of (inaudible) to be (inaudible). And they came to --- they petitioned FERC for SCE&G to evaluate those areas; and we evaluated those areas with the US Fish and Wildlife, DNR, and the other resource agencies, and came to the conclusion that they could be designated as a special recreation area.

MR. PARSONS: Well, then once that designation has taken place through that process, which I take it there was no public input in the process as opposed to this process where there is public input, is this process that we are about through, give consideration to Two Bird Cove at all, or is Two Bird Cove and what's going to happen with Two Bird Cove not considered in what is about to happen with this process?

MR. BOOZER: Well, when we talk about what happened at Two Bird Cove, first of all it has been designated as a special recreation area as far as the usage, or whatever, it is still going to be the same whether it's designated or not. Now, I guess what y'all's concern would be in this particular case would be what additional impact may occur in that area other than just folks going through there more. And those are the kind of issues that we will be discussed under the recreation or either in the --- we haven't really decided yet whether it's going to be the Recreation Committee or under the Land Use Committee. Because as you and I discussed, y'all were

concerned about what was going to happen on the land side of the Cove, what could people get out and picnic, people get out and build fires, the examples that you gave me in our discussion. And those will be addressed in this Committee and these Committees.

MR. PARSONS: Well, those are legitimate points of concern. Also, I think you have already talked about the water qualities in these coves. Is there going to be some cross hashed between this Committee's desire to respond to Recreation and the other Committee's requirement to look at water quality? Because you pack in a bunch of boats, you are going to affect that water quality. So, you already know that that is an environmentally sensitive area back in there, and so now you are going to put boats.

MR. BOOZER: Where?

MR. PARSONS: Well, you say in the outer part of the Cove. But there is no definition what the outer part of the Cove is, and there is no enforcement that I could see to try and limit boats to stay into that. Even if you came up with a specific number of boats you want to keep in there, there is no enforcement mechanism to do that. And, Tommy, the only other thing I would say in response to your point is, it's just going to be like it was. We thought it was okay to go ahead and make --- you know, to make the designation. Well, if it is going to be like it is, why make the designation? Why not leave it the way it was?

MR. BOOZER: Well, we say the same thing. But, we were ordered to make the designation by FERC.

MR. PARSONS: Now, why would FERC put pressure? Because somebody put pressure on them. Boaters. We never had a public hearing to get landowners appraised of what was going on and to get input from the landowners.

MR. ANDERSON: I would have to assume that as part of the SMP review process there was some public input to what was going on.

MR. PARSONS: I would love to see the documentation of where that is.

MR. STUART: Randy.

MR. RANDY MAHAN: Randy Mahan, SCANA Corporation. This did come out of a five year review program. In the five year review program, it is noticed and everybody had the opportunity to participate in that. And what happened in this case is that one of the interests that chose to participate in the review process made the request for special designation for two areas, Hurricane Cove and Two Bird Cove. We didn't have a lot we could respond to in regard to Two Bird Cove because we had never heard of it before.

MR. MAHAN: It took us months to have the person who made that request to even help us to identify what the heck he was talking about. But in any case, we were not asked by the FERC whether we thought it was a good idea. We were told by the FERC in spite of our response back to them that we didn't see the need for special designation, that we would specially designate this area. We were told to coordinate it to DNR, US Fish and Wildlife; and we did that. We concluded as you are quite correct, the back end of that cove, one is already identified as an

Environmental Assessment Area. It's really too shallow for much in the way of any kind of boating access. For sure it was too shallow for the deep keel sailboats back in the back end of the Cove. So, the idea is if you don't want and don't expect that these folks who made the request, which as the sailing community, to be going back in that way. So we didn't really have any good reason why we were designating an area. The designated area is just that. You have said, "Okay, this is a special area." What does it mean? We are not buoying it off, we are not putting signs up inviting people to do anything they weren't already doing. We simply have designated it as an area because we were required to by the FERC. I am not exactly sure what it means other than somebody said this is a nice area, we would like to designate it as special. I think what their idea is that by designating this area, then that gives them some protection in terms of activities along the shoreline that might otherwise be approved that would impact this specially designated area. So, if anything, I think in view of those people who made that request, and in the view of the FERC, by designating this as a special recreation area it gets some protection, because it's exactly the kind of things perhaps that you might be worried about. But again, it's a designation. SCE&G has no authority to control activities on the waters of the State of South Carolina, Lake Murray. We really don't have any ability to control anything. We do what the FERC told us, and we designated it because an interest group said they thought it needed to be, and it's done. But I am not sure, again, what ultimate affect that has on anything.

MR. PARSONS: Well, if your point is that it's done. Okay? I saw the memo from Tommy in which he tried to explain some of this stuff. And the statement in his memo says, "We had the concerns about it, but it has been decided after review that we will make the designation." I worked in Government for thirty years, so I understand. You were told to make the designation. It stinks because there was no public participation that I can see. I understand what you are saying. How much outreach do you suppose --- only people that had outreach to them that I can see is the boaters; they knew about it. But the homeowners got no opportunity to get any input into what was going on. I understand what you are saying.

MR. MAHAN: Well, just like any legal notice that goes in the paper, and you and I, unless we have got nothing else to do in our lives, don't read those things. There was notice that went out. But let me say this, we are working on new shoreline management plans built upon what we already have going forward. I don't see, quite frankly, anything that's off the table in terms of, "We think the plan needs to be amended, do we need to have this, this item or that item?" If there is something in the plan now including a special designation of Two Bird Cove that you believe needs to be addressed in this new plan, get your licks in now, get the comment in. As far as I am concerned, the same kind of issue that led the FERC to say, "We should designate it," can be applied to have them say, "Perhaps it does need to be designated." Don't give up now. Yes, the decision was made, but remember even before relicensing these plans were five years reviewed, every five years, for the opportunity to change, to adjust, to what we now know that we didn't know five years before. So, it's not fixed in concrete. I think that's the message I am trying to get to you. Now, the likelihood of undesignating an area, I don't know. Some folks might say we're backing up a little bit. But if you want to make the point, we will make the request if it's a legitimate request, get your comments into relicensing, comments into the FERC, get your comments in to folks who participated in the Shoreline Management Review process. And it may or may not be able to be addressed, but at least you will have gotten your point asked.

MR. ANDERSON: And to address your issue of like the cross hatching between water quality and these designations, one of the solution principles that I mentioned, obviously if we are

looking at adding a new facility or upgrading a facility is we do have to look at biological factors. You know, the people around that area, would they be supportive of a new site there or so? During this presentation it looks like we have all these side lines, you know, water quality, fish and wildlife. What we are missing is --- or, what is in place is there is an umbrella; it's called the Saluda Hydro Relicensing Group, which is pretty much everybody that has participated that will ultimately look, along with SCE&G management at what comes out of this process, and say, "Does it all fit together?" So, the cross hatching is being addressed. Any other questions on recreation?

(No response)

MR. ANDERSON: All right, let's move on to perhaps the most interesting, at least lively, RCG. Safety Resource Conservation Group, I am also the facilitator for this group. We have developed a Mission Statement just like the other RCGs. I don't want to sit here and read it off to you, but basically paring it down "*the mission of the Safety RCG is to make Lake Murray and the lower Saluda River as safe as is reasonably possible for the public.*" We are working on a safety program that will address many of the issues that have been brought up. We have having a meeting on Thursday, I didn't list that one this one; but it seems that that will be our sixth meeting on Thursday, July 20th. Again, these meetings notes are all on the website, they have been finalized. There is about, I believe, around twenty-five members in this RCG representing anywhere from Lake Murray Association to Lexington County Sheriff's Department, to the Columbia Fire Department, City of Columbia Parks and Recreation. We have got a whole gamut of interests represented in this group. There are two work products that we are currently discussing. One is the Work Plan, much like the Recreation RCG. This list, the identified issues that have been brought forth, the task and responsibilities of the RCG to address those issues, and the work scope and product. What is our ultimate destination out of this group? Which a draft outline has been submitted to the REG, which is one thing we will be discussing on Thursday, of a safety program. I don't want to get into it too much farther beyond that since the RCG really hasn't had a chance to comment on it. But, we will be working on that for at least the foreseeable future to work on our identified issues. And again, this is my interpretation, trying to break this down into about five bullets. The work plan will probably be on the website within the next month or so, hopefully a finalized work plan. And you can look at the details to these because it does get way more interesting than I could put in five bullets. First, fluctuating Lake and River levels has been brought forth that when the Lake drops down in the winter there are safety issues associated with that. Also, safety issues associated with fluctuating River levels when they start releasing water out of the Dam, there are some safety concerns in the River. Shoal markers, identification of shoals and who is responsible for marking those shoals is an issue that has been brought forth. Communications concerning Lake levels and releases from the Dam. Boat traffic and congestion, especially related to cove areas. Systematic collection of accident data on the Lake and the River. And, ingress/egress on the lower Saluda River, how do we get the people into the River safely? And if something happens, how do we get them out of the River safely? There is one Technical Working Committee that has been formed out of the RCG. We have named it the Hazardous Areas Technical Working Committee. The objective of that TWC is to identify unmarked hazards on the Lake and propose potential solutions to those unmarked hazards. We have one ongoing, or actually it's just a plan study right now. Like I said, this relates back to the Recreation RCG. At our last meeting we determined that that study was needed to assess this rate of change on the River and associated safety concerns. Rather than forming a new TWC just to address that, most of the people are --- all of the people on the Downstream Flows

Technical Working Committee out of the Recreation RCG are also in the Safety RCG. So, we just tasked that TWC with addressing safety concerns on the River. The same slide you saw a little while ago, it's in draft form; it has not gone out to the TWC yet. But these, I think, are agreed upon goals of the study. Basically, what is of concern to the Safety RCG is understanding the rate of change on the River, and identifying potential public safety issues associated with River flows.

Schedules for the Safety RCG, we will be finalizing the Mission Statement and Work Plan Thursday. I think we have completed identification of studies through the formation of a Hazardous Areas TWC in tasking the Downstream Flows TWC with addressing safety issues, as well. We are working on compiling accident data on the Lake through the help of South Carolina DNR, compiling accident data on the River through working with Columbia Fire Department and City of Columbia. Trout Unlimited, we are now using anecdotal data of what has happened on the River. Once we get all of this stuff together we are going to draft an outline; and the outline has been submitted to the RCG and we will be talking about that on Thursday of a safety program. I don't want to get too much into that since the RCG hasn't really had a chance to talk about it yet. And then, 2007/2008 we will finish up our work and provide comments on the draft license application; also, we will be taking recommendations and looking at what is happening in the other RCGs to make sure that safety is addressed with whatever agreements are put in place as a result of the relicensing process. Does anybody have any questions on Safety RCG?

(No response)

MR. ANDERSON: And if you like lively meetings, I would encourage you to show up. These usually are, at least from I have seen, the most animated --- the most animated group that I am working with, at least. All right, I will turn it back over to Alan, who will wrap this up. If anybody has additional questions that you thought of, I am sure we can address them at this point.

MR. STUART: Does anybody have any questions on the --- George?

MR. GEORGE DUKE: I have two fundamental questions. My name is George Duke, Lake Murray Homeowners Coalition. One is a process question, these presentations that we got today are a great summary for what has been going on. Will they be on the website?

MR. STUART: Yes, they will.

MR. DUKE: Thank you very much. One of the early things that I thought would be nice. We all know what Lake Murray looks like now, and it seems to me there was some discussion of a build out plan was to be put in the future. Where does that fall into this? Is there any plan to put a picture of what the Lake would like in the next twenty-five or thirty years, the license period?

MR. STUART: Bill Mathias, myself, Randy and Bill Argentieri all sat down after one of the Resource Conservation Groups we had recently; and the consensus was that Bill and I would sit down and try to develop some type of build out date and roll it out the groups to consider. But right now, I would say it's basically on Bill Mathias and my shoulders at this point.

MR. DUKE: And that will be shared with all the RCGs, as well as the quarterly meetings that bring in a lot of different homeowner diverse groups.

MR. STUART: Right.

MR. DUKE: Thank you.

MR. STUART: Anybody else?

(No response)

MR. STUART: We mentioned the website, I know you'll see a lot of information in here. This is our Saluda Hydro Relicensing website. This has all the information that is generated in this process. I was asked during the break if the RCG Groups and the Technical Working Committees were open to the public, they are, you can attend as an observer. Go to the calendar, it lists the meeting dates in advance; you just click on this. I am trying to stay back here to make sure George can hear me. It's a pretty user friendly website. As you can see it lists it a couple of months in advance. This identifies the next Lake and Land Management Resource Conservation Group, that's the big group. This would be a Technical Working Committee meeting. If you do plan to attend, you need to --- you can either e-mail Alison.Guth@KleinschmidtUSA.com; or, you can call our office. Most of our meetings are held at the Lake Murray Training Center, and there's a security gate there and you can't get through if you don't let us know, they will stop you. So, it is open to the public. Like I said, feel free to show up if you are so inclined. We have encouraged that from the start. The Resource Groups are all listed here. This is where you will find study plans, meeting minutes, mission statement for each one of the groups. This is the Lake and Land Management, here is all the Technical Working Committee meeting notes, just go there. They are in PDF format, they are easily accessible. And it goes through sequential order. Any questions on the relicensing?

(No response)

MR. STUART: Ultimately we have to file an application by August of 2008. What the application will do is it will analyze all the issues identified, and proposed mitigation measures. That's the most important document, it is a Federal law. It has to be filed two years in advance of the license expiration. So, that date will not change. Any questions? If you grabbed a pen and a pad when you came in, the relicensing website address is on both of those items. Yes, sir?

MR. ALAN BOSNEY (phonetic): Alan Bosney (phonetic) with the Lake Murray Association. You mentioned a build out study. Bill Mathias very rightly last winter at the Lake and Land Management voiced very strongly I thought that the need to a necessity for the build out study. I think that there are so many questions that we are addressing on recreation, safety and a multitude of other topics, that hinge directly on what we are going to look like twenty-five, thirty years down the road. The question is, how soon and when will that study be available? Because I think it's going to give direction to many of the Technical Working Groups, and RCGs, it's essential. And frankly, I was surprised that we didn't have such going into this process. And I don't think we can really be that meaningful in our goal and our direction unless, and until, we have that study. So, what is the schedule? Who all is developing it? When can we expect that we will have some data from such a study to give us guidance?

MR. STUART: As far as the schedule, I would imagine --- I haven't talked with Bill, but I would like to get something by the end of the year. You know, a study plan, if you will, to the RCGs to let them understand what we are trying to do, and what we are trying to accomplish with that. I would say by the end of the year you will see something. Bill?

MR. BILL MATHIAS: I am Bill Mathias, LMA, Lake Murray Power Squadron. It should be pointed out that we haven't found an example of anybody who has ever done a build out study. And the reason I got involved with all of these people who are working in this was my big mouth. Because, as you said, I think it is absolutely critical that this be done. But the problem is there is no simple plan or methodology to turn to and simply to apply that to this situation. So, the first problem that has got to be resolved is we have got to develop some kind of methodology about how to go about this. And that's the current sticking point. So, Bob or anybody else, if you have any ideas, e-mail me, Alan, anybody, we need all the help we can get because we are still trying to figure out exactly how to do it. But I think it is critical that it be done.

MR. STUART: I know I have done a little research, and Bill has as well, and I concur with what he said. In the FERC relicensing context it is new ground. There has been other planners and other, you know, for sub-divisions and some other things that I have seen out there; but this would be at least one of the first to do one in terms of build out for a FERC relicensing type project. But we certainly will take suggestions on the inputs and what you would like to try to see out of this build out. Other questions?

(No response)

MR. STUART: I would like to thank everyone for attending, it's good to see new faces. We will have virtually the same meeting again tonight. If there is something you thought about and want to ask, come on back to the 7:00 o'clock meeting.

PUBLIC MEETING ADJOURNED

**SALUDA HYDROELECTRIC PROJECT RELICENSING
FERC PROJECT NO. 516
Joint Agency & Public Meeting
July 18, 2006
7:00 P.M. Session**

HOST:

Alan Stuart, Kleinschmidt Associates

PRESENTATIONS:

Alan Stuart, Kleinschmidt Associates

Shane Boring, Kleinschmidt Associates

Bret Hoffman, Kleinschmidt Associates

Bill Green, S&ME

Dave Anderson, Kleinschmidt Associates

Comments and Questions from the Public

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By: Annette Gore, Court Reporter

MR. ALAN STUART: I think we can go ahead and get started. We will just allow those that are running a little late to come on in as they get here. I would like to welcome everybody to our Saluda Hydro Regimenting Quarterly Public Meeting. My name is Alan Stuart, I am with Kleinschmidt Associates. Tonight's meeting, we are basically going to give an update on our Resource Conservation Groups and Technical Working Committees that were formed during this relicensing. We have, as you see on your agenda, seven RCGs, is what we refer them to. You will see that throughout the presentation quite frequently. A couple of housekeeping items, there will be a question and answer session at the end of each presentation for the RCG Groups. If you have questions that pertain to the information that the facilitator presented, please ask him at that point. If you have other questions with respect to just how this process is going and other things, there will be some time at the end for you to ask those. So, if you could save those questions until the end. Also, we audio and videotape these meetings for the record. If you do have a question, I ask that you state your name and who you represent; if you are just a general concerned citizen, that's sufficient. If you are representing a Homeowners Association, or a State or Federal Agency, please indicate who you are with. Are there any questions? If you need restrooms, we will try to take a break about midway through, the restrooms --- there's a set down this way and set over here to the right as you go out the door.

Without further delay, we have quite a bit of information to present so I think it will take almost the entire two hours.

I am going to present what the Lake and Land Management Resource Conservation Group and Technical Working Committees have been working on. We received a number of issues. One of the first items of business that we decided was to develop a Mission Statement, each Resource Conservation Group decided it would be a good idea to develop one that kind of lays the foundation for where they want to go. I highlighted what I consider the most important part that the Resource Conservation Group will do: "Will gather and develop information, and study and consider all the issues relevant to and impacting upon the Saluda Hydroelectric Project, Shoreline Management Plan, and supporting Guidelines". That covers quite a few things as you will see as we go through this. Our first meeting, November 2nd, we developed this Mission Statement; February 9th, we developed what we call a Technical Working Committee. That's a much smaller group; it is comprised of individuals who were identified as experts in certain fields it represents, which I will show you in just a minute; a diverse number of agencies, Lake Homeowner Associations, and SCE&G representatives. April 26th, we convened a meeting with the RCG to go over the progress of the Technical Working Committee. We also developed a draft outline of what we think is going to encompass the new Shoreline Management Plan. Our next meeting is scheduled for August 22nd.

This is the Technical Working Committee. The Resource Conservation Group has about forty-two members, but to really try to get to the nuts and bolts of each one of these issues, we decided it would be more expeditious to get just those people that have a working knowledge of what is going on around the Lake. What we draft in this Technical Working Committee goes back to the Resource Conservation Group for their review and comment. As I said, you can see that there is quite a diverse number of individuals with varying backgrounds. You have Lexington County, Fish and Wildlife Service, DNR, and a number of the Lake Murray Homeowner Association members. Here is some of the work that we have done to date. You can see we developed what we call Buffer Zone Management Guidelines, Shoreline Woody Debris, Bank Stabilization Guidelines and Permitting, Erosion & Sedimentation Guidelines, Residential Dock Permitting, Limited Brushing Guidelines, Excavation Guidelines. We have addressed Environmentally Sensitive Areas and mapped them. And also mapped Perennial and Intermittent Streams around the Lake. Other items that we have addressed include moorings around the Lake, Boat and Personal Watercraft Lifts, Permitted Withdrawals for Residential Use. This does not include Municipal Water Supplies Withdrawals. That is done under a different permitting; that is done through the Federal Energy Regulatory Commission. And we have also addressed Aquatic Plant Management within the Lake. We have some outstanding issues that are yet to be resolved:

- multi-slip dock permitting;
- sale of fringe lands;
- land reclassification which includes re-balancing for recreational and wildlife habitats;
- general permit conditions;
- developing a shoreline management education program. This is something that Tommy Boozer with SCE&G thought would be a really good program. The intent will be to help educate homeowners around the Lake of the importance of buffer zone management, the importance of buffer zones and why we are doing this;
- addressing commercial marinas; and finally
- looking at the Lower Saluda River corridors.

A schedule, as I said, the intent is to draft a new Shoreline Management Plan; that needs to go to SCE&G management for review. As you notice, we do have a number of SCE&G participants

and we have a pretty good handle on where we think management will buy into. But it is still going to them for their ultimate approval. After that, it will go back to the RCG members for their review and comment, and then finally it will be drafted and put out for public comment, and hopefully in the draft application which will come out later next year. With that, I will entertain any questions with respect to Lake and Land Management and what we are trying to accomplish, and what we have accomplished to date.

(No response)

MR. STUART: Okay. With that, I am going to turn it over to Shane Boring, he is going to talk about Fish and Wildlife RCG and Water Quality Resource Conservation Group.

MR. SHANE BORING: Like Alan mentioned, I am Shane Boring. I am a Wildlife Biologist with Kleinschmidt. I am going to be reviewing what is going on with the Fish and Wildlife and the Water Quality Resource Conservation Groups.

We'll start with the Fish and Wildlife. This is the Mission Statement that is posted on the website. I am not going to read the whole thing; but, the first sentence is really the most important thing. *And the goal of this Fish and Wildlife RCG is to develop a protection mitigation enhancement agreement relative to wildlife and fisheries that will be included in the Saluda License Application, which will be submitted to the Federal Energy Regulatory Commission in August of 2008 when the license is due.* We have had three meetings of the Fish and Wildlife RCG to date. The November 10th meeting was sort of a kickoff meeting where we developed a Mission Statement. The following meeting was on December 7th of 2005. And in a concurrent meeting with the Water Quality Group, there were several issues identified that folks wanted to see presentations on. So, we held a joint meeting and just had a full day of technical presentations regarding various aspects of the project. The February 22nd meeting was focused on formation of the Technical Working Committees for Fish and Wildlife; there are six of those which we will get to in a minute. And also, we reviewed the relevant study requests for the RCG and assigned those to the various TWCs.

Like I said before, there are six Technical Working Committees:

- Diadromous Fish;
- Rare, Threatened and Endangered Species;
- Instream Flow and Aquatic Habitat;
- Terrestrial Resources;
- Freshwater Mussels and Benthic Macroinvertebrates; and
- Fish Entrainment.

We will start with the Diadromous Fish Technical Working Committee. This is the membership at the top here. I am not going to read those folks out, but its various agencies. Diadromous species are those species that migrate from saltwater to fresh to reproduce or vice versa. Simply migratory fish. Representatives from South Carolina DNR, non-governmental organizations such as American Rivers; SCANA, of course; and also folks from National Marine Fishery Service; and Kleinschmidt. We have held three meetings so far. The primary things that this group is charged with is assessing the population of diadromous species in the Lower Saluda River downstream of the project. The sample during Spring 2005 and 2006 involved gillnet sampling

for blueback herring, American shad, and hickory shad. Also, eel pots were deployed for adult, sub-adult American eels. This next slide just shows the locations of the sampling downstream of the Dam. The squares, I believe, represent the eel trapping locations; and the circles are the gillnetting locations. Just to quickly run through the results. During 2005 we captured 14 species of fish, but there were no shad or herring captured. 2006 was just completed, I believe, around June 1st was when that sampling stopped. And again, there were no shad or herring captured; however, the report is still forthcoming from Dr. Jeff Isley at Clemson; and so we will have more details about how many species and numbers were captured. There were no eels captured during the sampling period, however there were several incidental captures outside of the sampling period by Steve Summer with SCANA, and South Carolina DNR, and I think also one of our traps, we captured an eel while we were sampling for crayfish. Due to the lack of success with the eel pots, we subsequently installed an experimental eel trap at the Saluda spillway; and basically is set up at the spillway is this rocky area, in the background is where the leakage flow comes down from the spillway gate, and it provides an attraction flow for the in-migrating eels into this plunge pool that sort of runs into the Lower Saluda River. Again, this allows us not only to try a different capture method, but also a different life stage, and that this will capture in-migrating juvenile eels that once they have hatched out in the ocean they migrate back up into the rivers to live out their life cycle. This is just a picture of an eel ramp after --- or, the eel trap after it was installed. You can see, we have our capture box at the top and there is a hose that provides the attraction flow down the pipe. Noting very complicated, it's quite simplistic. And you can see the attraction flow on the right over there. The bottom of the hose goes --- of this tube goes right into the bottom of that attraction flow.

The Fish Entrainment Group is another one of the Technical Working Committees under this Fish and Wildlife RCG. These are the folks that are on that Committee, a smaller group than some of the others. There have been no formal meetings of this group to date; however, through e-mail and other avenues we have developed a Study Plan for a Desktop Entrainment Study that's been approved by the Technical Working Committee; and, I believe, has been posted on the Saluda Relicensing website. And, by the way, if no one has mentioned it yet, the website address is on the pens that were handed out. So most of these documents will be available there.

The Rare, Threatened and Endangered Species Technical Working Committee, again a lot of the same folks from the other groups; we have had two meetings to date, March 8th and May 3rd. The sole purpose of this group is to address any rare, threatened and endangered species in the project area. In comments filed in response to the initial consultation document that was sent out to the agencies, and also filed with the Federal Energy Regulatory Commission, in comments on that document the Fish and Wildlife Service cited 47 species as occurring the four county region surrounding the project. That does not say that those 47 species are within the project boundary; those are just --- that's just everything that's within those counties. And that is their standard starting point for this process. We are currently developing a tracking tool where we will be looking at which of these species actually occur within the project boundary based on known occurrences, and also looking at potential habitats to decide whether there is a possibility for them to be there. This process can provide a baseline for the "Exhibit E" of the license application, which describes the environment around the project and also will be used for "Section 7" compliance under the Endangered Species Act, which is a process that requires agencies such as the FERC to consult with the Fish and Wildlife Service regarding threatened and endangered species prior to any sort of permit or license issuance. We currently have three projects in progress related to threatened and endangered species. We have wood stork surveys

that are being conducted on the Lake. We initially located wood storks, which are typically a coastal species, on the Lake in the Summer of 2004; and subsequently developed a study plan and began doing surveys in February of 2005. And it runs February through November of each year, and we are in our second year of the study now. And since we first saw those storks in 2004, there have been no additional sightings since then. Another species that we are addressing is the rocky shoals spider lily. There was a flow trip survey conducted on May 31st of this year, and there were 2 possible plants located in the Ocean Boulevard Rapid of the lower Saluda. And we probably need to re-visit those to verify their identity. But other than that, we are not aware of any rocky shoals spider lilies until you get down into the confluence area where the Broad comes in. Shortnose sturgeon, we currently have a study plan that has been developed and finalized, and is available on the website. Pending the issuance of a permit from the National Marine Fishery Service, we will begin sampling in February of next year for this species. And basically the purpose of that will be to try and document the status of this species downstream of the project.

The Terrestrial Resources Technical Working Committee, again mostly South Carolina DNR and Fish and Wildlife folks, a few other agencies represented there. Again, two meetings March 8th and May 3rd. One of the primary study request assigned to this group is the request for a bird survey. After compiling some of the existing data from Riverbanks Zoo, Columbia Audubon, and other entities we ended up deciding --- or, the TWC decided that this could probably be addressed through existing data. We sent out a notice on the Carolina Bird "listserve" (phonetic), which is run by Duke University, and it is kind of a clearing house for all bird information in the Southeast, and got quite a few responses for the lower Saluda and Lake Murray. And from that we are developing a species list that will be included in the license application, and should close out this study request. Also, there has been a request for water fowl surveys during the winter on Lake Murray from several agencies. A study plan is currently being developed; it will document water fowl usage over winter months, December through February; and will involve a monthly aerial survey, most likely performed by Savannah River Ecology Lab that is run by the University of Georgia.

The Fresh Water Mussels and Benthic Macroinvertebrate Technical Working Committee, pretty much the same folks that are on the others with the addition of Dr. Jim Glover, who is actually with DHEC, not DNR. And he is their macroinvertebrate expert. We have had two meetings of this group to date. One of the primary studies in this group is the freshwater mussel survey of Lake Murray, Lower Saluda River, and the Congaree River. It was completed just last week. I believe Wednesday we did our last survey. There should be a report forthcoming within thirty days or so. We found approximately 16 native mussel species. None in the Lower Saluda River; there were about 8 in Lake Murray and in the headwaters, and also in the Congaree River. The second study request that will be addressed by this group is the benthic macroinvertebrate survey. This actually is a study that has been conducted in several years prior to relicensing by Shealy Environmental. There are reports associated with these years of study. I have those; if anyone is interested in them get in touch with me after the meeting and I can get those to you. There is being a study plan developed to incorporate a multi-habitat component. What is being done now is an artificial sub-straight, basically a big thing almost like a brick that you drop in and they colonize, and then they sort them out and identify them. What we are going to do is the multi-habitat component is the EPA rapid bio-assessment method; and that involves dip nets and time surveys.

UNIDENTIFIED: What is that? What is one?

MR. BORING: A benthic micro-invertebrate. Any micro-invertebrate that lives on the bottom is benthic.

UNIDENTIFIED: Bugs?

MR. BORING: Bugs, yes.

UNIDENTIFIED: I understand that.

MR. BORING: Invertebrates that live on the bottom. I apologize.

UNIDENTIFIED: Just bugs (inaudible).

MR. BORING: The Instream Flow Aquatic Habitat, Technical Working Committee is one of the larger groups in the relicensing. There are a lot of issues to--- not a lot of issues, but they have a bit more work to do than some of the other groups. This is a fairly standard request for most relicensing efforts. And we have had two meetings so far, May 3rd and June 14th. And the notes from both of those are available on the website. The instream flow studies, currently there was a study that was done by South Carolina DNR in 1989, '90, in that area; and that study is currently being evaluated by the Technical Working Committee for its applicability to the current relicensing effort and whether or not there are any additional studies needed. Another study request that has been assigned to this group is the potential for self-sustaining trout fisheries in the Lower Saluda River. Currently there is a "put, grow and take" fishery with the fish being stocked in by South Carolina DNR. And, the Technical Working Committee in their most recent meeting decided that this request will be filled, or will be addressed through a technical white paper that will evaluate the potential for this type of fishery.

Floodplain Flow Evaluations, which is related to Congaree National Park, I believe this request was from the National Park Service. Currently there are a number of studies that have been done by the National Park Service, USC, and other entities that we're gathering together so that the TWC can review those and evaluate their applicability to relicensing. And then we will make a determination of what other studies need to be done. Comprehensive Habitat Assessment, that refers to aquatic habitats, has also been requested. The agencies Fish and Wildlife Service and South Carolina DNR specifically are developing the criteria for what they would like to see for the GIF coverages for this request. And as soon as they get that back to us, we will start developing that. Any questions on Fish and Wildlife?

MR. CARLISLE HARMON: Carlisle Harmon, I am a landowner on the Lake. What is the purpose of doing all these studies to see if these fish or eels are --- if they exist, or whatnot? You say we are doing a study, but what is the purpose of the study? What are you going to do with it? Does that mean to determine what you can relicense the Lake or not, or whatnot?

MR. BORING: There is a number of reasons for doing these studies. First of all, we have to prepare what is called an "Exhibit E", which describes the existing environment around the project for inclusion with the license application. That is one section of the license application. Also, there are several Federal Statutes, the Federal Power Act, Endangered Species Act, Fish and Wildlife Coordination Acts that require that you assess any potential impact to fish, wildlife,

water quality, just any environmental impacts of the Federal action; in this case the Federal action is issuing a new license for the project. And most of the studies that you saw listed up there were ones that, in response to issuance of that initial consultation document, we received study requests from the agencies specifically for those studies. They said, "This is what we would like to see before we can make a determination on this project." Any others?

UNIDENTIFIED: Who pays for it?

MR. BORING: The relicensing? The applicant. And which in this case is SCE&G. If there are no other questions, we can ---

UNIDENTIFIED: (inaudible)

MR. BORING: The next group is the Water Quality Resource Conservation Group. Again, I am not going to read the entire mission statement. That is available on the website. But the purpose of the --- or, the goal of the group is to develop a protection mitigation enhancement agreement that basically reaches consensus on all of these issues that were raised by the agencies, homeowner groups, or whatever have you, to address all these upfront, and come up with this agreement that will become part of the license application. We have had three meetings of the Water Quality Resource Conservation Group thus far: the November 9th meeting was the kickoff meeting basically where we developed a mission statement; the December 7th meeting, as I mentioned before, was a joint meeting with the Fish and Wildlife group that was a series of technical presentations by various experts; the meeting on February 21st was for development of the Technical Working Committees, and to assign and review the study requests. These are the folks that are on the Water Quality Technical Working Committee. They are folks from Midlands Striper Club, American Rivers, South Carolina DHEC, University of South Carolina. So this is one of our more diverse groups. There have been five Water Quality Technical Working Committee meetings to date. As with the other groups, all the meeting notes are available on the website. Just a quick review of the study requests that this group is actively working on:

- the effects of project operations on Summer Habitat for Stripe Bass. Currently there is a model that is being developed by Jim Ruane at Reservoir Environmental Management in Chattanooga, Tennessee, that evaluates potential effects of Operating Unit Five on that Summer Habitat for Stripe Bass.
- a second request is being addressed by this group as to potential DO and temperature effects on fresh water mussels.

Before we can assess those effects, of course, we had to find out if we had mussels, and if so what kind? So, the mussel survey was really the first step of this; and already as I said before, that was completed on July 13th, and the report will be forthcoming. So the next time this groups meets we will look at that report and decide how to proceed on this study request. Downstream temperature impacts of the cold water release is currently --- there is a study plan in place that was developed and approved by the Technical Working Committee. And it is on the website. It is currently being executed. There are paired temperature sensors in the lower Saluda and Congaree Rivers starting at the base of the Dam all the way down to approximately the 601 Bridge on the Congaree River, adjacent to Congaree National Park. Can I go back to a slide, please? I missed something. Yeah. An additional request being evaluated by this group is the potential for

development of a TMDL for Lake Murray. TMDL is first, the total maximum daily load. And that is a management framework for reducing point and non-point sources of various pollutants. And in the most recent meeting South Carolina DHEC indicated that budgetary and other reasons they are not in the position to pursue a TMDL for Lake Murray at this time. This is a regulatory framework that they are the ones that have the regulatory authority to implement it. However, they are continuing to develop a TMDL strategy for the basin. However, that does not fit in with the relicensing process and time lines. We have to file this application in August of 2008, and they do not have any intention in the near future of initiating this process. So, unless something changes pretty rapidly that won't be part of this relicensing.

The status of existing downstream water quality conditions, that was requested by agencies to provide baseline of the water quality conditions that we have in the River, downstream of the project now. This is related to the resulting improvements in water quality associated with hub baffles that were installed to improve the aeration effectiveness of the turbines. And those were tested, several units were tested, in Fall of 2005; the remainder will be tested in the Fall of this year. And then we will have a better idea of exactly what the dissolved oxygen conditions are downstream of the Dam with the current equipment. Cove water quality in Lake Murray, currently Lake Murray Association has implemented a program where they are sampling the cove water quality. I believe they got a small grant to do this project, and we are going to --- Roy Parker and some other folks from Lake Murray Association are on the Water Quality Technical Working Committee; and they are going to take their data, put it together with what SCE&G, DHEC, and any other data that we can find, and figure out whether or not that addresses this study request. If not, then we will have to figure out how they want --- the Technical Working Committee wants to proceed with this study request. That's all I have on water quality. If there are any questions? Yes, sir.

MR. BILL EAST: Hi, I am Bill East. I have this question regarding TMDL. Notwithstanding the State DHEC's responsibilities for TMDL evaluation and action, is there any other requirement or any other portion of the relicensing itself, any acts, or any aspects of it that would indicate that we need a TMDL evaluation on the Lake?

MR. BORING: I think to trigger development of TMDL water body has to be listed on the 303D impaired list. There are portions of Lake Murray on Bush River and some other areas that are on that list. However, at this time SCDHEC is not pursuing implementation of the TMDL for those waters. From my understanding, SCE&G is more than willing to contribute any water quality studies that we develop during this relicensing, if they want the data or they want the studies to help develop the plan, they are more than willing to contribute those to that effort. But really, DHEC has to take the lead on that. So, I am not certain if I answered your question or not, but please follow up if I didn't.

MR. EAST: Well, I guess, the root of my question is --- by the way, I am with the Lake Murray Association. But the root of my question is, irregardless of what DHEC does or does not do, do we have any other responsibilities to know what are the limits of the daily load of potential pollutants in our Lake? And, are there other aspects of our evaluation that we should --- that would make us want to require these evaluations no matter what DHEC does or does not do?

MR. BORING: A TMDL is not a evaluation, it is not a study. A TMDL is something where if you have got five or six different point sources that are coming into the Lake, they develop a

plan where this one is going to reduce what they are putting in by 10%, this one is going to reduce what they are putting in by 10%; and then there is also a non-point source aspect where you try to encourage landowners to implement buffer zones or a no-cut policy between their yards and the Lake, something to reduce the non-point source that is coming in. The point source has to do with permits that are issued by the State. And, of course, SCE&G can't tell the water treatment plant that they need to reduce their loading by 10%, or something like that. Now, on the other hand, not necessarily for pollutants like phosphorous and nitrogen, but for things such as dissolved oxygen there are water quality standards for each water classification in the State. And, for example, downstream of the Dam they are required to meet a standard. And that is related to the 401 Water Quality Certificate for compliance with the Clean Water Act. So, there are checks and balances in terms of water quality.

MR. BOB TAYLOR: Yes, my name is Bob Taylor, I am a resident of Lake Murray. I am curious, SCE&G has been monitoring water quality on the Lake for a number of years, and there are buoys marking sub-stations. What is actually done with those data? And are they analyzed in any way to suggest that there might be or might not be water quality issues to deal with? That is my first question. My second question is, I am not familiar with the intake towers of the Lake, and I am not sure at what depth SCE&G is capable of drawing water from? Is it just one depth, or could it be many different depths?

MR. BORING: Okay. The first question, if Tom Bowles from SCANA doesn't mind addressing that one, I will let him.

MR. TOM BOWLES: Tom Bowles, SCE&G. We have twelve sites on Lake Murray that we take monthly profile data from, and we also have eight of those sites --- no, seven I believe, that we take semi or bi-annual samples for laboratory analysis. And that data has been collected over a number of years and has been included in part of the modeling --- am I correct on that, Shane? Would that be a correct term?

MR. BORING: I think so, yes.

MR. BOWLES: And it is going to be used as part of the framework for determining how to operate the Lake. Is that --- does that answer your question? Would you like to address the intakes?

MR. BORING: Do you want to address the intakes, Alan?

MR. STUART: No, I wanted to just elaborate a little bit more on what Tom was saying. DHEC issues what they call a 305B Report, I believe comes out every five years. And they go through doing tests of the lakes and rivers in the State. And that document is where you find out, quotes, you know, if a water body is impaired, or there are certain issues around it. And it is available at their website. Just type in the key word "DHEC" or "SCDHEC", and you will find it. It is called the 305B Report.

MR. BORING: Who wants to address the intake tower? There you go.

MR. STUART: Units 1, 3, 4, and correct me if I am wrong, pull from around 180 feet, unit 5, from what we have gathered so far, pulls from a range, it is somewhere around 60 to 80 feet. Is that right, Steve?

MR. STEVE SUMMER: I think that's approximate enough. Those ranges are approximate with the Lake levels. They are not all the same, but there are four small units pull from the bottom (inaudible).

UNIDENTIFIED: So you must have a --- discharge from the Lake from those four units?

MR. SUMMER: Most of the time the units are run most often the units one through four. Unit five, particularly in the summertime there is a --- in the summertime there is a last on, first off unit calls --- it pulls from water strata that's important for the stripers late in the summer and also to be **habitat to that area** (on DVD 36:47). Number five is a bit larger unit than the other four units, about twice the size of them. But most of this summer the generation --- actually the generation would be flowed through one unit, there is really not enough water flow through there to actually call it generation, other than rainfall.

MR. BORING: Other questions?

(No response)

MR. BORING: Do we need to take a break, or keep going? Bret next? The next speaker will be Bret Hoffman. He will be giving a review of the Operations, RCG.

MR. BRET HOFFMAN: Good evening everyone. I am an engineer with Kleinschmidt Associates. My name is Bret Hoffman. And as Shane mentioned, I am going to give you an update on the Resource Conservation Group for the Operations. Basically, what the function of the Operations RCG is to develop a model of the reservoir and the watershed, and the River below to balance out needs of the resource. We basically take a physical model of Lake Murray, take a physical model of the watershed, and of the River below, and all the water that goes into it, and where it's released and how much. There are requests from various groups for water quality, for instance, in certain locations; they may want a certain amount of water at a certain location, or a certain depth of water in a certain location the Lake or the River. And we have to balance all of these allocations. As you can see this year, there is not always as much water as everyone wants.

We have had a handful of meetings. The first couple were for just the RCG itself, and developing the Mission Statements and deciding on what computer model to use for simulating the system. The last several meetings have been Technical Working Committee meetings. We have two Technical Working Committees for the Operations RCG. The first one of the Operations Technical Working Committee is functionally responsible for developing this model, and defining the extent of it, and then later on gathering input for it. The other Technical Working Committee that was formed is the Generation Review; and basically they are looking at how Saluda is operated to meet demands of SCE&G's generation system.

Participants in the Operations RCG come from all of the RCGs because there are needs within each of the others that are related to how the project is operated. So we have representatives from

each one of the others. Also, we have hydrologists from resource agencies. There is an individual from DHEC, an individual from DNR who is, I believe, the State Hydrologist. We have a hydrologist in our Company is actually building and developing the model. And then SCE&G has some representatives, they are familiar with how their current operation model runs.

Again, the objective of the model is to balance the resource. A variety of interests, like I said, and I will have a slide up here in a minute that will show you a few of those interests. But when there are needs for water in so many different places and there is not enough water, you have to determine how you are going to allocate that for the different demands. Again, it takes in the physical constraints; that's primarily storage of the Lake and availability of water.

There are a few of the issues that are from various RCGs that are important for balancing the water use. You see, hydropower is up there. The in-lake and downstream fisheries, and water quality issues, as Shane touched on. Flood control, there is years where you too much water and you have to plan for that, as well. And then on the opposite end of the spectrum you have drought events; in that situation you have to prioritize where the water is going to be allocated.

The model that we are using for this is called HEC Res-Sim. The Army Corp of Engineers developed this. It is something that they initially developed the first program, probably in the '70s. That's their hydrologic engineering center, and Res-Sims stands for the reservoir simulator. This is the national standard for relicensing projects. They use this program to model the entire Savannah River, which has multiple reservoirs and power facilities on it. It incorporates the user-defined goals, which are those requests that were on the previous slide such as water quality issues, or fisheries issues, and what we will request from each individual group is a stage and/or a flow at a specific location. We don't take into consideration, for instance, the exact water quality that they are looking for; they translate all of their needs into stage and/or flow. And they hand it to us, and we run it through the model and see what we get back. Long term planning is what we are using it for. It can be used for operations if SCE&G decides to do so.

The structure of the model is basically the extent of the watershed. And I will show you a map of that here on the next slide. And the downstream river system, not only the Lower Saluda River, but it goes all the way down to the Congaree National Park. And since it goes that far down below the confluence, that also includes Broad River flows. So, we actually have to use Broad River in the model, as well, and take it all the way back up to the next gauge station, which is at Parr Reservoir, about twenty-five miles upstream of Columbia. Here's a map of the watershed. This is actually a screen shot from the program. Obviously, you can see the drainage basin for the whole facility in the green, and then you can see Lake Greenwood, a couple of river systems and tributaries that feed in. And those points on there, the green points, are contributions to the water. They would be from either gauged inflows such as from Chapels, right below Greenwood, or maybe calculated from rainfall, other points that we have basically taken an area of rainfall and then considered that a contribution into the system.

The closer shot from a different screen, and that actually shows some of the calculation points that are used when the model does the simulation. Again, a couple of the ones up top, those are contributors to the water in the Lake. As I mentioned, the hydrologic inputs are, there is inflows from gauged and ungauged sources. The gauged sources are the ones below Lake Greenwood that are let go with the Buzzards Roost Project, Bush River and Little River, ungauged inflows, includes some other tributaries. Basically we capture all of that from basin runoff. Outflows and

evaporation are the other hydrologic factors in the model. It's pretty simple, releases from the project and evaporation is significant Lake Murray; it actually --- you can have more evaporation in some days than you actually get inflows. It happens on occasion. And when they do run this model, they will take a typical year based on a certain period of average from USGS data; and they will run a typical year and then they will do allocations for different requests. And they will also run the same requests for heavy water years and for dry years, because that is going to give you your flood control situations and your drought allocations.

Like I said earlier, all of the requests we are asking that they all be submitted in the form of stage and/or flow at a specific location. We run the simulation with requests from all the different RCGs, and the constraints, and then what we get as a result is a report that tells you how often each individual request, or the frequency that it was met, it might --- there is never enough water to get everybody's needs. You might only have enough for one specific request 50% of the time. Or, maybe 80% of the time. And then the rest of the say 20% if you didn't meet that request, how bad did you violate the request?

Ultimately what we are looking for is going to be a compromise, something everybody can live with. Once we get the reports back of the frequency and the magnitude of violations or requests for each individual RCG, those will be returned to the stakeholders, and they will have to in turn take them back to their respective parties and say, "Can we live with this?" And you might be willing to accept 80% of the time. 50% of the time? Maybe not. Or maybe the order of magnitude that they missed your target by for that 20% was too low; you can't handle that. You have to go back and forth with them. This is an iterative process. I wish it would happen one time, but that's just not how it is going to work. Ultimately we come up, once everybody finds that they can agree on what we have, we come up with the PM&E, which has been alluded to already. It's the agreement that we come up with, and Operations will be part of that.

Moving forward, we are working --- our hydrologist should have the base model finalized this month, and we are scheduling a meeting for August 23rd to meet with the Technical Working Committee. The Operations Technical Working Committee again just to QC it and let everyone look at the final product. After that we are going to present the model to all of the RCGs. And then after everybody has seen it, we are going to put out requests for the user-defined inputs that I discussed earlier. In other words, the stage and flow requests. Everybody is going to have to come up with those and turn them in to us, and then we run them through the model and see what the simulation gives us. Any questions?

(No response)

MR. HOFFMAN: Okay. Do you want Bill to come up, or do you want to take a break?

MR. STUART: I'll leave it to the room. We have kind of a break as we did earlier at this morning's meeting to try to decide. I will leave it to the group. Do you want to move forward with this presentation? We have got about an hour left. If you would like to take a break about ten minutes? No. We'll move forward.

MR. HOFFMAN: Bill Green is going to give us update on Cultural Resources RCG.

MR. BILL GREEN: I am Bill Green, I am with S&ME. My presentation is a little bit different from the other ones because the Cultural Resource Conservation Group has only met one time, about nine months ago. We have another meeting scheduled on September 8th of this year. Really, we have to get these studies in ahead of time to know --- to get the input from the Cultural Resource Conservation Group. So, I am going to describe what we have done so far to date.

The primary participants in this process as far as Cultural Resources are concerned are the Federal Energy Regulatory Commission, SCE&G, The State Historic Preservation Office, the Catawba Indian Nation, and the Advisory Council on Historic Preservation. Other participants include SCDNR, the South Carolina Institute of Archeology and Anthropology, Eastern Band of Cherokee Indians, other federally recognized Indian Tribes on a somewhat limited basis; there's the Cultural Resource Conservation Group, and the public. These are just a list of the Cultural Resource Conservation Group participants. We have members from SCE&G, Regional Tourism, Lake Watch, State Historic Preservation Office, and various other Catawba Indian Nation, Irmo Chapin Recreation Commission, and various other groups.

The Laws, Regulations and Guidelines that tell us what to do as far as Cultural Resources are concerned include the National Environmental Policy Act, the National Historic Preservation Act, that's the major one, I will discuss that in a little more detail in a moment. But the primary section of that Act that we are concerned with is Section 106 and its implementing Regulations, which is the protection of historic properties. There is FERC Guidelines for environmental assessments, and Historic Properties Management Plan, which is our ultimate goal. That's the final document we have to produce. Secretary of Interior Standards and Guidelines for Archeology and Historic Preservation, and State Historic Preservation Office Guidelines for Archeological Investigations and Surveys of Historic Properties.

Section 106 of the National Historic Preservation Act says, "The head of any Federal Agency having direct or indirect jurisdiction over a proposed Federal or Federally assisted undertaking --" which in this case is the relicensing --- "shall prior to the issuance of any license take into account the affect of the undertaking on any district site building, structure or object that is included in or eligible for inclusion in the National Register. The head of any such Federal Agency shall afford the Advisory Council on Historic Preservation a reasonable opportunity to comment with regard to such undertaking." There are really four basic steps to doing all this:

- The first part is to initiate the Section 106 process, and that we have completed already;
- Second step is to identify historic properties; we are in the process of doing that now; and also
- We are in the process of doing step three, which is assessing the adverse effects of the project; and
- The fourth is the resolution of adverse effects. And that will be done probably after the license is already issued.

The first step, again, is initiating the 106 process:

- You define the undertaking;
- You identify the participants and coordinate with the State Historic Preservation Office; and

- You define the area of potential effects, which includes any area that could be affected by the undertaking.

The second step is to identify historic properties. We have already completed a stage one reconnaissance survey where we identified previously recorded historic and archeological sites, identified areas for additional archeological survey using models, and recorded historic structures in the area. Upon completion of this study, the area examined were 620 miles of shoreline along Lake Murray, 25 miles of river bank on the Saluda, Little Saluda, and Lower Saluda Rivers and their major tributaries.

The results of the stage one reconnaissance survey were we identified 42 previously recorded archeological sites; we found 40 new archeological sites; there were 7 previously recorded structures that are listed in or eligible for inclusion in the National Register, including the Power House at the Dam. And there are 8 newly recorded structures, one of which was eligible for the National Register, that's Epting's Campground.

In the stage two intensive survey areas that we are looking at now were 735 acres on 139 islands in Lake Murray. It's 89 miles of shoreline identified in 177 areas in Lake Murray. Four miles of riverbank on the Lower Saluda River, and 19 acres on 7 islands in the Lower Saluda River. The areas that we have examined to date that we are still in the process of doing this as we looked at 71 islands so far; 21 shoreline areas in Lexington; 2 miles of riverbank on the Lower Saluda; and Corley Island found here at the Park. The areas we have remaining are 68 islands in Lake Murray, mostly small privately owned islands; 79 shoreline areas in Lexington County; 77 shoreline areas in Richland, Newberry and Saluda Counties; and 2 miles of riverbank at 6 islands in the Lower Saluda River.

To date so far we found 50 new archeological sites during this stage of the study; so altogether there have been 90 archeological sites found. We re-visited 4 sites from the initial stage one survey. And of these sites, 12 are pre-historic sites ranging from the early archaic period to the Lake Woodland period, which is about 10,000 years ago; the early archaics were about 1,000 years ago, which is what we call Lake Woodland period. We have 31 historic sites, which are mostly 19th and early 20th century home sites; there are also 5 cemeteries identified; and there are 7 sites of both prehistoric and historic components.

By far the most interesting site we found so far is on the Lower Saluda River. It's site, we call it 38 which stands for the State, 38 is South Carolina of those 50 states in order. LX is Lexington County, and 531 is the 531st site identified in that County. The site is about 12 acres in size; it has excellent preservation; and very deeply buried artifacts; and numerous features. That's a picture of the bluff up there where the site is located. And then if you see it look in this picture, right here is a cluster of quartz cobbles that were fired; they were used in a hearth; and that probably dates to about 4,000 or 5,000 years ago. The know occupations at the site go back more than 5,000 years. We have potential occupations at the site, maybe going back as far as 13,500 years. And it could be one of the most interesting and important sites in the Southeastern U.S. And working with SCE&G now to develop a plan for how to take into account the adverse effects there occurring to the site. Are there any questions?

(No response)

MR. GREEN: Okay, thank you very much.

MR. DAVE ANDERSON: Y'all are sure you don't want to take a break? All right, last chance.

My name is Dave Anderson, I am with Kleinschmidt Associates. I will be giving updates on the Recreation Resource Conservation Group and the Safety Resource Conservation Group. The first one, Recreation RCG, like all the other RCGs, we have developed a Mission Statement for our first few meetings. I think that an important part here is *“ensuring adequate and environmentally-balanced public recreational access and opportunities related to the project for the term of the new license.”*

We are going to have five meetings by Friday of this week. We have one scheduled on Friday. Like Shane mentioned, all of these meeting notes are available on the website if you want to go back and look in detail as to what has taken place. I obviously don't have time in my ten or so minutes here to talk about everything that has happened.

One tool that we are using that kind of guides our process at looking at developing new recreation sites or expanding existing recreation sites, is what I am calling the standard process. I apologize for it being so small, but that's just the way it worked out. There are basically four steps associated with this process. First, we have determined the desired future condition of the project. We have done that through a vision statement for Lake Murray and the Lower Saluda River, which has not been finalized yet. That's what we will be working on at our meeting on Friday. Pretty much just laying out what our goals are for the term of the new license and identifying what I call solution principles, how do we want to guide our efforts if we develop new sites or expand additional sites. The second step is to establish a baseline condition; that's about the step we're on right now. Going out looking at existing conditions, reviewing any agreements that SCE&G has with any entity concerning a recreation site like Saluda Shoals Park and the Irmo Chapin Recreational Commission. And also, looking at future demand; and we do that several different ways. The third step is to determine what is needed and when. Once we figure out what we have we need to figure out what we need, when do we need it? Which ties into the fourth step. Determine how these needs will be met and who is responsible. SCE&G, while they are in the recreation business, has indicated that they would be interested in more agreements such as this one where perhaps they provide the land or funds for building a site. But the O&M costs are shared by Lexington County and Newberry County, something like that.

We have several work products that we are working on. First is what we are calling a work plan, that basically lays out what our identified issues are, the tasks and responsibilities for this RCG to address those issues, and also a work scope and product. And in this case their ultimate product will be a consensus based recreation plan. Talked a little bit about the vision statement, that's basically --- oh, it's about maybe a page right now. Like I said, it hasn't been finalized yet. But basically, what do you want to see, and you being represented by members of the RCG want to see Lake Murray or the Lower Saluda River, what do you want it to look like in fifty years, which is the term of the license that SCE&G is applying for. Mentioned the solution principles. This is basically like a guiding light, for lack of a better word, that kind of spells out, all right if we figure out we need a new site or need to expand an additional site, we need some sort of guidelines as we go through that process. And part of them, we're trying to reduce impacts to commercial operations. We certainly don't want to put anybody else out of business, you know, by putting a public site right next to a marina or something like that. Taking into accounts other

environmental resources; we are not going to throw a recreation site in an environmentally sensitive area. So on and so forth.

We also have a standard process form, which is a list of about forty questions that we will be answering over the next year or so that basically is just our guidelines. We need to answer these questions in order to get where we need to get by 2008. And finally, a recreation plan. And a straw man, which is kind of just a little draft has been submitted to the RCG for our meeting on Friday; and we are going to start flushing that out after we start getting some data back from some of the studies we are conducting.

Identified issues being dealt with in this RCG; and this is just my interpretation, trying to fit down the issues that we are dealing with in the five bullets. It gets a little more detailed than this if you look at work plan. There's many more sub-bullets to these:

- Looking at recreational facilities, what do we have? What do we need? Do any sites need improving?
- Conservation of lands, especially for future recreation.
- This concept of adaptive management, which my best analogy is it's kind of like a sail boat trip. You are trying to get from Point A to Point B, but along the way maybe you figured out you steered off course a little bit; so, you take a look at where you are at; still need to get to Point B, so you kind of correct your course. And that will be a component of a recreation plan we come up with.
- Downstream flows related to recreation, and also lake levels associated with recreation.

We have formed three Technical Working Committees to deal with these issues:

- The Recreation Management TWC is basically dealing with recreational facilities.
- We have a Downstream Flows Technical Working Committee that is dealing with flow issues in the Lower Saluda River, has kind of been tasked with also safety issues associated with those flows, and also
- A Lake Levels TWC that will make suggestions as to what lake level is most conducive to recreation on the Lake, which will then be put into this operation's model and balanced among other computing uses.

Right now we have three ongoing are plan studies; one is ongoing, the recreation assessment. Basically we have gone out and inventoried, I believe it's 16 or 18 SCE&G owned public recreation sites. Went out and looked at how big the sites are, how many parking spaces there are, bathrooms, whether the site is ADA compliant, which is American with Disabilities Act. Just a whole list of variables which will --- are getting put into a database that SCE&G can use and RCG can use to determine what kind of upgrades are needed at certain sites. The next two are plan studies: boat density study plan has been submitted to the Recreation Management TWC, and we are actually meeting on it tomorrow afternoon. This is basically going to take some existing data and look at number of boats on the Lake on 13 different dates, I believe. And what we will do is, using existing research, there is guidelines that say how many acres do you need per activity? You know, obviously somebody that is fishing doesn't need quite as much water as somebody that is water skiing. That's kind of the basic concept. And we can determine whether segments of Lake Murray are at capacity as far as boat densities; under capacity? And finally we

have a downstream recreation flow assessment, which is undergoing a review process right now internally. I will get a little bit to the goals of that in a second.

Here are the goals of the Recreation Assessment study. Like I said, we are characterizing existing recreational use of SCE&G's recreation sites, and identifying future recreational needs. I had mentioned we are doing that a number of ways. We are looking at population projections for the areas surrounding the Lake and the River. Looking at existing studies that are done by the State as far as what activities people participate in. And then using the RCG as a stakeholder group that is representing the public and identifying what needs are available and wanted around the Lake and the River. The boat density study plan, the goals of it. Like I said, we are assessing the area available for boating activity on Lake Murray. We will basically look at maps, take away areas that are not accessible by boat, come up with a number; there are so many acres of Lake Murray that are usable by boat. Assess the boat densities under normal, which are weekend days, and peak, which are holiday days. And conduct an analysis of whether Lake Murray is currently above, below, or at optimum recreational boating capacity.

The draft goals right now of the downstream flow assessment, to characterize existing available recreation opportunities on the River; that is being done as part of the recreation assessment. Not only are we doing the sites on the Lake, we are doing the four sites on the River that SCE&G owns or leases, and also some sites down at the Mill Race area to determine what activities are taking place, number of people. The second goal is to understand the rate of change of the Lower Saluda River at various flows at the various River reaches. That's to collect data as far as what happens when the Saluda starts operating, what happens in the River, how high does it rise? And then identify any potential public safety issues associated with Lower Saluda River flows.

Here is our schedule. Our upcoming meeting on Friday, we are going to pretty much knock out that first bullet. We are hopefully --- identify the studies we are going to conduct and are in the process of getting those study plans in place. By the end of this year, beginning of next year, the results from the studies should be starting to become available, and we will start taking a look at those. Cram everything together and come up with a recreation plan, which we will submit to the larger relicensing group for their approval. Does anybody have any questions on Recreation RCG?

MR. BOB CULLER: I'm Bob Culler, resident of Lake Murray. I have a question about your boat density study. As Lake levels rise, usage increases. And when will you be doing this boat density survey? During the period when the Lake is low? And will it be an underestimate of potential use?

MR. ANDERSON: We are actually using, or it's in the study plan that has been submitted to the TWC, so I don't want to say it's a fact when we are still going through the process of getting comments on the study plan and finalizing it. But the study plan, right now we are planning on using existing data that was collected in 2001. We understand that the Lake is down this year, and any counts of boats that take place this year might not be an accurate reflection of normal use during a, quote, unquote, "normal year". I personally feel that the 2001 data, since it was before the remediation probably provides a more accurate depiction of boat densities during a, quote, unquote, "normal year" than we would collect this year and, you know, unknown for next year. We get the rain and the Lake comes back up. But, since we are under this time line of

getting done by 2008, the term you will hear a lot is we are going to use the best available data, and go from there.

MR. CULLER: Does your boat density information you are going to collect include information on the size of boats that you see on the Lake?

MR. ANDERSON: No, it does not. Photographs, there are I think, around 450 photographs that we have that were collected by an airplane from around 3500 feet. And from that distance and because of the angle the photographs were collected, it is going to be virtually impossible to tell the size of the boat or anything like that. We could certainly --- and it is something that I believe was presented in the ICD looking at boat registrations for the four counties around. You know, there's other ways to get that kind of information.

MR. CULLER: I am just concerned. There seems to be a lot more bigger boats, with bigger wakes, and more shoreline erosion.

MS. FRAN TRAPP: Will your recreation plan take into consideration the various types of water craft you have out there, such as sail boats which cannot use the Lower Saluda River, or a large portion of it, because of the mast? And will it take into consideration other than recreation centers land that will be left vacant for the public to enjoy boating where there are no houses, and other buildings?

MR. ANDERSON: The second part of your question is a definite "yes". Part of the Recreation Plan --- I don't know if it will necessarily be in the Recreation Plan, but part of the responsibilities of the Recreation RCG is to make recommendations to the Lake and Land Management RCG as to, "Here are the size and the number of acres of lands we feel need to be set aside for either future recreation sites or to remain in a natural undeveloped state that will still support certain types of activities." The first question, are you talking --- are you concerned with sail boats on the River?

MS. TRAPP: Yes. Some of us can't get --- I mean, I am concerned with undeveloped property. I am Fran Trapp, by the way, from Windward Point Yacht Club. I am concerned of the development of property that --- on this side of the Lake such that there is no longer any coves that you go anchor out in and that you are not looking in someone's window, and they are looking and ---

MR. ANDERSON: SCE&G has no control on the activities that take place on the water. To address your concern as far as natural undeveloped cove that you can go anchor up in, that would certainly be addressed through the Lake and Land Management, making sure that there is enough natural undeveloped lands around for that to occur. I know today we had some concern from the past update of the SMP on the designation of Hurricane Cove and Two Bird Cove as special recreation areas. That was handled through the Shoreline Management Process, which is different from this Recreation Plan Process. Does that answer your question?

MS. TRAPP: Uh huh, thanks.

MR. ANDERSON: Okay. Anybody else?

(No response)

MR. ANDERSON: All right. Save the best for last. Safety Resource Conservation Group. Perhaps the most animated and exciting of the Resource Conservation Groups that I am associated with. Here is the Mission Statement that we have developed in the first couple of meetings. Basically just in that first sentence, the mission is *“to make Lake Murray and the Lower Saluda River as safe as reasonably possible for the public. The objective is to develop a consensus-based safety program”*, is where the terminology is heading and the newest iteration of this that will be included *“in the FERC license application”*.

We have had --- or, will have had six meetings by the end of the week. We have one scheduled for Thursday. There is about --- and I didn't actually count them, estimating about 25 members of this RCG that are representing not only the agencies, but we have Lexington County Sheriffs involved, Columbia Fire Department, City of Columbia Parks and Recreation, Lake Murray Power Squadron, Coast Guard Auxiliary, local hospitals are going to get involved, I hope, if they accepted my invitation. Meeting notes are available on the website just as with all the other RCGs; so if you want to go take a look at what's been happening, and this Group, you are welcome to it.

A couple of work products that we are working on. First is the Work Plan, kind of dovetails nicely along with the Recreation RCG since I am doing both of the Groups. Basic sections in the Work Plan are the identified issues where people within the RCG have expressed their concerns and have been recorded. Have a section on Task and Responsibilities, again; how do we address those issues that have been brought up, and what tasks do we need to accomplish to make sure those issues get addressed? And also, a Work Scope and Product, and in this case the product will be a safety program that will be included in the license application. An outline of the safety program has been submitted to the RCG, it will be one of the items that we discuss on Friday, or on Thursday, I'm sorry, so I don't want to get a whole lot into it right now, it's just basically an outline; it has got about 12 sections and a few sub-sections. But we are going to try to start flushing that out beginning on Thursday. The identified issues, again this is my attempt to amalgamate what is contained in the Work Plan into about five or six bullets:

- Fluctuating lake and river levels;
- Shoal markers and the identification of shoals on the Lake;
- Communications concerning releases from the Dam and also Lake levels;
- Boat traffic and congestion especially in cove areas;
- Systematic collection of accident data. Surprisingly accident data is collected but is not as thorough as we had hoped, and we are working on that; and also
- Ingress/egress points on the Lower Saluda River for safety concerns. We get people into the River, how do we get them out safely?

There has been one Technical Working Committee formed under this RCG, the Hazardous Areas TWC, which has been tasked with identifying unmarked hazards and proposing potential solutions to those hazards. We have one Ongoing/Plan Study, which is related to safety; and that is what I described a few minutes ago, the Downstream Recreation Flow Assessment, which has a safety component to it. Just to run through what the goals of that study are:

- Characterizing recreation opportunities on the River;

- Understanding this rate of change on the River as to what happens when the Saluda starts to operate; and
- Identifying potential public safety issues associated with those flows.

Schedule for this RCG, Thursday we are going to --- well, the Mission Statement has been finalized, we are hopefully going to finalize the Work Plan on Thursday. In the process of identifying studies, getting study plans in place. At the end of this year we will start flushing out this safety program 2007 we will have the safety program completed, we will be making our recommendations to the Operations RCG as to what kind of inputs we want into this operations model. In 2008, we will have this Safety Program finalized and be taking a look at the draft license application. Any questions on the Safety RCG?

(No response)

MR. ANDERSON: I wish it would go that smoothly Thursday. All right, with that I will turn it back over to Alan, who will take any general questions on the Relicensing Process and wrap this thing up.

MR. STUART: Are there any questions for us, for SCE&G, while you are here?

MR. CARLISLE HARMON: My name, again, is Carlisle Harmon. I think you have answered some of the questions here that I am here about the recreational area that was set up, announced in the paper last week about the Hurricane Cove and Two Bird Cove. I want to make some comments about that and my concerns as a landowner who adjoins that cove, one of those coves. But I think from what was said, just said, I believe we are talking to the wrong people if we were going to say something. Is that right, or is there another committee that is actually doing that, or

MR. STUART: Actually, we touched on this very subject this morning. To kind of give you a idea of what went on. Randy did a good job of explaining this morning. The Two Bird Cove and Hurricane Cove, how that whole thing originated, it started --- there were --- the SCE&G revised their Shoreline Management Plan back in 2001; they sent that out. As part of that process, it went out for public review. An individual that lives on the Lake, or frequents the Lake, sent in a comment indicating to the FERC, Federal Energy Regulatory Commission, that he was concerned that area may not be available for sail boating and other activities, and wanted it to be designated as a special recreation area to give some type of protection so that that area would be available. In response to that, the FERC ordered SCE&G to designate those two coves as special recreation areas based on that gentleman's comment. What we talked about today, that Order has been finalized; however, we will be reviewing the new --- or, redeveloping the new Shoreline Management Plan. If you would like to provide a comment and possibly persuade the FERC to require SCE&G to un-designate that area, then this would be the opportunity to do that. However, that does not necessarily mean FERC will do that. If there is enough --- you know, I'm not to ask it either way, but I suggest if there is concern with that, that you need to --- you know, this will be the time that you --- your opportunity to do that.

MR. HARMON: Okay, one question before I make my comments then. You say this was sent out in 2001. In what form was it published and made available? The first I heard of it was when it came out in the paper, and that's why come I am asking.

MR. STUART: I wasn't involved with that. I am not sure exactly how it was issued. Tommy, will you touch on that?

MR. TOMMY BOOZER: Well, when it went out to the public, it went out to all the Resource Agencies, you know, the DNR, the U.S. Fish and Wildlife, and all the other Resource Agencies had the opportunity to comment. After that it was posted on the web, the FERC website, for review by the public.

MR. BRIAN MCMANUS: And I believe it was also posted on the SCE&G website. Correct?

MR. BOOZER: Right, during that process.

MR. BRIAN MCMANUS: A public notice was issued by the creation of a on-line inviting public comment on that item.

MR. HARMON: It was put on the website, so if you didn't know anything about the website, you wouldn't know anything about it?

MR. BOOZER: No, I think --- Brian, do you want to elaborate on the FERC ---

MR. BRIAN MCMANUS: Brian McManus, I am counsel of the company. The FERC once it gets an application of the type we submitted for the land use plan, posts a Notice, publishes a Notice, in the Federal Register and in the local papers of this application, inviting the general public to come in and comment upon the application. And I must agree that unless you read the -- have nothing else to do on Saturday and read Public Notices or Legal Notices, it does slip by. But that is how the public is formally made aware of the filing, and that's how the Commission receives its comments. So, somebody saw that and filed a comment concerning sailboat access to those two coves. The Company did not propose this; in fact, the Company wasn't too supportive of the suggestion. But unfortunately, just because we are not supportive the Commission does tell you what to do, they are the Regulatory Agency.

MR. HARMON: And this was published like the Notices in the want-ad section of the paper, right? It wouldn't be like the ad for the meeting ---

MR. MCMANUS: No, no. As far as I know, it would not.

MR. STUART: It would be in the Legal Notices probably.

MR. HARMON: Pardon?

MR. STUART: In the Legal Notices.

MR. HARMON: The Legal Notices, okay. The real fine print.

UNIDENTIFIED: Probably so.

MR. STUART: The reason you saw our ad for tonight's meeting, and this is about the third one we have had, is we tried to make this relicensing process very open and very informative. And

that's why we take out --- or, SCE&G takes out these quarter page ads, I guess, is about what they are, to try to get individuals to come out, and we want to hear their comments and get their concerns raised early so we don't come to the 11th hour in 2008, and have a bevy of comments that we have not addressed.

MR. HARMON: Okay. Can I make my comments now?

MR. STUART: Certainly. Do you want to make some type of formal --- I mean, if you do, you can come up here and speak, and you can be ---

MR. HARMON: No, I just have some notes here of what I wanted to cover and kind of go over. Like I said, this decision apparently was made without any kind of input, apparently it was without any of the landowners on these areas being actually notified. Now, whether we own the property bordering the Lake or not, we are affected by anything like this that goes on. So, I think SCE&G should have made a point to at least contact to make sure that Notice got to the landowners that would be involved by the adjoining land. Just one of my comments I wanted to make. And, what concerns me is maybe what are the environmental impact of all these boats coming in this cove is going to have on that cove, because it is --- part of it is already marked site as your environmental sensitive areas. It's a very shallow cove. You have got a little deep water at the front end where you come in off of, and that's it. And, you know, what's going to happen with the cove if we start having folks come in there, docking, and staying? If they start dumping any fluids on the --- in the water, who is going to be monitoring all of this to make sure this --- you're talking about the cove water quality control here, if you haven't even done that yet, how can you determine whether these boats are going to come in and are going to affect the quality of that water at the cove? Because you said that was still one of the things you still had to do was go in the coves and access --- determine what kind of quality the water was.

You know, and like the thing about the guys, the people, wanting the sailboats saying they want to have a private place where they can go, and they say they --- quote the guy in the newspaper, David Allen, he was quoted as saying, "I want my boating buddies without being --- go out with my boating buddies without being a nuisance to those living on shore." So, to me they must be taking it --- doing some partying on those boats if people are already complaining about if they go somewhere where people live. So just because I don't live there, maybe down the road I may decide I want to. Why should --- you know, are they going to move out if I come in and say, "Well, this is a nuisance," are they going to get up and pull out and stay out? They probably won't. They are going to say, "We were here, we're going to keep coming. You are out of luck." I have got to put up with whatever they bring in, you know. And there's complaining now that the other cove they have got is too much of a party cove. What's going to keep this from becoming a party cove, is my concern. And are we going to have beer cans all over the shoreline? Boat wakes washing the water away, which is already --- has a lot of erosion in that cove. And what is the future plans for the development of the fringe land around that cove? That was something I would like to know, also. Are there plans to put restrooms, or docking areas on for these people to use? Or whatnot?

MR. STUART: The development of the fringe lands is one of the things that we are going to discuss in one of our next Technical Working Committees. Right now, I don't ---

MR. BOOZER: You know, as far as right now, the only plans that SCE&G has is what we're ordered to do is that --- and that was to identify that area as a recreation --- special recreation area. That just applies to the water, it does not apply to any of the land.

MR. HARMON: Exactly what is a special recreation area?

MR. BOOZER: Well, it's a special area where people can come and anchor their boats, whether it's a sail boat or a motor boat. It's not specific and it's not only limited to sail boats. I mean, it's open to the public. Just like every cove on Lake Murray is open to boats.

MR. HARMON: I know on the Lake it is. But why do you have to designate that one special one?

MR. BOOZER: Well, to get back to the history, and the comments and the requests, and FERC's decision to require us to do that, so that particular cove does carry that special recreation classification. But, you can do the same thing in any cove on Lake Murray; and what attracts this cove is the fact that it is close in, it one of the few areas that have not been developed, and it is easily accessible to two of the major sail boat coves. And that's the attraction there. But as far as doing anything with the land, no, we have no plans to do anything. But there again, like Alan said, we will be discussing the use of the fringe land in our Land and Lake Management Technical Working Committees. So that will be discussed on what can and cannot ---

MR. HARMON: When will that meeting be held?

MR. STUART: Beg your pardon?

MR. HARMON: When will that meeting be?

MR. BOOZER: We haven't set a date for that yet. It's got some --- We haven't set a date specifically. The next date we are talking about mostly is docks. But we haven't set the date to talk about the fringe land yet. But it will be here shortly.

MR. HARMON: And how will that be advertised?

MR. STUART: That's what I was going to say. Has everybody linked on time into our FERC --- Saluda Hydro Relicensing website? Has anybody not done it? Okay. The address is www.saludahydrorelicense.com. It concerns everything that goes on in these Resource Groups and Technical Working Committees. Detailed minutes of what was discussed. If you go to the Resource Group there, you will see all of the sub-groups that we discussed tonight. For instance, Lake and Land Management. These meetings that we have are in chronological order; the minutes are posted, we try to get them out in about two weeks after we have had the meetings, sometimes that slips. Generally if you have Acrobat Reader on your computer; if you don't, you can pretty much go to any government agency website, and you can download it for free. The reason we do that is, to be quite frank, is they can't be edited. You just click on the link and there's the meeting minutes from June 15th. And pretty much lays out what was discussed, the date of the next meeting, list of homework assignments, and typically what we are going to discuss at the next meeting. As far as advertising a meeting, see this little tool right here, it's called calendar. Click on that link, there's a list of all the meetings that we have upcoming. We

try to get those out about a month in advance, or as soon as we're scheduled. You know, some Resource Groups like Lake and Land Management Technical Working Committee, we meet quite frequently. And usually we meet about every other week it seems like. Sometimes it seems like about every day. But we get them up there as soon as we agree to the meeting date within the Technical Working Committee.

MR. BOOZER: And we will also identify what is to be discussed at that meeting on that date.

MR. STUART: Right.

MR. HARMON: As of last Thursday, I talked with the writer. He told me how to get to all this stuff. I have been doing a lot of --- spending a lot of time on the internet since last Thursday trying to catch up and see what's been going on.

MR. STUART: Well, we have been promoting this from the get-go. And we said this is going to be the primary tool to distribute information to the general public and people that are intricately involved in the relicensing process. So, there is a lot of information there, and you have got a catching up to do, is the best way I could say it. Like I said, we ---

MR. HARMON: Is the public invited to these meetings?

MR. STUART: I'm sorry, I couldn't hear you.

MR. HARMON: Are the public invited to these meetings?

MR. STUART: That question was asked, the meetings are open to the public. You can come as an observer. Typically at the end we do have some time if somebody wanted to make a comment publicly, would be more than welcome to. What you do need to do is, contact Alison Guth because we typically meet at the Lake Murray Training Center; and there is a security clearance gate you have to get through, and if you don't let her know in advance you will be stuck at the gate and he won't let you through.

MR. HARMON: Are the meetings in the evenings or usually during the day?

MR. STUART: The meetings are during the day.

MR. HARMON: Makes the people like me at a disadvantage.

MR. STUART: It does make it difficult. If you do have comments, there is a comment section on here; if there is something that you would like the Resource Group of the Technical Working Committee to address, certainly provide that comment through this avenue; and it pretty much goes to myself, Alison, Randy, Bill ---

UNIDENTIFIED: Is that the contact list?

MR. STUART: Yes, that's the contact list, right. Yeah, there is Bill's e-mail address. There is also one, I think, down at the bottom of the home page. It says, "Comments ---" Is that where it is? I'm trying to think. "Comments," right there. That's the one that has that global distribution,

and like I said it goes to Randy Mahan, Bill, myself, Alison. So, if you want to go to the meeting, that's probably the easiest way to let us know is through that "Comment". Again, we do ask in advance because we typically have lunch because we do it pretty much all day, so there are some logistical things we work out; but you are absolutely more than welcome to attend any meeting, just let us know in advance. We like to have seven days, but we do make exceptions.

UNIDENTIFIED: But if you don't have a computer, do they list it in the paper?

MR. STUART: No. If you don't have the computer, you can go to the library. But the other thing is we can give you a telephone number, you can contact us. And feel free to call. You can call Bill, or you can call myself if you have questions. The reason we try to use the computer is because it's like a VCR; everybody has got a computer, or most people do. Most people do.

MS. DONNA RICHARDSON: It's Donna Richardson, and I live on the property that's on that cove. And that's our concern because already there have been signs of fires, you know, where people have fires. And Styrofoam. Wires. But concern about it, the land being cleared for picnic areas, you know, for them to come off their boat onto the land. And all that being destroyed. And that's the reason they want to come is because all the people around the area have intentionally left it natural. And it won't stay that way.

MR. BOOZER: That will be addressed. And like I said, there is no plans to do any type of land based recreation in that particular area. Right now, it just applies to the water serving the community.

UNIDENTIFIED: So, when the boat is already coming in there, won't they eventually come back and say, "Hey, we need direct access. Put us a road in so we can put our boats in right there in that cove."

MR. BOOZER: That's not going to happen. We are not going to put a boat ramp ---

UNIDENTIFIED: How can you say that's not going to happen?

MR. BOOZER: Because we pick and choose where to put them. So, it's not going to happen. And we are not going to put a boat ramp at the Harmon property there. We have got other areas that we are going to be looking at. But, I mean, that will be evaluated. Now, one thing you have got to understand, that is fringe land there. That is SCE&G's fringe land. And that fringe land is project property; and, you know, somebody gets out and walks on it, they can do that. Believe me, now, if they start building fires, or they start building camp grounds, or they start disturbing the peace, then we can get the Sheriff's Department involved and take care of that. But as far as -- If an individual gets out and walks around the shore line, there's nothing we can do. It's the same principle if somebody owns to the 360 and you get out and walk below the 360. You know, that's open to the public.

UNIDENTIFIED: What if the things, all the trash they leave, the cans, and food containers, and everything else on the shore, it won't become a shore.

MR. BOOZER: Is there a history of that?

UNIDENTIFIED: Oh, yes, definitely.

MR. BOOZER: I knew about four years ago we had an issue with fires in that area. I think Bill stopped that, it was trapping. We had some issues there but, you know, that is also a litter issue, and if it's a problem we will get the proper law enforcement people there to monitor it.

UNIDENTIFIED: So y'all can do that on fringe land ---

MR. BOOZER: If somebody is littering, we are not going to allow that to happen. It's not trespassing, it's littering. So, we can't get them for trespassing.

MR. STUART: The project land (inaudible), or we put it for public usage without regard to discrimination and ---

MR. BOOZER: This goes back to what we were saying of what we were going to be discussing and try to manage that fringe land there. And so that is part of what the Committee is going to be. And you know, we have got areas on the Lake that we are looking at to set aside for recreation. The fringe land, you know, under the license, under the project license, it is open to the public. But just because it is open to the public doesn't mean it's going to be a public recreation area. There is a difference.

MR. STUART: One of the things we are going to attempt to do is provide general guidelines of what should --- what activities should be done in the buffer zones, or fringe lands, and things like that. This is what Tommy said. As long as it's a lawful act, SCE&G can't tell somebody they can or cannot do it. But they can provide guidelines for what activities are --- I don't want to say permissible, but are promoted.

MR. BOOZER: It's very similar to the Forest Service. The Forest Service allows you to walk on it, but in some places they allow you to hunt, some they don't; some places they allow you to camp, in others they don't. So, that's what we will be determining in this.

MS. RICHARDSON: I have another question, too. There are deer down there. You talking about usage of the land and anybody can come up. What if it comes hunting season? Somebody is on the fringe land. We have homes up in there. We are outside.

MR. BOOZER: But that area is not designated as Forest and Land Management property. So it shouldn't be any --- it should be hunting --- if somebody is hunting on that property, then they are not supposed to be hunting on SCE&G's property.

UNIDENTIFIED: The history of duck flying is found on the shoreline.

MR. STUART: Right.

MS. RICHARDSON: But I think somebody needs to come out there and take a look at that because, you know, there are several things going on.

MR. STUART: Each County has some Federal or some State laws that prohibit discharging a firearm within so many residences. That may be an unlawful act.

MR. (UNIDENTIFIED): There's some at my place down there.

MS. RICHARDSON: He's closer than I am to the water, but I still hear it.

MR. STUART: I mean, a lot of this is like anything you see. You can see somebody robbing a bank, you are not going to call the bank, you are going to call the police. I mean, that is who is going to be ---

MS. RICHARDSON: But by the time I get down there they're gone. But you hear it.

MR. (UNIDENTIFIED): I would just like to thank you all for printing these big ads in the paper. I couldn't find these, and I just wonder if there is --- could you possibly, you have had several of these meetings in the last few months. Give us kind of an overview of what the bigger issues have been. What --- I mean ---

MR. STUART: We touched on ---

MR. (UNIDENTIFIED)D: I couldn't come to all your meetings. I'd love to know, is it all on the website, the issues that have been raised?

MR. STUART: Yes. To date there are --- there is one meeting we had where we listed all the primary, most all of the issues. I can't --- do you remember what meeting it was?

MS. ALISON GUTH: We had one for Lake and Land Management where we listed all the issues. But many of the issues are in the comment section on the website when people submitted their comments to the ICD.

MR. (UNIDENTIFIED): Are they accessible?

MS. GUTH: Yes.

MR. STUART: Okay. I guess to kind of give you a big picture, Lake Level Fluctuation, Downstream where it releases into the Saluda River, Management of the properties around the Lake, Recreational Access, those I think are the --- Buffer Zone Management, or Lake Land Management. Those are the primary drivers, I would say.

UNIDENTIFIED: Are any concerns raised about septic systems, you know, a non-point source, inputs to the Lake?

MR. STUART: That has been addressed in the Water Quality meeting. A lot of it is concern over agricultural runoff, it is submitted ---

UNIDENTIFIED: Right.

MR. STUART: With respect to this Two Bird Cove, if you go to this --- here is another fancy website you can visit. This is the FERC website. This is where a lot of these Public Notices and postings for the Saluda, it's probably five sixteen, P-516. If you are interested, go up to this link

or --- link right here, it says "E Library". You click on that. You can do a general search. What this does, it gives you a date range, it goes back --- I can't remember, they converted the E Library somewhere around --- it goes back to about 1980--- to the '80s. All submittals by SCE&G, or other Government Agencies, or general public, and all issuances by the Commission, the FERC, are listed on there. Basically, what you do is, you can set your date range to whatever you want it, but be --- I am going ahead and warn you, I would set it in manageable chunks. If you set it for fifteen years, you will sit here for fifteen years. I am just going to go ahead and tell you. Because if one person files a comment, fifty people file a comment on top of that comment. And it's just a --- it's a snow ball effect. So, for your Two Bird Cove, it was I would say somewhere in the 2001 to --- well, unfortunately, before 2006.

But at least it narrows it down to five years, and then you can --- the submittal, like I said, is something that SCE&G or John Q. Public, or an agency submitted; and issuance is what the FERC issued in response to that. To help migrate through this, you click on the hydro link, right here where it says "Docket Number". For this project you type in "P-516", submit. This lists all the activity regarding Saluda Hydro for that date range, or whatever. Here we go, for instance. Here is an Order modifying improving non-project lands. This is an issuance, an Order by the Federal Energy Regulatory Commission. There is a lot of introduction. This specific issue deals with authorization to issue a permit to Lake Port for the use of project lands to construct three private docks, joint use of waterfront lake. And it goes through and indicates who filed the permit, SCE&G's response if it was directed to them, or usually SCE&G files for the request, and then FERC comes back and issues a notice that this activity is going to take place. And it goes through and lists their understanding of what the issue is, or what the request is for, and their action that they take, whether it be grant or deny the permit to SCE&G. If FERC grants their request, the permit is issued to --- what was it Lake --- Lake Port. If they deny the permit, it would say, "SCE&G, you can't issue that permit." That's unfortunate, but you must move forward. At the very end where it says, "The Direct Orders ---" that's what he orders, and that is what SCE&G must do. There is an appeal process, I think, but --- final action. As you can see, they authorized the permit for construction, and authorized 6,000 cubic yards of material to be ---

MR. BOOZER: It's denied.

MR. STUART: It's denied, I'm sorry. Sorry. And then, again, that last item says unless a request for are-hearing be --- unless they receive a request for a re-hearing within thirty days, it is final action.

MR. HARMON: We have got thirty days for Two Bird Cove?

MR. STUART: No. That thirty days is gone.

MR. BOOZER: That was in June 2004, they issued that Order.

MR. STUART: But this is --- you are asking how is this --- unfortunately this is how they do it a lot of times, pretty much all of the time. There is a lot of things that go on, and like Brian said, if you are not one of those legal hounds that just keep an eye out for stuff like this in the Federal Register and legal notices, you will never catch it.

MR. ANDERSON: If you have e-mail, you can actually sign up to receive notices on this certain project and there will be a --- the FERC notices in their e-mail in box as they are generated.

MR. STUART: Yes, good point. Be careful what you request.

MS. RICHARDSON: I have a question. What is the difference, was talking about fringe lands and a buffer area. What difference is there?

MR. BOOZER: The difference is --- Tommy Boozer with SCE&G. The difference is that is that it starts out as fringe land. And then when the back property owner comes to SCE&G and requests to buy some fringe land, well, we can only sell to the 75 foot setback. So, say if it is 100 foot of fringe land in the area, and that property owner will be eligible to buy that 25 feet in the remaining 75 feet to the water's edge, would then become a buffer zone. Doesn't become a buffer zone until the back property is sold. But it's going to be a lot of --- it's not going to be sold so the buffer zone will be extended back to the PBL.

MR. HARMON: Now, the buffer zone, does it go from 360 inland? It goes outward?

MR. BOOZER: It goes from --- the 75 foot buffer zone starts at the 360 and goes 75 feet inland.

MR. HARMON: In from the Lake?

MR. BOOZER: Right, from the Lake.

MS. HARMON: It comes 75 feet back on to the property.

MR. BOOZER: Right.

MS. RICHARDSON: Is that like the blue lines --- is that just the highway?

MR. BOOZER: The blue line on that particular piece of property is the PBL. Because nothing has been sold in there. So that is the PBL.

MR. MCMANUS: And depending on whether the property was sold to this back property owner, above this fringe land buffer zone area varies because of the conditions changed over a period of time. So, some people will write that up as a 360. No buffer zone, no fringe. As the vintage changes so does the restrictions on the property ---

MR. HARMON: How can you find out what ---

UNIDENTIFIED: That's not a fun time either.

MR. HARMON: How do you find out what the present restrictions are on your property?

MR. BOOZER: Well, we also did your property. You know what PBL is?

MR. HARMON: No.

MR. BOOZER: Well, it's painted, it's on there. The blue line

MR. HARMON: What is PDL? What is that?

MR. BOOZER: That's Project Boundary Line, excuse me.

MR. HARMON: I don't know where the blue line is on his property, that blue line is on my property.

MR. BOOZER: Right. Well, it should be on there so --- this blue mark should be on there so you can --- it should be marked out in blue. Should have concrete markers on it.

MR. HARMON: That's above the 360, right?

MR. BOOZER: Beg your pardon.

MR. HARMON: That's above the 360?

MR. BOOZER: That's above the 360, that's right.

MR. HARMON: And that says I can't do anything in that blue mark down ---

MR. BOOZER: From the blue mark down, that's fair.

MR. HARMON: What set that up? Is that something you are talking about --- anybody that doesn't have the link doesn't have that, right? What you said.

MR. BOOZER: At one time everybody had it. And that gets back to what Brian said, you know, until --- we stop talking about land sales. The Company started selling land sales in mid--- the late '50s. And the license allowed us to sell project property --- at that time we were able to sell from the PBL, Project Boundary Line, all the way down to the 360. And that's why if you ride around the Lake to see where people, if they are only down to the 360, their property goes to the 360. Then we were issued a new license in 1984. And the new license required us to have --- part of the condition of us continuing to sell fringe land was that we have a 75 foot buffer zone. So, in 1984 we could no longer sell down to the 360, and that's when the 75 foot buffer zone was implemented.

MR. STUART: If I could get everybody to pause for just one minute, George needs to replace his tape. We have only got about five minutes left, and I know we have got a couple of other questions, and I don't want to let him miss any questions. So, I hate to interrupt, but otherwise we need to move on.

MR. BOOZER: And if you have really got some questions, if the whole community is interested, I will be glad to stay and answer any questions anybody has got.

(Off the record - break)

MR. STUART: Okay, I think George has got his tape all set. Did you have another question, comment?

MR. PHIL HAMBY: My name is Phil Hamby, and I am a resident at Lake Murray, close to the Two Bird Cove designation. And just based on a few comments that I have heard tonight, one of the things I wanted to quickly mention before I went into some of the comments that I actually have prepared. You know, we talk about all this information being available, and you almost get the impression that you are kind of ignorant if you haven't accessed all this information. But, I hope we all do understand that this is a mammoth amount of information on this relicensing; it's not like we can say, "There is a public notice on just Two Bird Cove," but that is just not happening. It's all part of this massive document. It's hard to find, in my personal opinion. And that makes it difficult for different landowners who actually live close to the area because we don't know what to look for. Secondly, as far as the Two Bird Cove designation, or the Two Bird Cove name, I mean, and I am sorry, this may sound ignorant to some other folks as well, but I don't own a sail boat, I don't travel the waters, and I have never heard of our Cove ever being referred to as Two Bird Cove in my life until about a week and a half ago. So, even if I knew what to look for, I would never have known to look for --- or, I would not have known what Two Bird Cove meant. So that's just one comment just to consider.

As far as the actual designation, one of the biggest concerns that I have had, members of my family have had, is that we just feel like we honestly have not been kept in the loop, I mean, as far as this particular designation. The only way we found out about it was through the media contacting us and contacting our family and saying, "By the way, here is this designation." And again, I know y'all can point back to it's been in documents buried down in some huge Federal legal-ese. But we just haven't seen it, we haven't been notified. Now, SCE&G easily can notify us and get access to us whenever they need us when it comes to, you know, the architectural study, or the archeological dig study, and that sort of thing; but when it comes to a smaller cove that only affects a certain number of people, you know, apparently they can't notify us in that situation. So, that's just one comment there. That's a really big concern that I have is that we would have loved to have the opportunity to express some of the concerns and questions that we have. So, that's that comment. Going into the designation, if this designation stands, which at this meeting it sounds like it is just a done deal. I would hope that there is still definitely room for re-consideration of this designation, because the concerns that come to mind for me directly and for my family, and for folks that potentially will eventually build in this area, number one, it's the obvious thing we have already talked about, the noise and the overcrowding. There is no stipulations that we are aware of if any kind of designation of how many boats is a maximum limit on the boats. We don't know that. And just common sense, I think, tells you that one boat, maybe that's different, but you have ten, fifteen boats, twenty boats, that's going to make noise like the article refers to as "Hurricane Hole". Now, I know we still keep on being told, "Well, Two Bird Cove, that's a smaller, shallower cove, so you are the peaceful quiet cove, and Hurricane Hole is this massive, you know, tailgating party," or whatever the comment was. You know, maybe it's quiet and peaceful today, but once we designate it we are encouraging folks to come visit, come stay at this place. And what is not to say that we have --- there is no ability for us to restrict, it becoming a miniature Hurricane Hole? And that's a huge concern, because I don't personally like the idea of having parties going on till two or three o'clock in the morning. That may be fine for the sailors, they may enjoy it, you know. I just feel like there may be appropriate places that still could be available but not in a residential cove. And I apologize --- or, I don't really want to apologize for not already building more homes, and my family, to show you for

sure this is a residential cove. But in fifteen to twenty years from now, I can tell you we have got family members who will build. You might now be able to easily see them because we do have fringe land, we have a beautiful buffer of trees that give us a natural surrounding from the water; but we can definitely hear these folks. I mean, we all know in this room, water --- noise carries differently over water than it carries through land. So, we can hear every word, every comment; and although I want you to definitely still understand, I understand reasonable noise. You know, we have boaters, we have jet skis, and that sort of thing, that's fine. But, there does come a point where I think everyone could agree, there are reasonable limits where it does get noisy, it gets obnoxious, especially when you are talking late hours at night. So, that is a huge concern I have with that.

The safety and the privacy; I mean, our home we have built this home, this is family property, this is where we tend to live till the day we die. And this is important for me to know what can I expect for the next ten, fifteen, twenty years, whatever God gives me to live left on this earth? And if I have people that might see this as a quiet cove, and the more people come in there, I think it would be naive for me to consider that my safety will always remain the same, my wife's safety will remain the same, with an increase of traffic. And I know Tommy has mentioned that SCE&G doesn't have any current plans to do any additional things with, you know, public facilities on the fringe land; but, you know, what we say what we don't have planned today surely doesn't mean what won't happen. And we have no assurances that that will not happen. And, the more we encourage traffic on this fringe land, which we definitely understand, please do not misunderstand that we --- we do understand that the Lake is not ours. We understand the fringe land is what SCE&G owns. We understand that very clearly. But, we also know that proximity to our land, we have people who will wander up. We have had trouble already with trespassing on our property, not just the fringe land; we have had trouble with littering, obviously; we have trouble with vandalism, with theft. We have had many troubles. So, all of a sudden you invite this new massive number of folks to come in, you have really increased the potential for more of these traffic problems to have and more of these safety concerns. Thirdly, the effluent from the boats. I mean, I look at boats like --- you know, they are like motor homes, they are just motor homes on water. They have sewer systems internally in the boats, and I know by law they are not supposed to dump that refuse in the water; but again, I have no assurances, I have no way of knowing for sure when that happens. But, I would assume, human nature would tell me, if I owned a big sail boat and I had it anchored at my house but I have the opportunity to go off to a public access place, basically what I have seen with how people treat public access places, whether it is at the beach or the Lake, or wherever, people don't exactly treat public places like they treat their home places. So, I have a fear of fifteen, twenty boats being in a cove, and maybe they decide, "Well, shoot, I am going to go ahead and dump my sewer." I might have a leaky gasoline tank, I might have leaky oil. And all that extra volume in that cove invites trouble, again, for a residential cove. It may not appear residential as much as some of the other coves do currently, but I can tell you it will in the future.

The protection of the peace, I have already kind of mentioned that, any increase in just the traffic, again, increasing the volume of people potentially coming up on the property, doing more trespassing, doing more theft, vandalism, and that sort of thing, and you know, I have a small house but I have a lot of windows. And at night time when it is dark outside but your lights are turned on inside, you can see through there like it's a crystal ball. And I don't like the idea of maybe my wife deciding to be very comfortable, watching the TV, and then we have people that

can easily see inside the house because they are allowed to get right up to our fringe land and our lawn area. So that's a concern.

And then finally, I would say as far as the concerns, once we set up this designation it again invites the possibility for what's going to be the next step? You know, we are talking about the potential --- or, the boaters are saying --- apparently for years have said, "We really would love this cove. It's natural, it's beautiful, it's quiet, peaceful, let's get this cove." Well, it has taken a number of years, but finally apparently they have done what it takes to get this designation to occur. So, how do I know in two more years they are not going to say, "Well, shoot, we have now been frequenting this cove because it is protected, let's go ahead and get these public facilities on the shoreline. Let's get these moorings. And, let's get these other restrictions." And I also understand, apparently, we do have adverse affection already, because even if we did buy the fringe land, if we were allowed to do so, apparently now our dock length will be restricted now. Because now it would interfere with potential sailors and boaters, and that sort of thing. So, we already are taking a hit at the rights that we already have available to us. And so there is another concern. And I apologize for being long winded, but I feel like it's important for you to understand that I am speaking for myself, I am speaking for my family, and other members, that we have talked about in a very quick, short period of time because we have learned about this in a very short period of time, you know, how this might be an impact for us. Because, we don't look at just how it affects us today, but how it will affect us fifteen, twenty, thirty years from now.

And that brings me to the next point of as far as the public resources. Again, I don't want to have anybody misunderstand that I am very much for public access, I want people to have the boating access, I want people to have park access. I would just try to offer what I think is a reasonable question of, when is enough enough for public access on the Lake? And the quick background check that I did on here's the summary of what it seems like our current SCE&G assets for public --- or, basically just public access. 64 islands, easily. Apparently denying the presentation I saw a number of like 149 that are even out there. But apparently, 64 are available for public access. To me that is a huge number of public access already available on the Lake. We have got 18 ramping areas, probably more because, again, my numbers seem to be maybe a little small. SCE&G has the large public park on the West side of the Dam. It offers swimming, it offers the large and small shelters for picnicking. The boats can come, lay anchor close to shoreline. They already have an area there.

SCE&G has the other public park on the East side of the Dam. It has three boat ramp accesses. It offers fishermen a place to fish. They even have a handicap fishing pier. Picnic areas, as well. They have got lots of resources. And if that is not enough, PRT has a huge mammoth park at Dreher Island State Recreation area. 348 acres are on that park, you know, and I understand, I am from a country background, and I have country folks that I have grown up from. But 348 acres, that's a lot of land to have for public access. 12 miles of shoreline at that park, 3 islands, 3 boat ramps, 112 camp sites, lake side camping, primitive camping, RV camping, lake side villas, fishing, nature trails. We have access for pets, playground equipment, picnic areas. I mean, you are not just catering to one niche, you are catering to many, many different types of socio-economical places. And then, it doesn't stop there. I mean, if that is not enough currently, then there is more parks on the way through the public arena. SCE&G, from my understanding, and I don't want to put words into Tommy's mouth or anybody else's mouth, but from what I have read and studied it sounds like SCE&G has pledged two tracts for public use on the Southside park, in

addition to the Northside that is already there for Dreher Island State recreation area. And that being the 89 acres of Bundrick Island Peninsula, and 518 acres on the Rocky Creek Cove. And again, note this size is even much larger than the Dreher Island State recreation area. So, if you have all that mammoth amount of public recreation areas in Dreher Island State park, what in the world can you fit on 518 acres, which is even more? So, I think we are doing pretty darn good of allowing many modes of public access currently, and definitely in the hopper for ten to fifteen years down the road. So, when it comes back full circle to what we are talking about tonight with the Two Bird Cove, what I would think would be a reasonable suggestion would be for a cove that you are hearing from families that almost every family is represented that is affected by this Two Bird Cove, is either here or you have spoken to them, or you will hear from them soon, we have done about all that we can do to say how we feel about how it affects our cove and our concerns. And that's about all we can do. It's hard for us as the David going up against the Goliath of all these big, you know, agencies, special interest groups, the lobbying people who have the time to study through all these documents, who have all the resources to spend daytime hours to attend these meetings that we don't as homeowners. And it's really tough for us to just accept people saying, "Well, you weren't there first, you didn't build a house, so we like your little peaceful cove, so it's too bad you just didn't move quick enough." We just haven't done it yet.

And that's where I would just hope that there will be some consideration from SCE&G, from FERC, to reconsider the designation because there are just so many impacts I think we are addressing tonight that we haven't had any major answers for, and surely we haven't had any kind of direct comments --- or, any kind of direct communications, say, "By the way, this is going to affect all of your families out here in this cove. What are your comments?" None of that. Nothing. I mean, sure there is a website floating off in internet lands somewhere, and it's huge once you find it. It's got lots of legalese, all these different things are represented, all these agencies represented, but I am not seeing anything for the small homeowners that might not be a part of this Homeowner's Association that represents 23 homeowner's associations, 4,500 people or so. You know, if they are so for the Two Bird Cove, out of those 23 communities maybe they can find a place that they feel comfortable with it; but we just don't feel as comfortable with it. That's it. And I apologize for being long winded, but I appreciate y'all taking the time just to listen to that. And it's just a very valid concern and I hope there is some type of communication we can get back as to how can we more directly become involved? I know we can kind of view what is happening and what is being done; but we would like to definitely have input as a two way communication, just to have that opportunity. I appreciate it, thank you.

MR. STUART: To follow up on that, you know, I sympathize with you. You know, I don't live on the Lake so I am not as close to it as you are. It's probably no consolation, but we have been advertising the meetings, this process has been going on for almost two years. And we have advertised fisheries workshops, we have these quarterly public meetings just to try to get it to the people who can't be there during the day to get you guys to come out. And if there are concerns or issues you have, SCE&G wants to know about them. The Two Bird Cove thing, again, that was --- it's a FERC process, and it's like any Government process, they're flawed. I mean, there is no perfect answer. I think SCE&G understands, gets the message that you are trying to send. You know, I know it could be potentially discussed and see --- you know, I can't speak for the FERC, I don't work for them. But it is certainly something that can be addressed as part of the relicensing. You know, I don't know if we --- if there was enough interest, you know, one person --- to my knowledge, one person got this thing designated. I would imagine if a handful came out

there might be a way to do it. I can't provide you that information, but it is certainly something that --- you know, SCE&G I don't think has a position on it either way. I think initially they were against it, now, to be perfectly honest; but they, again, were ordered to, so ---

MR. HAMBY: We had no way to know --- come for a meeting. And, see, that's what scared me. --- sources that, nobody knows exactly where it is. So, how in the world, am I supposed to know? How are my family members supposed to know?

UNIDENTIFIED: I think that was mainly what the sailors came up with.

MR. TOMMY BOOZER: But one thing I do want to address, your comments about the recreation. Tommy Boozer. Your comments about the recreation. We feel like we have got pretty accurate recreation around the Lake, also. But, PRT thinks differently. And so, PRT is the Agency driving the train here on requiring us to put in additional recreation facilities both existing and also enough recreation that could sustain this project all the way for the next fifty years. Hopefully, we are going to get a fifty year license. And so, that's the big interest right there, making sure there is enough land set aside for this project for fifty years.

MR. STUART: One thing just to follow up, just because SCE&G is requesting a fifty year license, they have to every seven years do the FERC Form 80, which addresses recreational needs. So, if they get a fifty year license, it is not going to be fifty years/no recreation. I mean, it goes through a process every seven years where they review it to determine the need and adequacy at that point. So, just so you know, it's not a fifty year and that's the end of the story for fifty years.

MS. RICHARDSON: What about if (inaudible) the fringe land, you were talking about for about for that seven years, in seven years you're going to re-address and issue if the recreation part goes through?

MR. BOOZER: Hopefully, doing this relicensing process we will reclassify the land, that's where we balance and reclassify the land. And that should take care of a lot of the --- when I say reclassify, we'll look at land, what land we are going to put in recreation, what land will stay in the forest and game management, what land will stay in the future development, those type of issues. That should be resolved. And once it's classified, it's kind of hard to change that classification. Hopefully, we will get that halfway established during this relicensing process. That's not to say that every --- right now, we have a five year review on our SMP, our Shoreline Management Plan. We are proposing a ten year review on it. For every ten years we get a fifty year license, and every ten years the whole SMP and the Land Management issues will be reviewed. It will be a living document; it will have opportunity to be reviewed.

MR. STUART: I am going to offer this suggestion to you. If you have specific recommendations for managing the fringe land, or sale of fringe land, provide those to us in the comments, and ask that we address, or consider those, or take a look at those when we address that issue. And again, you are free to come to the meeting when we have that; but that way we at least have it in writing and we can take it to the RCG Group members and say, "Okay, here is what some of the concerned citizens who aren't being represented --- or, adequately represented on this RCG."

MR. BOOZER: The sudden concern y'all are addressing tonight, other people who have property behind the set back, have expressed that to us too. They are concerned about what type of activity will be allowed to take place in that buffer zone. These are folks who have homes, and they bought the fringe land, and they have got the buffer zone in front of their property. So, y'all are not the only ones who have concerns about it, and that's why it is going to be addressed during this Committee and during this process.

MR. HAMBY: And just to clarify all of this, what is exactly the name of this particular Committee that might have the designation of Two Bird Cove, and the fringe land? What is the name ---

MR. STUART: It is going to be the Land and Lake Management Technical Working Committee. If you go to that resource groups, Lake, just click on Lake and Land Management, and that will - --

MR. HAMBY: Is the membership open, or is it closed at this point?

MR. BOOZER: Well, the membership on the Technical Working Committee is closed, but you can just come as an observer; and like Alan said, at the end of the --- or, somewhere during the process, these things start to go all day, and so there will be an opportunity to voice your interest and other things

MR. STUART: But again, if you do have, you know, your specific comments, please get them to us sooner than later so we don't miss anything. Or, you can make them right here so that we know.

MR. HAMBY: I pretty said what I have to say.

MR. BOOZER: Or, they can provide us comments through an e-mail, or ---

MR. STUART: Yeah, that's what I meant through the comments thing on --- whatever avenue is easiest. But, we just --- like I said, we have done this as an open process, and we want to get your comments. For everyone of you that is sitting there, there is other people that say that the fringe land should be open for all kinds of public activities. So, bear in mind ---

MR. HAMBY: I thought I said it before. But again, I am not trying to debate the fact there should be public access in a number of areas. But I do think there is a logical reasonable limit of what is enough. I mean, what is the cut off of saying, "We have plenty of recreation, not just currently but what's down the road on not just the North, not just the South, but on the East?" I mean, every place you turn around. And obviously, I think the experience of showing us that you give an inch, people expect more and more and more. And I think there has got to be a reasonable compromise of --- I mean, I think SCE&G has done a pretty darn good job of providing lots of public access already. And then working on the larger one on the South side, I mean that just opens it up to just --- I don't know how many lakes would have that type of public access. It's just amazing to me.

MR. STUART: Well, one of the things that Dave talked about was the recreational study that is going on, is actually designed to evaluate that in a scientific manner. So, that information will be available, the report when it is finalized. So, it should provide a lot of valuable information.

UNIDENTIFIED: At your next meeting, when you have a meeting, if you take into consideration of things that was brought up tonight?

MR. STUART: Not at the next meeting, no, because we have already set the Agenda. However, we can put it in what we call a "parking lot item", that will be addressed ---

UNIDENTIFIED: In other words, if not everyone can come to your meeting, but would somebody in your ---

MR. BOOZER: We will address that.

MR. STUART: Yes.

UNIDENTIFIED: Will address what our concerns are, so everybody, whoever is a member and voting in every way you do, would know our concerns. That's just the case, we couldn't get there, and no, we didn't get the message, and like I am, I don't have a computer, so I can't --- I don't know another way to get to you, see.

MR. STUART: Yes. And that's why we post the Minutes, it gives --- I understand your limitations without a computer. But that is why we post them, we want people to read them; if there is something you feel that is a direct conflict, or a potential issue, that's why that "Comment" section is on that website. Shoot us an e-mail saying, "I think we need --- this needs to be addressed." Something like that. Now, issues that we have already covered, you are going to have a real hard time because -- you can provide comment, I don't know how much it would change. I am not referring specifically to Two Bird Cove. But, management of buffer zones, for instance. If it's some minor change, you know, it may be do-able; but as to go back and recreate the will, I don't think you are going to meet a whole lot of support with that. It's the best way I can say it, I don't know what other way.

MS. VICKI HAMBY: I am Vicky Hamby, I also live on property adjacent to Two Bird Cove. And I know I am not going to say anything that you probably haven't already heard. But, because I am a citizen in my own right, I mean I want to have my thoughts heard. I think my husband and several other people in the room have made a really valid point that we are not saying that you haven't tried to get the information out there in some capacity; but again, we didn't know it was called Two Bird Cove. I could reach your site every day for a million years, and I would not know that that was the Cove that you were talking about. The web is great, I am incredibly web savvy; but I recognize that there are a lot of people in this room who are not. We work full time jobs, we have families, we have things that we are involved in our communities because we try to make a difference in our communities, and it is very difficult to find time to read through the kind --- and, I understand it. But I feel like when SCE&G is aware that decisions may be made that affect property owners adjacent to their fringe land, they need to go the extra mile to notify those families. It's incredibly unrealistic to expect that we are reading all this stuff. If I were in a position to make a decision about a piece of property adjacent to your home, and I said, "Well, I put a public notice in the paper," I can imagine how you would feel. Because, I am guessing that

you are not reading those public notices, just like the average American is not taking the time to read those public notices. I work with a colleague, she walked up to me last week and she said, "I read the article in the paper about Two Bird Cove. I am so sorry." And I said, "What do you mean?" She said, "Well, I used to live in Hurricane Cover, it's awful. It is so bad and there is nothing that you can do about it." And that's my frustration.

I understand fringe land is public property, I am concerned about the noise on the water. What do I do at 2:00 A.M. in the morning when my husband is out of town, and people are partying in the Cove? Answer this question for me: Who do I call?

MR. STUART: Lexington County Sheriff's Department.

MS. HAMBY: And they have jurisdiction over the waters?

MR. STUART: Yes. SCE&G has no jurisdiction over the water. The Department of Natural Resources and each County Sheriff's Department has that authority.

MS. HAMBY: Okay. And I am going to hope that they can get out there in a reasonable amount of time and that they can get up ---

MR. BOOZER: They are on the Lake, they have total authority.

MS. HAMBY: --- that they can sneak up on these people in a way that the people aren't going to say, "Oh, here come the cops," and then suddenly everything is fine. And I am going to hope that that works that way. You know, noise carries very differently on the water than it does on the land. It just does. And I hear things I don't need to hear all day long. I'm OK with people being out on the Lake during daytime hours, that's expected. But to designate an area for night time recreation, if somebody designated an area for night time recreation, a ball park, a tail gating party, whatever, on property across the street from your home, it would be just, you know, public disturbance of the peace. You don't have night time activities, and we can say, "Oh, these people just want to dock their boats and sleep, they just want to fish." No, they don't. They are going to drink, they are going to cuss, they are going to party, they are going to be loud, they are going to swim over, they are going to come up on the property, they are going to walk around, they are going to get in our yard. I am going to hope that they don't, but my best prediction is that that is how that is going to go. And I am frustrated that I know I can call the police, but I also know the reality of the situation. And, you know, we will hope for the best.

My other fear with the fringe property is when I hear statements like, "Well, there are no plans to do anything on that land. There is nothing in the works right now to do anything with that fringe land." Maybe not right now. But, again, you take --- you know, you give an inch, people take a mile. You give them an inch, "Oh, well, that's died down now, what can we push next? Now that's died down, you know, what are going to ask for next?" Once people have this Cove designated as a public recreation area, that is going to be the next thing they ask for. "Well, we are not supposed to dump our waste in the wake, what have we got to do? We have got to go to the bathroom, we need facilities." And that's going to be the next thing that comes. So, you know, I know I am not saying anything that hasn't been said already, but again, as another individual citizen, it is a concern.

One of the things that was mentioned when you said, "Why was Two Bird Cove selected?" Well, it was selected because it is not really a developed cove right now. Which just goes to show, "Well, you obviously recognize that there is an impact on residents or you would put it in some other cove that's fully developed." I feel like you're penalizing a particular group of people who own property because they haven't chosen to build their homes yet. These are private property owners, and it will become a residential area. And when you say that, "Well, there is a lot of historic reasons for why this cove was chosen," let's look at history. The people who own this land owned it before the Lake. So, if you really want to look at the historical reach of the situation, you know, I think you need to take that into consideration. My bottom line is, when you are making --- what I would ask, and I will put this in writing, and I will send it to the "Comments". My request would be that when you consider where you are going to put recreational areas on the Lake, you need to look at not just whether it's currently developed or not, but who owns it. And is that intended to be eventually a residential area? And I was thinking about this when this first came about, and the first thing that came to my mind was, "You know, this would be kind of like ---" and I understand the public is --- the Lake is public, it's public. But what if you lived in a neighborhood and you happen to be a house that opened into a cul-de-sac that, for whatever reason, that cul-de-sac just never developed, nobody built houses all around that cul-de-sac. And a group of citizens got together and said, "Well, you know, there's just not any convenient camp ground close by, and we just want to park our trucks and tail gate. We just want to throw our blow up mattress in the back of the pickup truck and hang out all night. You know, we need a place to do that. There is not a convenient place. And, you know, the road is public. So, designate that cove ---" You know, you guys get my point. I really do hope that you will take the comments into consideration.

MR. ALEX HARMON: I know you said public notice had been made. Alex Harmon, I am a resident at the Lake on the property that is in question. I still don't see why SCE&G couldn't send a notification to --- especially as small a cove as this is with a limited number of residents as is involved in this cove, a notification through the mail and say, "Hey, this is what's going on, this is being considered, would you like some input?"

They got everybody's address, you have got power from them, they got your address, they know where you live. They know who lives where in the vicinity of the Cove. I mean, what's it, you know, 27 or 30 cents now, drop a letter in the mail? They send you your power bill. That's it.

MS. DONNA RICHARDSON: The way I learned about it was in the newspaper, someone called my house is how I found out about anything even going on. And they were able to track me, and I am not even the landowner, I live there. Donna Richardson.

MR. STUART: Well, I think this Two Bird Cove thing has been very well recognized. And again, get your comments to us. If there's things that can be done, it will certainly be considered. That's all I can tell you.

MR. HAMBY: We do not --- do we need to actually do it by e-mailing, or since this is on the record, supposedly this is official in record as much as we need, are you saying we actually need to double it with the e-mail, is that ---

MR. STUART: No, I am not saying that at all. What I am saying is, if you want to elaborate, or you know, do something, this is fine. It's easier if you do it with e-mail, but this will be sufficient.

MR. HAMBY: Then in that case you would not ---

MR. STUART: If you have specific recommendations.

MR. BOOZER: It will be published.

MR. STUART: These Minutes will be posted on the website, and it will be included as part of the official record. Yes, ma'am?

MS. BARBARA LEDBETTER: My name is Barbara Ledbetter, and I own property right at Two Bird Cove. My Dad owned the property before me, and when he died it was left to me. This property is undeveloped, it's beautiful property; and if you have been there, if you know where it is, it's beautiful. My Dad had an idea that this property would remain that way. One day is --- I would like to build there, my children would like to be there, it's a beautiful piece of property to have a home. My Dad's Dad did farm under the Lake where Two Bird Cove is. It's not like this is just property that we moved from somewhere out of state and bought it, it's a very valuable property to us. And we have heard it before, but please take this to your next meeting. Please reiterate the fact, when I heard about this coming to Two Bird Cove, I had no idea where this was. And to think this is where I spent my 4th of July in this quiet, quiet cove. And this is one of two places on the entire Lake that has been chosen for something like this. One comment that was made by Mr. Anderson from Recreation RCG update, and I appreciated this so much: one of the things that they look at is they don't want to put someone else out of business. And, you know, when I think of homes and people living there, and this is their home, that's putting someone out of business when this land is developed like it could very, very possibly be in the not so distant future; and I would ask you to please don't put us out of business there and our property. Another thing, I want to thank Mr. Tommy Boozer. When he made the comment, and I quote, "We will address your concerns." Please address these. I really do appreciate that. Thank you.

MR. (UNIDENTIFIED): This Public Meeting you have, will this come back up at that time again?

UNIDENTIFIED: Only if you bring it up.

MR. ARGENTIERI: Bill Argentieri, SCE&G. The issue was submitted to FERC because we had an Order. And we can talk about it in the relicensing, but it's not going to change that Order; it's not going to change what we submitted until the new license comes out. So, you are talking years down the road. If you are really serious about trying to get this change now, my suggestion is to write a letter to the FERC and question their reason for having that designation. They ordered us to designate it; the designation doesn't change the fact that whether the designation is there or not, those people would still be out on the water. The designation does not give the --- am I saying something wrong? That designation is something that the FERC wanted --- ordered us to do. Whether that designation is there or not, the water on the Lake is public property, and they could be out there whether we designated it or not. My suggestion, take it if you want --- I

mean, you can write us, e-mails that's fine, send a letter to the FERC questioning why that they ordered us to do that. And that might get some action now. We will look at it during the relicensing, but anything that comes out of relicensing isn't going to take effect until after we get our new license, which the earliest that would be would be 2010. Keep that in mind. You can bring it up next Public Meeting, and the next one, and it's not going to change because we were ordered to do it, and it's not going to change until --- if it is even going to change, it would not change until after 2010. Does that make sense?

UNIDENTIFIED: The FERC Order specifically designated that Cove?

MR. ARGENTIERI: Yes, sir.

UNIDENTIFIED: It didn't say -----, it said that particular cove ---

MR. ARGENTIERI: No. It's specific --- that one and Hurricane Cove.

MR. BOOZER: Bill, what you need to mention, too, is that decision was based on consultation with the South Carolina Department of Natural Resources and the U.S. Fish and Wildlife. They also commented on the designation of that location. So that would be another --- that would be two other Agencies that would have to be contacted.

UNIDENTIFIED: Who was that, again?

MR. BOOZER: The U.S. Fish and Wildlife Service ---

UNIDENTIFIED: Fish and Wildlife, and --

MR. BOOZER: --- and South Carolina Department of Natural Resources.

UNIDENTIFIED: Natural Resources, okay.

MR. HAMBY: And see, that is the outlying thing that we have, it's nothing against you, or these folks. I mean, it's just --- the ironic thing is that all the Agencies and all the big boys got at the table and they had a seat at the table to say, "This what we want." But then the people who physically live at the property, who again --- we understand, we don't own it, blah, blah, we understand that, but we are definitely affected because of the proximity. But they surely didn't contact us to be at that same table. And that is what we are talking about we're so frustrated about is that the big people who have daytime hours to do all this kind of stuff, and read through all those attorney documents and everything, they've got all the time in the world to do it. But we are the people who are directly affected, and we are not the ones at the table, as well.

MS. HAMBY: I just wanted to respond to a comment about whether the designation is there or not. You are absolutely right, people very well may come to that cove anyway. But when there is discussions in the newspaper about moorings being put in that Cove, then you know --- there's some of the discussion about some things that are going to invite people to that Cove. I recognize that this is a FERC decision; I guess what I would say is that you all are an Agency that has influence with FERC; you talk with these people all the time, let's hope that you do. But, so here is my question: Who do I call at FERC and what is their phone number? If you can get me that,

I'll be happy. Get me a contact; don't tell me to contact FERC because I can go to FERC's website and, you know, twenty days trying to find it. But if you will help me figure who I need to get in touch with, that would be greatly appreciated.

(Off the record - inaudible discussions)

MR. STUART: You will need to contact the Compliance Division, to begin with, at the risk of losing (inaudible). You can address the secretary, secretary Salas is her name. And she will certainly pass it down the line to the appropriate individual.

UNIDENTIFIED: Now with the mike is not working. Who was the individual that contacted FERC? Oh, wait a minute.

MR. STUART: I wasn't in that ---

UNIDENTIFIED: It was one person?

MR. STUART: As far as I know it was one comment that was received.

MR. ANDERSON: If you go to FERC's website you could get that.

MR. STUART: It should be on there.

MR. ANDERSON: If you put in P-516, there is also a text search at the bottom, so I am sure if you go in and put it in Two Bird Cove, it will search every single document in their library for the phrase, Two Bird Cove.

UNIDENTIFIED: It seems to me it's in the frame work, that ---

MR. STUART: Make sure you put the P-516 on it, or it will search every hydro power project in the country.

UNIDENTIFIED: (inaudible), Windward Yacht Club --- next?

MR. STUART: Honestly, Bill --- I know we are trying to wrap up here. Honestly, Bill is correct. If it is something that is not going on per se in this relicensing, your quickest and best avenue is to contact them directly. Remember, this relicensing --- this Two Bird Cove thing happened outside of when we started this relicensing, so just bear that in mind. The sooner you do it, the better off you will be.

MR. BOOZER: You are right, because this right here, the Two Bird Cove, that's in the existing license. And what we are talking about is the new license process.

MR. STUART: And, like I said, I am not advocating either way, I am supposed to be neutral, but ---

MS. RICHARDSON: The land that we were talking about like the fringe land, if that is something y'all would address in the meeting?

MR. BOOZER: That is correct.

MS. RICHARDSON: So, with all these issues that's been brought up tonight, you would take a look at all of that when you are looking at the Two Bird Cove?

MR. STUART: Yes, ma'am. And we are also revising the Shoreline Management Plan, which is originally how this whole Two Bird Cove thing originated in the previous revision. So, there may be an avenue to go back; if you meet the resistance that way you may be able to voice your opinion here and get that designation revoked, or --- whatever the proper phrase.

MR. MAHAN: Reconsidered.

MR. STUART: Reconsidered. Thank you, Randy.

MR. HARMON: Did you say you had a phone number that you could call? Do you know the number to call?

MR. STUART: The FERC number?

MR. ARGENTIERI: I would write a letter.

MR. STUART: Yeah, I would write a letter.

(Everyone speaking simultaneously and laughing - not transcribeable)

MR. STUART: There is a general FERC number ---

MR. BOOZER: That's not helpful. Give them the address, is more important.

(Inaudible - everyone talking and laughing simultaneously)

MR. BOOZER: A letter puts it on record.

MR. ARGENTIERI: There it is. There's the address you want. Ma'am, there's the address you want.

MR. STUART: FERC. Make sure you put "Saluda Project P-516", that will get it there faster. If you don't put it on there they will have to research. Once you are actually talking to them, they know where it is.

MS. HAMBY: Would you say that again? Saluda Project ---

MR. STUART: P-516, that's the FERC Project Number we are talking about. It's 888 First Street, N.E., Washington, D.C. 20426.

MR. ARGENTIERI: And I would address it to "Secretary" ---

MR. STUART: Secretary Magalie Salas.

MR. ARGENTIERI: M-a-g-a-l-i-e, S-a-l-a-s, Secretary. She's the Secretary of that, did you get that? Magalie Salas.

MR. STUART: The other thing, you may want to reference, you will have to do a little research because I don't know the actual Order Number; but I would reference the Order Number where they require SCE&G to designate that as Two Bird Cove. That will help expedite your ---

MS. JENNIFER RICHARDSON: Jennifer Richardson, homeowner. My comment is if anything comes up dealing with this fringe land, will you please let the homeowners know? Send a notice so we don't have to find it out in the state paper with the rest of the public?

(Off the record - changed tapes)

MR. MCMANUS: Dated an Order of June 23, 2004.

MR. STUART: Are there any other questions or comments that don't pertain to Two Bird Cove? We will be dismissed. I've got another meeting at 9:00 o'clock in the morning. I am not going to make light of it, but your information will be taken back to those, and thank you. If there is nothing more, the next Public Meeting I think have tentatively scheduled for October 26th. Please come out and we will see you in person at that time, that's everyone from Two Bird Cove.

MEETING ADJOURNED

SALUDA HYDROELECTRIC PROJECT RELICENSING

FERC PROJECT NO. 516

Joint Agency & Public Meeting

April 20, 2006

9:00 A.M. Session

HOST:

Allan Stuart, Kleinschmidt Water Resources

PRESENTATION,

Questions and Answers:

Allan Creamer, Federal Energy Regulatory Commission

Transcribed from recorded cassette tapes of Proceedings

Capital Video
405 Timberpoint Court
Columbia, SC 29212
(803) 781-6747

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MEETING BEGINS:

MR. ALLAN STUART: The main point of today's Meeting was, in the course of these RCG Groups, we had some inquiries on the FERC's perspective on a number of things; and Bill Argentieri got with Allen Creamer who has been assigned to this project from the FERC, and Allen was gracious enough to come down and answer a lot of everyone's questions with respect --- or, from the FERC's perspective.

So, if you would, we have got a couple of kind of ground rules. We have to walk around since we are video taping, audio taping, Alison will be walking around with the microphone, and if you would, state your name and who you are with so George can get it incorporated into the record, and Allen can begin to put a name with a face, and a face with a name. Do we have any questions on the progress of the relicensing right now? We are pretty much on schedule. Most everyone in here to some degree is an active participant. But, I certainly would answer any questions. With that --- yes, sir?

UNIDENTIFIED: Maybe I am not supposed to be here. I just saw it in the paper yesterday and decided to come. Is that all right?

MR. STUART: Oh, absolutely. These public meetings are just for that. Anybody that is interested in

what is going on during the relicensing of the project, we encourage you to come. You are actually encouraged to come

as an observer, if you would like, to any of the Resource Conservation Groups. We frequently have students from the USC sit on them just to find out what is going on. So, if there is a Resource Conservation Group, one of the seven; we have Operation Safety, Fish and Wildlife, Water Quality, Cultural Resources, and Lake and Land Management. So, you are more than welcome, just get in touch with Alison Guth and let us know you are coming, because there is some security issues that you have to go through. We typically meet at the Training Center. But, no, you are more than welcome, and that is what these public meetings are for is to get people who have an interest in the relicensing, but just don't really have the time, but want to get their voice heard. With that, I am going to turn it over to Allan; and Allan is in the Licensing Division of FERC. One thing I did want to point out, and I pointed it out in an e-mail to the Group members. If there is questions regarding some land transaction, or some pending Motion, or something like that, Allan is not in a position to answer those questions; he is not in that Division, actually. And so, if there is process questions with respect to the relicensing, that is primarily what he is here for, and I am going to leave it to him. There is some things I think he is prepared to --- you know, his responsibilities, and he may get questions, legal questions or other things that is not his area of expertise, and he probably will not offer an answer to those. But, I am

going to let him make that determination. With that, I am going to introduce Allan Creamer from the FERC.

MR. CREAMER: Good morning. I have got so many wires under me here, I am trying to --- can you hear me okay up there? Okay. As Allan said, it is kind of easy to remember names, my name is Allan Creamer; I am with the FERC out of Washington. I have been with the Commission for almost fifteen years now, just to kind of give you a little of background, it will be fifteen years in July. My primary area of expertise is as a Fisheries Biologist. I deal with fisheries issues, aquatic issues, water quality stuff, things of that nature. I had been assigned to this project some time ago just kind of baby sitting it, so to speak, knowing that it was going to be coming in and relicensing was going to get going. Some years ago I had been involved a little bit with the Commission Order that extended the license during the Dam remediation work. And so, you know, I have a little bit of familiarity.

UNIDENTIFIED: Can you talk a little louder, or talk just a little bit so --- I think there is a wire ---

MR. CREAMER: Okay. I might end up having to talk ---

UNIDENTIFIED: Are they on?

MR. CREAMER: Yeah, they are on.

UNIDENTIFIED: Okay.

MR. CREAMER: Apparently I am going to have

to stay at the podium, which I didn't necessarily want to do.

UNIDENTIFIED: It's just the vents that flow back this way.

MR. CREAMER: All right. Can everybody hear me now?

AUDIENCE: Yes.

MR. CREAMER: All right.

(Off the record)

MR. CREAMER: Anyway, getting back, I was involved a little bit early on with the Order that created an extension to deal with the Dam remediation work. So, have a little bit of a background, not much history with the project, but a little bit. I did come down yesterday and I got a little bit of a lay of the land; I did take a tour of the Power Plant and went out on the Lake a little bit, and just to kind see what there is to see, and get my things that had been brought up. So, hopefully, I will be a little bit prepared to talk, you know, and understand the issues and things that are being raised today. As Allan said, I am in the Relicensing Group, I am not with the Compliance Group. I am not all that familiar with all of the lands issues and things that are going on, the pending stuff. So, I would ask that you refrain from asking questions about those sorts of things because I won't be able to necessarily answer them. And, as much as we would like to think that we are practicing attorneys, we are not, as biologists. So, you

know, relative to things, legal issues, basically all I am going to be able to do is talk relative to what the Commission has done in the past, and where they have come down on various things. So, I won't be able to speculate on what the Commission may do in any particular area, other than potentially talk about what they said in the past about similar type of things. So, with that, I guess if anybody has any more procedural type of questions, I guess we can get into what you all are here for; and I guess I can just dawn my vest, and you start firing away.

MR. BILL MATHIAS: Bill Mathias, Lake Murray Association, Lake Murray Power Squadron. At the Safety Meeting recently we got into some discussions about safety, but it pretty much centered around shoal markers. And after, a lot of give and take, it appears that a mandate from FERC is that SCE&G is responsible for the safety of the Lake, not for shoal markers specifically. So, my question is, how do you define "safety"? Can you give me an operational definition for "safety"?

MR. CREAMER: I don't know that I can necessarily give you an operational definition of "safety".

You know, the Commission does hold the licensee ultimately responsible for public safety on the Lake, activities within the project boundary. Now, how that carries through, it

varies from project to project. There are cases where we have applicants that are responsible, or licensees that are

responsible, for navigation markers, shoal markers, that sort of thing. You know, they take that responsibility on themselves. In other situations there are other entities that bear that responsibility, whether it be --- in many cases a State Agency does it. But, in a few cases there's like homeowner groups and different groups like that that do it. So, it varies from project to project who has and who does bear that responsibility. But, you know, ultimately from a public safety standpoint the Commission does hold the licensee responsible for what happens within the project boundary. As I understand it, here in South Carolina the DNR is, I guess, by Statute, from what I understand, bears that responsibility.

MR. MATHIAS: Even shoal markers.

MR. CREAMER: Right.

MR. MATHIAS: My question really goes to some broader than that. Is vessel safety, search and rescue, law enforcement, aids to navigation? What all categories of elements are included within safety? Or, keeping statistics on incidents of deaths, or serious injury, or for whatever? Or, designating take out points for helicopters, transport? You know, what are we talking about?

MR. CREAMER: Okay. I don't know that I am going to be able to fully answer that. What I can tell you is, typically projects like this you have multiple parties

that are responsible for making things happen. The Commission doesn't necessarily like to put a licensee in the position for policing activities. Generally those type of things fall on other entities. Now, to the extent --- I mean, we do ask our licensees to work with these local law enforcement agencies. We do expect that they work with these other jurisdictions to ensure public safety. That is the tactic the Commission has taken in the past. But like I said, ultimately the licensee is responsible for what happens within the project boundary. I don't know if that -- I mean, that is probably the best answer I can give you to that question.

MR. MATHIAS: The way I interpret your answer is, FERC really does not propose to get into a lot specificity; they just assign the mission to the licensee to deal with safety without further explication of what elements there are to that. Right?

MR. CREAMER: Yeah. I mean, I'm not --- I could probably go back and look at particular cases where the Commission might have said certain things. You know, where the Commission might have said certain things about various aspects of public safety. But generally speaking, it's an area that --- it's a touchy area and a gray area for the Commission relative to how far the Commission typically

will go. And like I said, it generally is a project by project type of evaluation, and it's case by case.

MS. JOY DOWNS: I'm Joy Downs, Lake Murray Association. Is there an agreement required then between the licensee and the various agencies? Would FERC require them to have agreements, for example, between the Department of Natural Resources and the licensee?

MR. CREAMER: We do look for --- in license requirements, one of the things that we will put in is, we will ask for who is responsible for what? So, if you want to call it an official agreement, that's fine. But, we do look for some explanation from a licensee as to who bears responsibility for what aspect? And, our jurisdiction --- the Commission's jurisdiction is simply limited to the licensee. And, this is an area where I don't know ultimately how the Commission would handle it if another entity who said they were going to be responsible for something is falling short. I don't know what the Commission would do in that particular instance relative to the licensee's ultimate responsibility for safety on the Lake. I am not familiar with a situation where they have had to step out there and do something or say something about that. But, you know, it is certainly possible that if somebody that said they were responsible is falling short, and we could theoretically go back to the licensee and ask them to --- or, require them to address the issue in some fashion. But, to answer your question, if it's a formal agreement that's fine but it doesn't necessarily need to be that; it just needs to be an

understanding that's on paper when they file a plan that specifies who is responsible for what aspects of safety on the Lake.

MS. DOWNS: But if some agency were falling short, then you would expect the licensee to address it?

MR. CREAMER: We would expect the licensee to address that short coming in some fashion.

UNIDENTIFIED: --- with the Lake Murray Association. If you could introduce yourself and who you are with, it would be wonderful. Thank you.

MR. STEVE BELL: Allan, I am Steve Bell with the Lake Murray Watch. We are in what they call an Enhanced Traditional Process, SCE&G has chosen to do this, and we appreciate them doing this and allowing us to have full participation in this process. And things right now are going okay, and look pretty good. But, if things bog down before this process is over and the process doesn't move forward, can the FERC come in and basically help and assist in resolving problems to get the process going again?

MR. CREAMER: Yeah. I mean, to be sensitive that a state water group or a licensee would need help getting through a process, certainly. I mean, any party can come to us and ask for FERC's assistance. So, there are various avenues that they could take. We have a dispute

resolution service, they could get involved if that is what was necessary. You know, FERC's staff, like myself, we have

various staff that has had a lot of experience in facilitating. And so, yes, if need be certainly we can get involved to try to bring it to some --- you know, ultimately they are going to have to file an application, whatever that looks like. And if the parties need assistance getting through that and getting to that point to try to resolve issues, anybody can approach the Commission for that assistance.

MR. BELL: The Commission has the legal right to come in at this stage of the process and actually assist in dealing with any problems, you believe?

Mr. CREAMER: Well, again, I am not going to --- I am not an attorney and I am not going to talk about legal rights. But, I do know that if there is a need for the Commission to step into a process if some party feels that there is a need, they can come to us and ask for that, and we will make a determination whether we are going to get involved or not, the Commission.

MR. TONY BEBBER: I am Tony Bebber with the South Carolina Parks Recreation and Tourism. And, we have had a number of discussions this week and the last couple of weeks about the recreation data gathering and that kind of thing. And, just wondered if you would relate some of the processes that other projects may have used to collect data

about --- or, to determine current and future recreational needs? Are you aware of those? I may have put you on the

spot, I don't know. You may not be in that area.

MR. CREAMER: Well, sort of because, I mean, I really don't follow the recreation side of things relative to studies and how various things are done. You know, career surveys, you know, I could talk about career surveys, that goes a little bit about my training. But, general recreation type of trends, I know that typically a licensee will go out and get a consultant to do the recreation studies. And most times they are going out and they are doing counts, they are trying to get an idea of carrying capacity, boat capacity. They are trying to find out the use of facilities, how many people are using the facilities. And, are they being used to capacity, fifty percent of capacity? You know, those sorts of things kind of give out is there a need for additional public access? That's probably the extent to my understanding of recreation type of studies.

MR. DICK CHRISTIE: Good morning. I am Dick Christie with the South Carolina Department of Natural Resources. We are in the process now of identifying study needs and developing the studies that SCE&G will conduct, or hire somebody to conduct here in the near future to gather the information. Can you share with us from a process perspective what would happen if the studies are completed

but people feel like maybe there is still a lot outstanding questions that need to be asked? Is there a process that

can resolve that issue, that you could talk about?

MR. CREAMER: Okay. If I understand your question, depending upon where in the process --- you know, if you are talking about a study that might be done two years out, and say two or three years before the application will be filed. If there is enough time, you do the study and you look at the results, and you say, "Well, okay, it raises more questions." Or, there might be an issue relative to, "We didn't quite capture something that we needed to capture."

You know, theoretically there is additional time and other study seasons, you can go out and try to address those issues. Now, if folks come to logger heads and it's just about interpretation, then basically what would happen is some party would have to file with the Commission a request to resolve the dispute. And then the Commission would step in and look at things, and gather information, and make a determination whether or not something additional is needed. Now, certainly if you are like running up to the clock and they had to file an application, and there is issues relative to various studies or a particular study, to file an application with the study as it is and then we will take a look at it at that point and make a determination whether or not that study is valid. And if it is not, then

we may, as a post license requirement, go back and tell the licensee that they need to address something specific that

wasn't captured, or wasn't captured quite good enough, in the original studies. But, we don't like to --- the Commission does not like to hold up processes simply for --- but, yeah, we need to have enough information to do our job. So, we will take a look at it, and if we have enough that we can do our job, we will go ahead and process the application; ultimately we may end up saying that they need to go out and do some more work. And then there will be a re-opener that if that study shows something that we need to go back and take a look at the license we have the ability to do that.

MR. STEVE BELL: Steve Bell, with the Lake Murray Watch. Allan, when y'all review a license application, I guess ultimately you have to determine whether or not, you know, the license based on --- Let me repeat the question here. In reviewing an application, the FERC must ultimately determine whether or not to issue the license based on the public benefits that would be derived from the use of public waters for the next relicensing period. What process do y'all use to identify and quantify the public benefits associated with hydro power generation?

MR. CREAMER: I am trying to kind of process this thing in my mind here. That is a tough question to answer, again. I think it's a project specific type of a thing. You know, we are going to look at the process as a whole; we are going to look at what people's comments have

been, where they are at with various issues. We take a look at comprehensive plans that exist for river basins. We are going to look at everybody's comments and based on that, try to determine what is in the public interest relative to what all that says. Now, equal treatment is not necessarily the same as equal consideration. Okay? Under the Federal Power Act, the Commission is obligated to give equal consideration to all issues. Okay? We need to take a look at every issue that is raised in a particular proceeding. But that does not necessarily mean depending upon how the local environment is, so to speak, with public and resource agencies. There may be some issues that may need to be treated a little bit differently, that may end up being weighed more than others, and that's the whole balance question. So, it comes down to really kind of what the process dictates relative to a balance. I don't know if that answers your question.

MR. BELL: In your final decision, would we expect you to specifically quantify the public benefits derived from hydro generation at this project? In other words, how that facility out there actually benefits the public in some kind of value dollar amount?

MR. CREAMER: You know, relative to generation, yes. I mean, what typically happens in our developmental analysis is generally there is an inter-actional part of where we look at the facility as it is. You

know, that is one alternative. There is another alternative which is basically what we call a proposed action; and that is what a licensee is proposing to do. And then we will look at various alternatives other than those two relative to additional measures that other folks may have recommended. And then economically, we are going to look at what that does to the generation of the power plant, and the cost to operate that. So, yes, they are from a dollar perspective generation and a cost, we do that for the alternatives that we look at.

MR. BELL: I can't read this. I noticed that in an application that you do look at the different alternatives and the cost associated with any recommended changes. And so, you are basically saying that if there is recommended changes in operations that you would require them to actually give you a cost of --- the cost of those changes?

MR. CREAMER: Well, what we are going to do is, if you look at Requirements to the application, we require them to file various economic, certain economic information relative to that project: cost of power, and various things. And, I am drawing a blank right now what they all are. But, we will take the information that they give us and put it into --- you know, we will do our little economics model. And then we do that analysis ourselves.

MR. BELL: For example, it mentions here in

the Federal Regulation that, for instance if someone proposes that lake fluctuations be modified from their existing --- how they are managed now, that the licensee would give you a cost figure on modifying it to accept that proposal. And we would expect that that be done in the --- when the application gets to you.

MR. CREAMER: Yeah. I mean, they are going to give us their cost. And they are going to cost these things out. And then we are going to take a look at that and do an independent analysis of it. And, in the environmental document there is a section called "Developmental Analysis" section, where that is where we take a look at the cost of everything that has been relative to if there are changes in lake level fluctuations, flows down stream, various things like that, cost and measures; you know, rec facilities, have costs to them. And those things are all factored into that analysis. And we ultimately come out with a number that, you know, annual generation, and the cost on an annualized basis, the cost of operating that project. So, there is the cost as compared to the cost of alternative power. And that is how we come up with our quantification; or, you know, what's the public benefit to that.

MR. BILL MATHIAS: Bill Mathias, Lake Murray Association, Lake Murray Power Squadron. Is there any way for those of us who are sitting here working on this

project, and most of us have no experience working on other projects, is there any way for us to get any kind of systematic feedback of good ideas/best practices from these other facilities that may or may not be applicable, but might enrich our conversations here without us trying to just re-invent the wheel?

MR. CREAMER: Certainly. I mean, if you have got particular things that you would like to know what other projects do, you can let us know and we will try to put together a list of those projects and what those requirements ultimately were for those projects. I have done that before in other proceedings. So, it's not out of the realm of possibility, we just need to know what you are looking for specifically so that we can look into our records, and find the projects that are relevant.

MR. BOB KEENER: I am Bob Keener, with the Lake Murray Association, and also the Lake Murray Southside Community Association. I have a question concerning buffer zones. About twenty years ago you all established the buffer zones which we think is a very good thing. It's too bad that we didn't start them earlier so that we would have a little more protection of the Lake. My question relates to the fact that that buffer zone is not owned by the back property owner, but ownership is retained by the Power Company. I have no problem with that. Is there a requirement in the license, real or implied, that the Power

Company, or FERC, or anybody else needs to publicize the fact that that property is available for public use? The concern that we have is the back property owners that build a residence behind the buffer zone find that a group of people come in and have a lively picnic gathering, or a fishing party, or an old fashioned beer party on the shoreline in that buffer zone, which is public land. That poses some real serious problems for the future, as I see it. I just wondered is there any feeling that it's incumbent in any way upon the Power Company to publicize the fact that those lands are available, and can and should be used by the public?

MR. CREAMER: Okay. Those lands as the existing buffer zone, whatever is within the project boundary. Okay? And if it includes those buffer zones, you know, the Commission generally looks at that --- I mean, that is public access. That is open to public use. Okay? Whatever is within the project boundary. Now, having said that, there is nothing --- at least I don't believe, that there is nothing that would suggest that Power Company can't sit down with the stakeholders and basically put together a plan that encourages certain uses in some areas, and discourages uses in others. In other words, you know, say for example your buffer zone --- if somebody wanted to pull up and just get out and stretch their legs, all right. You know, that is an activity that probably is an appropriate

thing, at least in my mind; as opposed to if somebody wants to pull up and they want to set up camp in front of somebody's house. That may be an activity that, while it certainly is permissible, you maybe don't want to encourage.

But I don't think we, because it is public access, it is what it is, we can't restrict the uses; but you can certainly --- at least, I think, encourage camping activities or things like that in the areas that are designated for that and discourage, not recommend that those type of activities be done along the shoreline in front of somebody's house. You know, I think that is something that can be handled within the context of this Shoreline Management Plan, and how those uses are laid out. I was thinking about this last night, and it probably is something that our Compliance folks would probably take a look at; and they may ultimately say something --- that the compliance people are going to --- you know, what is appropriate and what is not. But I am thinking as public access is, I draw back to a project that I am currently working on in Missouri where the developer went in and put a sea wall in. And they cut off access, public access, to the lake for another community. And the Commission required them to go pull a permit, stop the sea wall, and then the developer had to go back in and put a path that cut through everybody's lawns;

so that, that one community still has a public access. So, public access is what it is, and if it's in the project

boundary it has to be such. But I think the group as a whole can either --- you know, you can decide to encourage something in one area, and discourage it in another. That's probably the best you are ultimately going to be able to do.

MR. KEENER: I think I understand what you said. But, the question that I still have is, is it really appropriate for this seventy-five foot strip to be considered as public access? I would suggest that the FERC ought to re-visit that issue. The buffer zone is good, there's no question about that. Nobody argues with that point, I don't believe. Some developers may. But still, the public access being available is something that does raise a question. Whether or not the back property owner who has a residence there, they could use that same property, I guess, the same as a visitor, as an outsider, to come down and have an activity there in the buffer zone. You mentioned a pathway was put in; to me, that destroys or mitigates against the purpose of a buffer zone. If you are making easy access through a buffer zone, clearing a path, you are reducing or minimizing the buffer material that is intended to filter the flow into the lake. So, I have a real difficulty understanding that.

MR. CREAMER: Yeah. I think it all depends upon how you approach that path. I mean, in this particular case, that path went in without taking any material out. So, in other words, the trees, everything remained; and

instead of that path being a straight path, it was a winding path that went around the trees. So, you know, I really can't --- I'm not in a position to speak to the appropriateness of the seventy-five foot buffer. I do know that the Commission, in the Shoreline Management Plan Guidance Book that we have, certainly encourages these things. And seventy-five feet is generally what we look for, and in some cases we actually look for more. And, you know, we have in some instances looked for a two hundred foot buffer; so, if the land is available for it. But the buffer zone is there to protect the lake, but that doesn't mean that there can't be limited use of that. You know, if somebody wanted to put a path through that buffer zone to get down to the lake, as long as they weren't taking down trees, and completely bulldozing a path down there, those are probably appropriate type things to access the lake. But, anybody that does that, they are going to have to go to the Power Company and get approval from them to do it. And then the Power Company is going to say, "Well, you can do this as long as you meet 'x', you know, this, this, this, as far as conditions."

MS. JOY DOWNS: Joy Downs, Lake Murray Association. I don't want to belabor the point, but as it stands now a back owner has, according to the Shoreline Management Plan, or according to SCE&G's plan, they can have a meandering path to the shoreline, and in some cases have a

dock. But that is the extent of what they can do, is my understanding. They can't have a camp fire, they can't build a --- put a tent out there, they can't --- you know. So, the back owner has this upon them, that they can only do certain things. And they are obviously --- if they break that rule, SCE&G can come in and deny their permit to have a dock, etcetera. My question is, what do you do with the general public who has the same access, and they break the rules? Is that something that you are going to require it be enforced, that they see that the rules aren't broken? And also, can the back property owner, as Bob mentioned, use that property in some other way than a meandering path to their dock?

MR. CREAMER: Well, I mean, the Shoreline Management Plan is going to define how that buffer can be used. And if it is not used in that manner, then somebody can bring that to the Power Company's attention, somebody can bring it to FERC's attention, and say, "Hey, this is --- something is going on here that's is a violation of the Shoreline Management Plan, it's a violation of the license."

But that is incumbent upon somebody telling the Power Company what is going on, or FERC, that activities that are not permitted are going on.

MS. DOWNS: So, FERC does not require SCE&G

to publish that and say this is public property? They can let the Shoreline Management Plan address it? Or, dictate

it?

MR. CREAMER: I mean, I don't know if the Commission would require them to publish it per se. I think the way we look at it is, when we write an Order we are going to talk about it; or, we could talk about the fact that the project lands, the project boundary, because we do have to talk about what the project boundary is. And it is implied when we talk about the project boundary that anything within that is public access.

MS. DOWNS: Thank you.

MR. RICHARD KIDDER: I am Richard Kidder, Lake Murray Association. In this conversation about this buffer zone, I sense an extreme dichotomy. Here the back property owner is limited to a meandering path down to the shoreline. And yet, with this property being public access, there is nothing says the people can't come in, clear out some brush, pitch a tent, and build a fire pit. And, you know, you are destroying the benefit of the buffer zone.

MR. CREAMER: If the Shoreline Management Plan prevents going in and clearing in an area, then yes. I mean, theoretically, you could prevent somebody from coming in and camping there if they are in fact clearing brush and doing things that the Shoreline Management Plan does not allow. Then no, they won't be able to do that. But if they

were just simply to go in and, let's say the shoreline where they are at has enough of an area where they could just

pitch a tent, is that a violation of the Shoreline Management Plan? It depends upon what the Shoreline Management Plan says about it.

MS. MARY KELLY: I am Mary Kelly, with the League of Women Voters. Well, if somebody comes in, or a group comes in, and they are behaving in a way that is obnoxious, who is going to enforce this, do something about it?

MR. CREAMER: I would like to think that the property owner that sits right behind that activity is going to let somebody know that that is going on.

MS. KELLY: But who is the somebody who is going to?

MR. CREAMER: Well, I think you would probably want to call the Power Company first. You know, they are going to be in the best position to do something about it at the time.

MS. KELLY: Well, would DNR do something about it?

MR. CREAMER: If the DNR has --- you know, assuming that the DNR in various local jurisdictions has law enforcement capabilities for dealing with it, yes. I mean, certainly you could call, I would think. I mean, I don't know for sure, but I would think you would want to call the

Power Company and say, "Hey, this is going on on my property." And if it is activity that is illegal or

obnoxious, or somebody is just creating a ruckus, I would see no reason why, me personally, that --- I would probably do this. I would probably call the local law enforcement and say, "Hey, this is going on. Is there anything you can do about it?" Some communities may have noise ordinances, and you know, that may be a violation of that noise ordinance. So that law enforcement can be called in.

MR. STEVE BELL: Allan, I am Steve Bell, with the Lake Murray Watch. It is my understanding that the FERC requires the licensee to report any accidents, drownings, and that kind of thing, and y'all keep that information. Can you explain exactly what you do with the information, and how you determine whether it is project related?

MR. CREAMER: Okay. You are correct. I think that is like a six month reporting period. I am not exactly sure what reporting, what the frequency is. But they are required to report any fatalities that go on within the project boundary. Now, typically our Compliance folks get that information and they deal with that information. And, what constitutes a project related fatality, I am not really clear. I am not sure what that would be. I can make some educated guesses. But I am not sure that how the Commission may make that call. Just as an educated --- you know, for

me, if you get two power boats out there, and they are just traveling sixty miles an hour, and they just run into each

other, that's not really project related. If you have got a boat out there that happens to run into a shoal that is not marked, because the lake level may be a little lower than what it would normally be, that may be interpreted as a project related incident. I don't know for sure. But, I mean, logically, I am thinking that it could be.

MR. BELL: Do you normally take some kind of action if you believe it is project related, and do a report or --- I guess, you ask the licensee what happened, or --- and then what do you do with this information as you gather it? Are you going to, like, use it when you review their license application, that type of thing?

MR. CREAMER: Yeah. All this information is maintained in a data based project. And when we get ready to issue a license, we are going to go back and look at a licensee's compliance with their existing license; we are going to look at safety issues, both from our dam safety perspective, and then public safety issues. So, those things do --- we will go back and take a look at it and review all of that before we would issue a license. But in the interim, if our Compliance folks get that information, they look at it and say, "Well, there might be a problem here." And they could on their own accord address that directly at that time.

MR. BELL: Along those lines, when the FERC makes a decision or a ruling on a complaint, do you consider

that decision to be like a judge's order as far as your authority, and as far as what the licensee has to do? I mean, if you issue an order or a decision, does the licensee have to do what you tell them?

MR. CREAMER: Pretty much. If they don't and it's a licensure requirement, that we can find them in violation of the license. Now, we issue an Order. Those Orders are considered final; there is a thirty day window that they could file for re-hearing. They could appeal our decision. The Commission then addresses that appeal, if there is additional --- new information. And they go back and take a look at something. They may change the requirement, or they may leave the requirement along. And then from that point, if somebody still disagrees with that decision, then there is the court process. You can go through judicial review. But, yes. I mean, if the Commission puts something in an order, if the licensee does not do it, unless they are appealing it, it could be interpreted as a violation of the license.

MS. JOY DOWNS: Joy Downs, Lake Murray Association. Does the FERC have a number, or a percentage, that says how much development a lake can tolerate as it relates to water quality?

MR. CREAMER: Can you repeat the question again? I didn't quite hear it.

MS. DOWNS: Does FERC address, or have, a

percentage or number that says how much development a lake can tolerate as it relates to water quality?

MR. CREAMER: If they do, I am not aware of it. I have not seen a number like that. A lot of times when we address water quality issues, we will look at what is going on in the water shed. And certainly we will say various things about what the water quality in the lake is. We may require an applicant to do something to address an issue. But, these activities that go on outside of the project boundary and the water shed, you know, those are beyond the Commission's jurisdiction. And a lot of times, they are addressed in a more qualitative fashion. So, really it might again be a case by case thing, because in some places you might be able to stand more development than in others before you start seeing water quality problems in a water body. But to answer your question, I am not aware that there is a number or percentage, if there is I have never seen it.

MS. DOWNS: Well, is that a consideration in the license, though, when the license is applied for as to how much land is left natural, or not developed?

MR. CREAMER: Well, certainly we are going to take a look at what's around, in the immediate area. And if there is a particular area that we think is necessary or that needs to be protected for project purposes, we could --
- if the licensee already owns it, we could wrap that into

the project boundary. If they don't own it, we could require that they go out and acquire that in some fashion, and bring it into the project boundary. That's a way that we can deal with some --- you know, in particular areas, sensitive areas, where if we know that if those areas remain open to development that could ultimately cause a problem with that sensitive area, we would take a look at needs, and what we need to do to protect it. But, we don't do carte blanche around a project.

MS. DOWNS: So, that would have to be pointed out to you in a study, or something of that nature?

MR. CREAMER: Yes. That is something that is going to have to be pointed out to us in some fashion with the study and the application. We are going to need to know what those areas are.

MR. BILL MATHIAS: Bill Mathias, Lake Murray Association, Lake Murray Power Squadron. In the discussions that we have had to date about the length of the license that might be granted at the end of this period, I can only recall two terms coming up. One was thirty years, one was fifty years. One, what are the parameters under FERC, and the State law, about FERC, about how long they can be granted. And secondly, what is the norm that is being granted on projects similar to this?

MR. CREAMER: Under the Federal Power Act, the Commission is authorized to issue licenses anywhere from

thirty to fifty years. Now, typically our --- and this in many cases is subjected to termination. Typically, a thirty year license would apply if there is relatively minor redevelopment of the site, or relatively minor mitigation, or enhancements put in place. A fifty year license would be on the other side where it would say a licensee is proposing to redevelop at capacity a significant amount of resource enhancements. That might warrant a fifty year license. A forty year would fall somewhere in-between. We use the term "moderate". A moderate amount of redevelopment, or a moderate amount of resource enhancements.

MR. MATHIAS: What is that related to? The investment on the part of the licensee is to why it would be granted for longer periods of time?

MR. CREAMER: Generally, yes. How much they are putting into that relicense. Now, you know, those are generally thirty, forty, fifty year terms. That's generally what the Commission would issue. There are instances where if there is a need to coordinate expiration of a license with another project, we may look at --- some terms would say a thirty-five year term so that a particular license would expire with another one that's in the same basin, might be upstream, so that we can coordinate review the next time around. So, we have done that, as well.

MR. ALLAN STUART: I wanted to offer up to the group, we wanted to try to take a break, and let Allan

have a break. We have been going about an hour. We may like to get up, go the restrooms, and so forth.

(Off the record - break)

MR. ALLAN STUART: I think Allan is ready to answer some more questions.

MR. TOMMY BOOZER: Tommy Boozer, with SCE&G. I guess it's appropriate for us to ask questions, isn't it? Okay.

MR. CREAMER: I don't know about that. You may not get a good response from me.

MR. BOOZER: One of the things I would like for you to discuss a little bit about, I know that SCE&G has participated in some of the FERC questionnaires and surveys about permitting fees on the reservoir. And, could you just kind of talk a little bit about, you know, what maybe some other folks are doing as far as permitting for their shoreline activities, the commercial marinas, or the individual docks, or the activities that take place along the shoreline.

MR. CREAMER: If I interpret your question correctly, you are asking me to explain what other licensees do relative to permitting various shoreline activities. Is that correct?

MR. BOOZER: Well, maybe to expand a little bit farther on what is FERC's position on the licensee charging a permitting fee for certain activities.

MR. CREAMER: Okay, fees. Our standard land use Article authorizes a licensee to charge a reasonable fee for implementing a Shoreline Management Program. The licensee has the right to do that under that Article. Now, certainly we are going to make sure and look for those to be reasonable fees. And that the requirements of that land use Article has been --- the Commission has addressed it in previous Orders, and upheld that right, and the Courts have upheld that right. And so, generally speaking --- and I am going to draw on my experience with one project where the licensee instituted a program, a permitting program, and they started charging fees for dock permits, and sea walls, and various things of that nature. They were also charging -- and it was part of their fees - they had a mosquito control program. They also had as a license requirement to work with the State providing the funds for fish stocking. They had added those things as well to their permitting fee structure. Well, there was an interest group who took issue with that, and just the whole idea of charging fees; they didn't believe it was the right thing to do. And, it did come before the Commission. This has been, this was going on about six years ago, 2000/2001. It did come before the Commission, and the Commission --- it started off with the staff with our Compliance folks. And they said, "Yeah, they have the right to do this." But they questioned some of the --- they asked for information about what was in their fee

structure. And when they looked at that, they made a determination that most of what they were charging for was okay. You know, charging for dock permits, sea wall permits. And they had a different structure for individual docks versus commercial docks. Don't think --- and this may vary from project to project, I am not familiar enough with it to know. But, an individual dock, he might charge a one time fee to put that dock in, and that's it. Whereas, commercial marinas, you may charge them that one time fee and that's it, or it may be a case where there is that one time fee to put that in and then they are charged on an annual basis. And I think that was the case in this one particular project, and that is what the issue was. It wasn't a fair across the board way of addressing the issue.

The Commission ultimately said that, "Yes, it was." And both from the Order and when it came back on appeal, the Commission upheld that. Well, that interest group didn't like that decision and took it to Court. And, they took it all the way to the U.S. Supreme Court, and lost it every step. So, you know, the take home message from that is, the standard land use Article is what it is, it says what it says, and it has been upheld by the Commission and the Courts that a licensee is --- they have the right to charge reasonable fees for implementing the Shoreline Management

Program. Now, the key word here has to be "reasonable".

So, if somebody doesn't believe that they are reasonable ---

you know, solution are a reasonable structure they can certainly bring it to the Commission and we will take a look at it, and decide if there are things that are not reasonable --- you know, we would take a look at that. Does that answer your question?

MR. BOOZER: Yes, sir.

MR. STEVE BELL: Allan, Steve Bell, with Lake Murray Watch. Could you explain the charges that the FERC applies to the licensee as far as your administrating -- the FERC's administration of these projects?

MR. CREAMER: Okay. There is a license requiring --- it is usually what we call a Series 200, where a licensee is required --- or, we charge them an annual charge for administering the Federal Power Act. And that is based on annual generation. I am not exactly sure what the formula is, but I do know that it is based on --- was it annual generation or installed capacity?

UNIDENTIFIED: Annual generation.

MR. CREAMER: It is based on the annual generation. Okay. And it is probably some percentage of that; and I am not exactly sure what the formula is. No, wait a minute, I am going to go back and look. I think it is based on --- that annual charge is based on the installed -- in that Article, it identifies what the installed capacity

is for the projects for purposes of billing annual charges.

So, I think it is based on ---

UNIDENTIFIED: There Article refers to the installed capacity, but the amount of the bill includes our annual generation.

MR. CREAMER: Okay. (inaudible)

UNIDENTIFIED: I believe the equation takes in (inaudible) annual generation and the installed capacity.

MR. CREAMER: Right. Now, it is an area that I don't get into and, you know, so I am probably not the best person to be answering that question.

MR. BELL: Do you have any idea how much, or what percentage of the FERC's budget comes from fees collected from the power companies?

MR. CREAMER: We are one of the only agencies in the Federal Government that actually makes money for the Federal Government. We are entirely --- our budget is appropriated by Congress as part of the bigger package for the Department of Energy. But what it comes right down to is annual charges, charges for use of Federal lands, you know. We collect those and we are self-supporting. And then we make a little money that goes into the general funds.

MR. BILL MARSHALL: Bill Marshall, with the Department of Natural Resources. Dave Anderson put me up to this. I needed to ask about, we are aware of operations and downstream flows being managed in a way to benefit aquatic resources, wildlife, and fisheries. In this particular

project there are concerns about public safety, recreational user safety. And, are you aware of projects where management of the operations in terms of flows have been handled in a way to mitigate or protect for safety issues downstream?

MR. CREAMER: Yes. It is certainly not an issue that is unique to this project. We have addressed downstream safety issues at other projects. And, the solutions for it vary from project to project, it depends upon the circumstances of what is going on at that project.

But, it is not an issue that is unique, let's just put it that way.

MR. MARSHALL: I had one more question. I hadn't thought it all the way through in how to phrase it. But again, Bill Marshall with the Department of Natural Resources. I am interested in how in this process we can continue to maintain impartiality, neutrality, and objective decision making. And one of the real challenges I see coming at us is some of the economic information that will come at us, be provided somewhere in the process. And this is my first time of being involved in a FERC relicensing. But, does the FERC provide for the neutral party analysis of information that is put on the table, to represent any of the positions that are either by stakeholders or the power company? How do you get the objectivity on --- some

information that can be pretty complex and overwhelming to the average public? Particularly maybe economic arguments

for certain positions; or there may be other issues, but that one particular would seem overwhelming to me. Just, who provides the objective analysis? Or, is there a requirement upon the utility to provide an auditor of some type, a neutral auditor, that helps everybody see what is on the table as being objective?

MR. CREAMER: All right. It's certainly relative to the relicensing process before an application is filed. You know, that can take any --- I guess, any form depending upon how the licensee wants to handle it. But, you know, as far as the Commission is concerned, when we are looking at things once the application is filed, we are the neutral party. You know, we are bound to --- and we are required by law to consider doing an independent analysis of issues, whatever those issues happen to be. Whether they happen to be recreation, whether they happen to be flows, lake level fluctuations, whatever they are, power generation. We are required to take an independent look at those things regardless of what the rest of the relicensing group may say. And certainly, we look at what they say and depending upon how much information is available to us, we may agree with --- based on our independent analysis agree with some position or not. But again, the Federal Statutes require us to balance. And we are, unlike many other entities that come to the table and have specific interests, we don't have that. We have to balance all of those

interests, all of those competing uses. And that's why the Commission, FERC, generally is not very popular. You know, from a decision standpoint FERC makes decisions that some parties may not agree with. And that's because of our responsibility to balance.

MR. MARSHALL: Just to follow up, the FERC provides that really towards the end of the process. Is that correct? So, do we have the benefit of any of that happening while we are in the middle of the process so that outcomes might be more --- I know there is the interest of all parties to work mutually for mutual gains in the front end; but it looks like some things just ultimately can't be settled until the end, to the bitter end, where FERC has to come in and cut the pie.

MR. CREAMER: Right. Again, early in the process before the application is filed, in this particular process enhanced traditional, it really comes down to how the licensee wants to handle it. You know, certainly there can be --- and we have seen this done in other projects where a facilitator is brought in that basically is a neutral party; and they facilitate discussions, they facilitate potential --- you know, trying to bring the parties together on issues. I have seen that done. I have also seen it where not so much in traditional processes like this but with an alternative licensing process, and then with the new process that we have - the integrating

licensing process - we do get involved as staff in the pre-filing, the whole pre-filing process. So, we are there as staff from the very beginning. And we can be used as a resource. I mean, we are there, we are not taking positions as staff; we cannot take positions on various things. But, we are there, say, as a resource for stakeholder group. We can provide advice, we can provide information about, "Well, this is how it has been done elsewhere." So, there is any number of ways to handle that during the pre-filing. And certainly we can, if the stakeholder group --- you know, and I worked a project that's probably not too far away from here, you know, Duke's project, Catawba-Wateree. We had a staff person, that's a traditional process. We had a staff person for that process that went to just about every stakeholder meeting. Generally, for a traditional it doesn't happen like that. It may happen for an alternative licensing process. But, certainly if there is a need and the licensee comes to us with that need, we can get involved and be part of that process, and be that objective voice, so to speak.

MR. STEVE BELL: Steve Bell, with Lake Watch. Allan, could you explain once the application gets to the FERC, how many people on the routine that will be looking, reviewing that license? And what kind of qualifications do y'all have? What is the --- how many people are involved? And kind of take me through this as far

as, you know, what efforts that y'all are going to have to put into reviewing this.

MR. CREAMER: Okay. Generally, when an application is filed there is a interdisciplinary team that is put on it. In other words, I might be assigned as an aquatics person to address the fisheries, and water quality, and that type of stuff. There will be a recreation person assigned. And really, depending upon the issues, a single person might handle recreation, cultural resources, shoreline management. One person may handle it. But, in other cases there may be different people that handle recreation, shoreline management, the cultural resources. Just depends upon how extensive issues are. There will be an engineer assigned. The engineer does the economics, the economic analysis. There will be a person assigned that will handle

terrestrial issues, the wildlife side of things. You know, everything that I don't do from an aquatic standpoint, they would handle from a terrestrial perspective, wetlands, things of that nature, issues relative to wetlands. Threatened, endangered species is generally --- it is a resource that is kind of a combined thing. A terrestrial person may handle the terrestrial side of things, and then I might handle --- or, another aquatic person will handle, you

know, if there is an endangered fish or an endangered mussel, that would fall with an aquatic person. But the

long and short of it is, there is an interdisciplinary team that is assigned. We are all, quote, quote, "professionals" that have college degrees in our areas of expertise. So, from a qualification standpoint, we all have the qualifications to work on the various resources that we work on. Something else that happens quite often is we have --- our Commission likes the continuing education thing. You know, somebody that may have come out of college that might be a landscape architect, or might have a background in land use planning. Well, they might get trained in cultural resources. You know, they go to Section 106 and they get that training, and then they can handle cultural resource issues, as well. So, we all have the qualifications, we all have advanced degrees, to address the issues that come up. If something comes up that we don't have the expertise to handle, we do have contracts where we can go to a contractor and have them --- you know, they will have the expertise that we don't. And a lot of times we do use contract staff on issues that might be --- that don't come up at every project. So, we might not have the resource staff to deal with it, we will go to the contractor in that particular instance so that we don't have to necessarily hire staff that don't always have work to do. So, as of right now, I am the only person that has been assigned because it's really so early. Although I, you know, will probably get to a point in the near future where I am going to go look for

other staff to handle various things. But once this thing is filed, all of us as a team will sit down and look at it, review the application. As a team we put together the environmental document. There will be somebody that is part of that team will be assigned to be the project coordinator. And then that project coordinator would be the person that is responsible for making everything happen as far as getting it through the process at the Commission. Does that answer your question?

MR. BELL: After y'all make your --- come to a conclusion, or review the application and make recommendations, where does it go from your team? And, who ultimately signs off on the approved license?

MR. CREAMER: The Commission. If it's a contested proceeding, it generally goes before the Commission, the five member Commission. Right now, there is three that we --- you know. However, the Commission has delegated authority to our Office Director to issue licenses. So, if it's an uncontested proceeding, that delegated authority might kick in and the license would be issued through the Office of Energy Project as opposed to the Commission. But ultimately the Commission is --- they know what is going on, they are aware of the things that we are working on, and what may be delegated and what may not be delegated.

MR. BELL: One follow up. How many times in

the past --- do normally the Commissioners pretty much go along with your recommendations, the application, the approved applications y'all are recommending? Or, are there sometimes a lot of changes after it leaves your team?

MR. CREAMER: I have seen projects that go both ways. The Commission will look at the staff's recommendations in the affirmable document. They carry a certain amount of weight relative to what the Commission's decision may be. However, the Commission also looks at the record, and they will look at if there are varying opinions or opinions that don't agree with staff recommendations, they will look at that and take that into account. And in their review, if they think that we did not quite balance things right relative to how we came down with out recommendations, they are certainly at liberty to re-balance. And they have on some cases.

MR. BOB KEENER: Bob Keener, with the Lake Murray Association, and the Lake Murray Southside Community Association. I have two items relating, I would say, to safety. I just want to be sure that I understood what was said earlier this morning. One, about the markers, marker buoys, on the Lake. In our particular case, SCE&G has overall safety responsibility within the project. South Carolina Department of Natural Resources has accepted the responsibility, and I think I am stating it correctly. It's not in law, but they have agreed to provide the navigational

aids on the Lake. One of the difficulties that DNR has had is limit of funds and limit of personnel to do any more work in putting out marker buoys. The question I would have is, if community associations, or other stakeholders, or SCE&G, were able to provide some funding to buy additional markers, and such groups as Lake Murray Association, or the Power Squadron, or the Coast Guard Auxiliary, if they were willing to do the work under the supervision of DNR, then I assume that that would be perfectly acceptable with the FERC. Am I correct?

MR. CREAMER: Yeah. I mean, and don't quote me on this. But, I would think that, yes, it would be appropriate and acceptable. And, like I said, we'll ultimately look for the power company to make sure things happen. How they make that happen is a little bit under their discretion; and, if they were to come in with a plan that would say that another party has accepted responsibility for this particular thing, we'll look at it. And if it is acceptable to the Commission, the Commission would go and would agree with it, and approve that plan as it is. Now, again, if that goes on for five years and then something happens, and we find out a party is not living up to what they agreed to do, we will go back to the applicant and say, "Hey, what gives? We need to figure something out here, because you are responsible for this." But, to answer your question, yes, I do believe that it would be

appropriate whether it's the DNR, another entity, if they accept responsibility and provide certain funds. We have seen cases where there have been matching funds, what an entity may come up with a certain amount of money, the licensee may say they will meet that. And then, they make something happen, any number of ways in the addressing the issue.

MR. KEENER: On the funding and of the requirement, that's a problem everybody has for the project is, there is always a limited amount of money. But, would I be correct in assuming that a use-tax on access to Lake Murray, taxing for the use of my boat on Lake Murray, or my neighbor's boat, for somebody that lives in Columbia that comes out on the weekend, that that would not be appropriate and would not be supported by the FERC?

MR. CREAMER: I can't speak to what the Commission would say about it. But, what I can say is, I am not aware of an instance where I have seen a use-tax like that at a FERC project.

MR. KEENER: That's encouraging. A question, another one I have is for downstream safety. We're primarily, Lake Murray Association, we're concerned about the Lake level of Lake Murray, and the things that go on in that part of the project. But, we are also concerned

about the trout fisherman and swimmers, people who are using the Lower Saluda. From other project applications that you

have knowledge of, that may have a similar downstream consideration, where the rapid rise of water in the Lower Saluda, that sometimes trap swimmers on the rocks in the summertime causes a little anxiety for the trout fisherman when they are out the midstream, and the Lake is coming up rapidly. It has been suggested that the way to reduce or minimize the hazard is to ramp up the Lake level --- I mean, the downstream output. But it mitigates against the benefit of the hydro system as a reserve system; but it is on line very quickly, gives maximum output in the minimum time, and that means maximum water going through the turbines, and that means a very, very rapid rise of the River. Other lakes that may have similar situations, have you all established any criteria in that sound devices, warning devices, sirens, horns, or whatever, that they should be a certain minimum distance, a minimum separation, in order to be effective?

MR. CREAMER: I don't know what exact criteria have been applied. I think it would depend upon specifics of the project. But certainly, sirens have been employed at projects and other forms of notification of where a licensee would notify downstream parties that things are happening. Those kind of things certainly are and have been parts of licenses of projects. But, relative to specific criteria in terms of placement and how far downstream, I am not aware of what those would be, if they

do exist. I think we would look at it more as kind of as specific projects, and what may be necessary at that project to address the issue. But, to go back and clarify the point about your use-tax, if you are talking about use-tax relative to putting a boat on the Lake, certainly a private marina can charge to put a boat in if they want to. But from a public access stand point, I don't know and I am not aware of instances where from a public access view point where we have had a use-tax like that, certainly there is a lot of projects out there that I am not familiar with and it may exist, I am just not aware of it. But, a private marina can certainly charge for it; if you want to put your boat in, and it's \$10.00 to do that, or something like that, or whatever, they have the right to do that.

MS. JOY DOWNS: Joy Downs, Lake Murray Association. We are very pleased that the SCE&G chose enhanced traditional process; however, I would like to ask you if that is a --- I don't know whether I want to use the "legal", but is that really one of the processes that is available? Or, is it just alternative and traditional? Is there a great difference between traditional and enhanced traditional? And, if not, when the applicant finally files for his application, does he pretty much --- is he able to put in pretty much what he has decided he needs at that point? Or, does the stakeholder have any rights at that point?

MR. CREAMER: The Commission has three defined processes at this point. There is the traditional licensing process, there is an alternative licensing process, and then there is the new process which is the integrated licensing process. Those are the three defined processes. Now, certainly we have worked with licensees and in proceedings where what they chose to do is the traditional process whereby they still have to go through a three-stage consultation process, as defined under the traditional licensing. But what they have chosen to do is include the public upfront. Okay? That's what a, quote, quote, "enhanced traditional" really is. In a true traditional process, if you look at the FERC regs, at least the way it use to be, it is they work with resource agencies, come up with whatever, and then they file their application with their proposals. And at that point we would - through our NEPA scoping process - that's where the public would get involved. When they do an enhanced traditional, the public is involved upfront; and which is what the power companies decide to do in this particular case. And however, when they file their application --- really, under any process, unless there is an agreement, a settlement agreement, in place at the time they file their application, an applicant can pretty much so propose whatever they want to propose as their proposed action, whether or not the other stakeholders agree with it or not. I would like to

think though that an applicant, if they chose to work in this form, work with the communities and the public, and involve them upfront that the idea here is to identify all the issues, get them on the table, and try to find some resolution to them. And, I would like to think that the applicant, when they file their application as a proposed action, they are going to take into account everything that has been said throughout the licensing process, and try to have --- if there has been resolutions reached, then their proposed action would reflect that. Now, there may be things that they just can't and don't agree with for whatever reason, a proposed action. They are at liberty under any of the licensing processes to disagree with it, and not include as part of their proposed action. And then basically what happens is, when it is filed there is three or four that I can think of right off the top of my head, opportunities for the public to tell us what they think. And one of those opportunities is the public can provide their own recommendations, that we have to take a look at them as an alternative to what the applicant has proposed. So, you know, certainly, to answer your question, regardless of the process it is really the licensee, what they propose when they file their application with a proposed action, they can include in that proposed action whatever they want to include in it. And in this type of process the hope is that they do in fact take into account all of the issues

raised; and to the extent that those issues have been resolved, their proposed actions reflect that. If for some reason there are things out there that just don't agree with, they probably will not include those proposed actions.

MS. DOWNS: Well, I certainly didn't mean to imply that they were not very cooperative and they have certainly spent enough money in this process that I am sure they will consider the position of the stakeholders. But, in fact it is still handled as a traditional process. Correct?

MR. CREAMER: Yes.

MS. DOWNS: Thank you. Can I ask another question? Is there any precedent set or any way that generation is defined in the license? For example, there must be a minimum flow I know that is in the license. Currently SCE&G is using the --- they state that they use generation for reserve. Can they be --- is there any requirement for them stating what the generation will be used for? In the past we have talked about it being used for maintenance, for peaking, for different things. Is there any restriction in the license? Or, can there be? I would think that it might be hard to say what they were going to generate for for the next thirty years; but, indeed, does that happen that they state what the generation is for? I probably thoroughly confused you.

MR. CREAMER: Yeah. I'm trying to figure out exactly what you are asking me. What you are asking me is,

is that okay, they produce a certain amount of power. And what do they use that power for? Is that what you are asking me?

MS. DOWNS: Yes. I am asking if that is stated in the license? Is that appropriate? Or, is it just at their discretion over the next thirty years?

MR. CREAMER: Well, you know, I am going to imagine, I don't think that the actual license will tell them what their power can be used for. Generally, the power is used for their service area; whatever their service area is, it meets a certain demand in that service area. And as they need it, they use it wherever they need it in their service area. But, you know, I don't think that a license is going to --- and I have never seen it, where the license would dictate you have to do and provide this power to certain things.

MS. DOWNS: But the license will state how much generation they must do to provide minimum flows and so forth to the Lower Saluda?

MR. CREAMER: Well, the license could require --- and I am not going to say what it will, because it is hard to speak to that. But, certainly the license --- there could be a license requirement that would tell the company that, "Okay, you have to provide "x" amount of flow downstream for x, y and z purposes, whether there is fisheries, whether there is water quality, whether there

happens to be recreation, white water, whatever." The license would have the requirement in there telling them that they have to do something as far as those flows. Now, generally what happens is, in this particular case I don't think it would really matter, but what would happen is they would think about how they operate the project, the peaking project they operated on load following, some of what they would generally have available to them to meet peak power demands is no longer there, so they are shifting some of their generation from peak periods to non-peak periods. So there are shifting generations but it doesn't necessarily go away. You know, the value of it can change, but --- so, yes, a license could include specific flow requirements, and those flow requirements could have an affect on generation in terms of how much the plant puts out.

MS. BERTINA FLOYD: Bertina Floyd, with the Lake Murray Homeowners Coalition. Does the FERC have a standard, or a guideline, for the scheduling of the periodic reviews of the licensees after the approval? You know, like five years, ten years? Is this just something that the applicant proposes and you approve? Or, do you have a regular standard or guidelines for those reviews?

MR. CREAMER: Relative to what kind of reviews?

MS. FLOYD: Of the plan, how it is being administered, performance of the licensee?

MR. CREAMER: The Shoreline Management?

MS. FLOYD: Yes, the Shoreline Management.

MR. CREAMER: The Shoreline Management Plan.

I am not aware that we have a specific standard. Generally it is, we look at what a licensee might propose, whether it's five years, ten years. And we will make some determination of what would be reasonable in a specific instance. The only reviews that I am aware of that is generally consistent and a requirement is what we call the FERC (inaudible), which is a recreation assessment. Every six years they are required to do that, and they go out and provide us some information about recreation use, and demands on the public facilities. And that information is used to --- we will use that information to determine whether additional public facilities are necessary. But, that is a defined time of six years. The review time for Shoreline Management Plan is generally whatever a group can agree to. And we look at it and determine whether it is reasonable or not.

MS. FLOYD: So, the applicant would propose something, and then you would approve it, or not approve it?

MR. CREAMER: Yes. Generally speaking, an applicant that has a Shoreline Management Plan, or is one that might be required to do one, we are going to look at

what has been done elsewhere and the type of things that are included in that Shoreline Management Plan. And one of those

things is, is it schedule for review? So, typically when we get that proposal, it's generally within the norm of what exists at other projects. We are not going to --- One thing I am pretty sure of is that most Shoreline Management Plans that I am aware of, that I have seen, always has some mechanism for review; to go back and take a look at things. I have not seen one yet where there is no mechanism to go back and over the course of a thirty year, or forty year, whatever, to go back and re-look at things. There is always something there, at least from the ones that I have seen.

MS. FLOYD: Thank you.

MR. STEVE BELL: Steve Bell, with Lake Murray Watch. Allan, could you explain, once the license is approved, how can this relicense be re-opened if there is a problem? Can a stakeholder request it to be opened? Or, does it take the agencies? Or, can the FERC reopen it? If we have a major problem down the line that we didn't see, what is the process of resolving that?

MR. CREAMER: It can generally be handled in two ways. When a license is issued, there is two sets of Articles. One set is what we call an L Form Article, which are very general in nature. The other set of Articles are the more specific Articles that implement various actions, and they are what we call Series 400 Article, and they are very specific relative to what needs to be done to address an issue. Now, those L Form, there is a standard re-opener

included as part that L Form. That is one mechanism by which a license can be re-opened. The other mechanism is, if there is an Article, an Article can be crafted such that if we believe that there is --- say, one of the requirements is to go out and implement some measures, study the effectiveness of it, you are really --- when you are doing something like that you don't stop necessarily with just studying the effectiveness of it; if it shows something you want to be able to go back and make modifications to license requirement. In a situation like that a specific Article could have a mechanism to go back and make changes based on something that was looked at. Okay? So, there is really two mechanisms; but, the one thing they both have in common is, is that the Commission can go back and re-open the license but only after public review. In other words, I mean, it's a public process, and certainly we need to go back and we have to go back to the applicant. And, you know, they could fight us tooth and nail if they really wanted to, but ultimately if the Commission deems it necessary to re-open a license we could certainly do it as long as that provision is included, which usually they are in today's licenses they are there. Some of the older licenses, they don't include that re-opener; so, it kind of precludes going back and looking at issues. And, you know, we have had instances for ESA,

Endangered Species Act, consultation where there have been specific re-openers relative to addressing ESA issues down

the road. It all comes down to what we include in the license.

MR. BELL: I had one other question. I have a brochure here, or a manual, on shoreline protection and relicensing. And it says, "FERC applies a simplistic formula approach to shoreline protection. It's Regulations define a two hundred foot buffer zone, or less, unless they cite specific case where greater width buffer exists." Do you have some kind of guidelines out there that deals with buffer zones that you use? Or, do you have guidelines out there that you use to deal with shoreline management issues?

MR. CREAMER: We do, and some years ago, and I can't exactly remember how long it was; it has been updated recently. But we do have a Shoreline Management Handbook. It's a guidance handbook relative to, you know, if somebody is just putting one of these things together, it's very useful because it provides a framework for how these things should be put together, how we look for them to be put together. And a lot of the information talked about relative to guidelines and criteria for buffers and how much should be included, is contained within that guidance handbook. That is something that is available on the Commission's web site.

MR. BELL: The public can review that?

MR. CREAMER: Yes.

MR. BELL: And is that --- do y'all use

that, or is that for the licensee to use? Or, both?

MR. CREAMER: It is certainly something that all of us staff are aware of, and when we have questions, those of us who don't work with shoreline management on a regular basis, we will consult that handbook to see what it says, and how does this --- if we're reviewing something. If I am reviewing something relative to shoreline management, I am going to --- a lot of times I will consult that to see, "Okay, and what does it say relative to how this thing should have been put together? Is this consistent with this handbook or not?" So, yes, we do consult that.

MR. BELL: Thank you.

DR. THERESA THOM: I am Dr. Theresa Thom, I am at Congaree National Park, I am an ecologist there. And, I know I talked with you briefly, but just so everyone --- at Congaree National Park is really maintained by the Congaree River by flooding from the Congaree. And we are very specifically concerned about downstream impacts potentially from --- well, the Saluda and Broad form the Congaree. And, I guess, with your fisheries background you are probably very familiar with downstream impacts from dams. And I was specifically wondering, does FERC have any guideline for just how far downstream this process needs to focus? I mean, if you look at a landscape level of this, we could even start looking at the Santee. And so, I don't know if you specifically know of guidelines, or

recommendations, that we could have for downstream influence?

MR. CREAMER: We don't have specific guidelines for what the geographics scope should be relative to impact. Although what I can tell you is, is that we do look --- you know, part of our need for process is going to be looking at the geographic scope, cumulative facts, and that sort of thing. And one of the things that we are going to look at --- and generally we look to the applicant to define this; and if they don't in their application, it is one thing that we will go back and ask them for is, where is the downstream limit of effects for the project? So, we are going to look at where that limit is, and we will look at what goes on within that, or beyond that, you know, for picking a project. Obviously, the most direct impact is right there at the dam. And then that attenuates as we go downstream. Eventually you get to a point where the operation really doesn't have a lot of impact on the aquatic environment. You know, we'll stop at that point in terms of our geographic scope. If that answers your question.

DR. THOM: Thank you.

MR. CREAMER: Again, looking at Bill over here, you know, that is something we are going to look for --- this process, to tell us what that geographic scope is.

So, we are going to look for that in the application. One other thing that I will mention is as studies are being

done, those studies should address --- and they should account for what that geographic scope is. So, you know, relative to downstream impacts, if there is a need for a flow study, whatever, my expectation would be that that flow study would cover where that geographic scope that the project has an impact.

MEETING ADJOURNS.

SALUDA HYDROELECTRIC PROJECT RELICENSING

FERC PROJECT NO. 516

Joint Agency & Public Meeting

April 20, 2006

6:00 P.M. Session

HOST:

Allan Stuart, Kleinschmidt Water Resources

PRESENTATION,

Questions and Answers:

Allan Creamer, Federal Energy Regulatory Commission

Transcribed from recorded cassette tapes of Proceedings

Capital Video
405 Timberpoint Court
Columbia, SC 29212
(803) 781-6747

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EVENING MEETING: 6:00 P.M., April 20, 2006

MR. ALLAN STUART: Welcome everybody to our second quarterly Public Meeting for the relicensing of the Saluda Project. We had a Meeting this morning. I wanted to give a quick update on the relicensing progress. The primary focus of this Meeting is an open question and answer session for Allan Creamer from the Federal Energy Regulatory Commission. We are pretty much on schedule with the relicensing; we formed a number of Resource Conservation Groups and Technical Working Committees. We are doing a number of studies, some are in the study plan, development stage; and, others are actually ongoing right now. So, we are right in the thick of the study phase. I encourage everybody who might be interested in seeing what we are doing is to visit the web site; it is www.saludahydrorelicense.com, those that picked up a pad or a pen, I believe it is on that pad and that pen. With that, like I said, I just want to give people a quick update on where we were. Are there any questions with respect to the relicensing itself?

(No response)

MR. STUART: A couple of orders of housekeeping items, the Meeting is being video taped and audio taped. We will be passing around a microphone. That

microphone is not live to the audience, it is strictly for the audio tape; so, if you could please project and talk

loud, and that will help everybody hear your questions. Because I know a lot of times this side of the room can't hear this side. So, please, talk really loud. Please feel free to ask Allan any questions you have. He has been at the FERC for about fifteen years, he has been assigned to this project. He has also worked on a number of other projects in the Southeast, the Santee-Cooper, Catawba-Wateree, and other states, Lake of the Ozarks. So, he is pretty well familiar with the resources we have here in the South. So, one other item, if you do ask a question could you please state your full name and the organization you represent; if you are not here with an organization, just say "person", you know, "an individual", something like that. Any other questions?

(No response)

MR. STUART: With that, I am going to turn it over to Allan and let you fire away at him.

MR. ALLAN CREAMER: Thank you, Alan. Just real briefly, I just kind of wanted to give you a little bit about my background. As Allan said, I have been at the Commission for fifteen years, or will be going on fifteen years in July. I am by training a fisheries biologist, and so I deal mostly with aquatic issues, fishery issues, water quality, those sorts of things. But I have seen quite a bit; some of the projects I have worked on, I have seen a lot of the issues. And they are fairly generic, the projects; but there is always little twists with any one

project. So, I have had a lot of experience outside of my field. A couple of things that Allan didn't mention, I am not all that familiar with this project and I am just kind of getting on board with it since I was approached to come down here and do this. I believe that there are probably some pending proceedings that are before the Commission right now with regards to lands issues. I am in the re-licensing side, and we have another division that is our Compliance folks. And most of those things, all of those things, that are pending are in our Compliance Division. So, I would ask any of you to refrain from bringing those things up because I probably will not be in a position to talk about them or address whatever your issues are. And besides, from a commission standpoint we can't really talk about pending proceedings anyway. With that, I think if any of you guys have any questions with regards to my background and experience, we can deal with those now. Or, you guys just start firing away. This will be a quick Meeting.

MR. DON TYLER: My name is Don Tyler, and I represent both the Lake Murray Association and the Lake Murray Homeowners Coalition. And I believe that at one of our last SCE&G Meetings, one of the questions that had come up regarding FERC was what are the Federal Guidelines that you use in managing, or controlling, an impoundment such as Lake Murray?

MR. CREAMER: Controlling it in what way?

I mean there is a lot of things, there is a lot of different aspects to what we do with the environment. So, can you be a little bit more specific?

MR. TYLER: Primarily from a management standpoint, for establishing criteria that are to be complied with.

MR. CREAMER: Well, generically what is going to happen is the Commission is obligated under Federal Law to look at all of the uses. Okay? The competing uses. And so, what we are going to do is we are going to look at all the issues that are laid on the table, and the Commission will do its --- we'll take a look at things and balance it, and decide what is --- as the Commission would say, "What's in the public interest relative to requirements to place on a company, the power company, as far as managing the resource." Whether it be lake levels, whether it be downstream flows, whether it be recreation, shoreline management, all of those are cultural resources, all those things get considered. But, the treatment, how we deal with them, may differ depending upon how --- I don't know what the right word is, the way we balance it. Depends upon how we view the comments, what we think is the most appropriate.

MR. TYLER: Are you saying you start with a clean slate?

MR. CREAMER: As far as we are concerned, we are a neutral party. We have no agenda. Okay? As a

regulatory body, we have to under law look at all the competing uses. We have to balance all those uses. There are many, there are entities out there whether they be State agencies that are interest groups, homeowner's groups, that they have their agenda. And they are not necessarily looking at the full scope of things. Well, the Commission is not like that; the Commission has to look at the full scope, and will balance what those competing issues are to the best of its ability.

Does that answer your question?

MR. TYLER: In part. But, I guess what my real basis was, do you have some set of guidelines that assist you in reaching your decisions for, I guess, pursuing a specific direction one way or the other.

MR. CREAMER: We have no specific criteria guidelines. I mean, the things that we are going to look at are --- you know, we are going to look at the particular proceeding. We are going to look at all the issues raised, we are going to look at people's comments, we are going to look at what people are recommending whether it be the power company, whether it be another entity. And then we are going to --- we will look at that, try to balance things out. And the other thing that we look at is from a comprehensive planning standpoint, we dig into the comprehensive plans

that exist for the river basins, and how is what we are doing fit within those comprehensive plans. We will look at

past Commission precedents, what the Commission has said and the way they have ruled in the past on various cases, and similar projects. Another thing that kind of comes into play sometimes is what the Courts have told us we are supposed to do. The Courts tell us with water quality certification whatever the State puts in, we can't touch it. Fish passage, Section 18, Courts have told us we can't touch it. The Department of Fish and Wildlife Service, whatever they would put in a Section 18 prescription is what it is. So, there is a lot of different things that come into play, the Federal Statutes, and the Court system, and just our whole balancing thing, the Federal Power Act 4(a), 10(a), which is the balancing, and competing use, comprehensive development. There's a lot of things that come into play.

MR. TYLER: Thank you.

MR. TIM HARGHLAY (phonetic): Talked about re-licensing and compliance in two different sections, and we can't talk about specifics, can we get generalities as to what is going on in Compliance that you can't talk about?

MR. CREAMER: Probably not because I am not familiar with all of that stuff.

MR. HARGHLAY: You don't you know the issues?

MR. CREAMER: Well, I mean, I generally know what the issues are, but I don't know specifics relative to what's going on in individual cases.

MR. HARGHLAY: I wasn't asking about individual cases; I was just asking some idea as to the generalities that are under discussion, or whatever they are under.

MR. CREAMER: Only to the extent that I have knowledge of them.

MR. HARGHLAY: This is Tim Harghlay from Lexington.

MR. CREAMER: I mean, we do work with our --
- I mean, don't get me wrong. We are two different divisions, but we do work together. And I actually work quite closely with a couple of individuals on Shoreline Management Plan issues at Fontex (phonetic), and to make sure that we don't do something that we are not supposed to that would cause headache for the other side. We make sure that we are doing things that fit together, and so that we work kind of in a transparent fashion. But, there is two different divisions involved.

MR. HARGHLAY: Okay, I will do this proper. This is Tim Harghlay from Lexington. One more, and I'll try to stay out of it. When the construction gets done over where they are putting the bridge in at the Dam, are there any changes in the beach area access utility? Is there anything going to be done to try and decrease the number of people that drown over there each year?

MR. CREAMER: I can't address that. I don't

know.

MR. JOHN WALSTON: I'm John Walston, and I am a property owner. My question would probably be more in tune to a shoreline management question. The property I have has the 75 foot buffer zone between my property line and the 360 line. If that is not a question for you, then I will --- please, if someone can direct it to the who I may ask that question.

MR. CREAMER: What is your specific question about the buffer?

MR. WALSTON: I am new to the area, and have the property about a year. And just some of the areas of compliance, you know, I read bits and pieces about how we are supposed to manage that 75 foot buffer zone. I have understood that this is considered public property and that, for an example, anyone could come into the cove where my property is located and come up into the 75 foot buffer zone, and camp out for a week. Yes or no?

MR. CREAMER: I had this question come up this morning, and hopefully I am not going to say something that is going to be totally different. But, what is within the project boundary and in those places where the 75 foot buffer is within the project boundary, that is in fact public access. If somebody wanted to pull up, and get out

and stretch their legs they would more than likely be --- you know, it would be a permissible thing. Somebody going

up and camping out there for a week, while it is public access that is an activity that may not be an appropriate activity for that area. And I would like to think that a Shoreline Management Plan would address those kind of issues relative to what would be appropriate activities for that public access and what may not be. While I don't think that it can necessarily be outright a prohibited, it's certainly I would think where the Shoreline Management Plan may say and encourage certain activities like camping at the appropriate sites, the development sites, and not encourage that type of activity in these other areas. I would think that the Shoreline Management Plan can address that type of thing.

MR. WALSTON: Again, that was a stretch for a question. But with my reading, seeing that it is public property, that is why I wanted to ask that. And, I guess, the next question would be --- and this could be for someone with the power company. With that buffer zone, the County that I am located in taxes me based on the number of feet of water front that I have. But in effect if I have 75 feet between my property line and the 360 line, do I in effect actually have lake view property? And the question would be, "Does SCE&G pay property taxes to the Counties that the Lake is located in?" And, "Are they in effect double dipping?"

MR. CREAMER: That's a question that I don't

think that I can necessarily answer, but ---

MR. DAVID HANCOCK: I am David Hancock, I am with the Lake Management Division of SCE&G. And, the buffer zone itself, the 75 foot buffer zone that he is talking about, is sporadic around the Lake; and it's not like everybody in the general public knows where those areas are.

In some of our Technical Working Committees there has been some discussion about letting the public know where those activities are. And, like he said, in the Shoreline Management Plan define what can be done in those areas, whether it be passive walking, or getting and out stretching your legs, fishing from the bank, or whatever. And the same goes for below the 360, which is not part of the buffer zone; that's below the high water mark, which the Lake never really ever comes up to the full pool. So, there is an area between there and the buffer zone that people can still get out and walk along the shoreline without even getting on the buffer zone. And I hope that kind of answers your question on that. We are working on that for the upcoming relicensing process. But as far as the existing, we have not had a problem with people doing that. And you have been here a year, have you had anybody getting out, walking along in front of your buffer zone area, deciding to camp out?

MR. WALSTON: No. No one has camped there yet. Again, that was a stretch for a question.

MR. HANCOCK: Right, I understand that.

MR. WALSTON: However, we did have someone come into the cove, they got out of their boat, they walked in the 75 foot buffer zone, and they had a camera. And I said, "Sir, excuse me, can I help you?" I was working on a shed out on my property. They said, "Oh, no, I'm fine." And they continued to walk in the 75 foot buffer zone. My daughter happened to be on my dock. Well, he startled her. He continued to walk through the buffer zone. In fact I said, "Can I help you?" again. He said, "Oh, no." And he said he was with Shoreline Management doing some work for them. And he walked around the cove and was taking some pictures. I eventually got off my ladder and we spoke, and we had a good conversation. Again, no wrong done. But being new to it, I certainly do not want to risk doing anything out of compliance because I enjoy the property and I don't want to do anything inappropriate. This gentleman was almost warning me, "Don't do this here, and don't do that here, and they will be watching you." And that made me a little uncomfortable, David.

MR. HANCOCK: In that case, you can ask him for his identification. If he is representing Lake Management, you can ask him for identification. And if he defies that --- because it could be somebody else posing themselves as somebody with Lake Management, taking pictures for a reason for this very process that we are in.

UNIDENTIFIED: And he was helping Lake

Management. We are not saying he was with Lake Management.

MR. WALSTON: Well, I can assure you, nobody is helping us do anything.

MR. HANCOCK: But to answer your question about the taxes, SCE&G does pay taxes on all land that they own, that SCE&G owns. And it could have been that guy that was walking around taking pictures. But anyway, we do pay taxes. And I can't answer the question about is it fair for you paying taxes on property up against the 75 foot buffer zone, as opposed to having property down to the high water mark. I can't answer that; that's a County question.

MR. WALSTON: And when I asked them that question, they said, "Well, that's just the way it is."

MR. HANCOCK: Do you have the brochure for the Shoreline Management Plan?

MR. WALSTON: Yes. You sent me some. You and I talked a number of times.

MR. HANCOCK: Okay, good.

MR. WALSTON: Sure enough.

MR. HANCOCK: Good. I wasn't rude to you, was I?

MR. WALSTON: No, you were very nice.

MS. CHARLENE COLEMAN: Allan, I am Charlene Coleman, with American Whitewater. Welcome to Columbia. My

questions concern public safety on the River. What I would like to know is, what is FERC's position on public safety in

respect to reserve capacity obligations for SCE&G?

MR. CREAMER: Repeat the question again.

MS. COLEMAN: What is FERC's position on public safety in respect to reserve capacity obligations? The Saluda River can rise quickly, and you have a lot of people that use the River up and down it, and the rise of the River is a danger to them in certain instances.

MR. CREAMER: This question came up a little bit this morning, as well. From a project standpoint, the licensee is ultimately responsible for public safety. Now, there is a number of ways that the Commission addresses that issue with an applicant. And, the Commission is going to look for reasonable solutions. That is generally how it has worked in the past. The solutions may vary from project to project. But, I don't know that I could sit here and tell you exactly what would be the outcome here, I don't know. But certainly, we have projects where from a public safety standpoint addressing these sorts of issues downstream with flows and ramping, and that sort of thing where there is notification requirements, there is sirens, there is various things that are put in place to warn the public. We have projects where there is a line drawn below the Dam, there is an actual physical cable as such that crosses the river where it is "no zone", you can't go into it, for safety reasons. So, it becomes a project specific issue in terms of how it is handled.

MS. COLEMAN: I guess, a part, too, to that would be, is there another project where rapidly rising water due to hydro power generation is a public safety concern as it is on the Saluda?

MR. CREAMER: We have a lot of projects in the Southeast that operate in load following, or a peaking mode, where they do in fact come up and go down fairly quickly. Some of those projects have ramping rates established; some of those projects have different --- have other measures in place to address an issue like that. But, it is certainly not an issue that is unique to Saluda, and it is an issue raised in many cases, many projects.

MS. COLEMAN: So, a stream flow and alternative power studies would be considered reasonable requests from RCGs?

MR. CREAMER: Stream flows and what?

MS. COLEMAN: Stream flow studies and alternative power studies.

MR. CREAMER: Well, certainly stream flow studies for various reasons, whether it be aquatics, whether it be recreation, stream flow studies certainly is a reasonable type of study in a situation like that. The alternative power study, I am not exactly sure what you are getting at.

MS. COLEMAN: Gas powered turbines and such.

MR. CREAMER: That's what?

MS. COLEMAN: Gas powered turbines, other facilities.

MR. CREAMER: That would be a new one for me. I don't know that I have an answer for that.

MS. COLEMAN: The reason I am asking is, I don't know whether you are aware or not, but the Saluda has a Class 4 rapid that gets a lot of entertainment value locally. So, rising water is quite a concern.

MR. CREAMER: Right. Somebody told me, pulled me aside this morning and we talked a little bit about that. So, I am aware of that.

MS. COLEMAN: Thank you.

MR. MALCOLM LEAPHART: I am Malcolm Leaphart, representing Trout Unlimited. But I really just have a general question, and it is a little bit more about yourself; what you actually do, where you come in on the process. Right now we are working through these Conservation Groups, and Committees, and so forth, and trying to develop a consensus type plan. But, wondered where you fit into the equation here.

MR. CREAMER: Okay. You want to know where FERC generally fits in. In this particular case, because they are going through relicensing as a kind of an enhanced traditional, and generally the Commission does not get involved during pre-filing; only if there is a need do we get involved, and whether it's because something has been

problematic with the process, or it's just simply we get a request for participation from the group. And, Catawba-Wateree is a good example. We have had Commission staff that has been involved with that one from the start. Generally under traditional licensing when the application is filed, that is where the Commission gets involved. And that's the first exposure we generally have to the project. And then, from that point we go forward; we have an Inter-disciplinary Team that is assigned to the project. And, you know, I might be assigned to the aquatics, somebody else might be assigned to terrestrial resources, wetlands; recreation, somebody else might be assigned to handle. And then we would do our process, our scoping where we would get the public involved.

And then we do our environmental analysis. That is generally under traditional process, how the Commission would fit in and where we would fit in as staff getting involved. Times are changing, Commission's new rules, licensing process; we have a new licensing process that came into effect three years ago, the ten year process last year. But when that happened it changed the rules for the traditional licensing, whereby the public is now brought in early on and there is an opportunity for Commission staff to get involved early on if there is a need. One thing that still remains the same is, if the group is at loggerheads on

an issue, so to speak, and can't agree to something parties can file a dispute resolution with the Commission, and then

we would get involved at that point to try to resolve that dispute. That's another place that the Commission would normally get involved. But there is project to project as far as traditional and how much involvement we have upfront.

It depends upon what the group is looking for.

MR. DON TYLER: Don Tyler, I have another question. It's a curiosity thing. On the actual term for the relicensing, and I hear anywhere from twenty-five to thirty year period. How is that arrived at and how do you maintain continuity from when the license is granted until the next period? Because you almost have a generation period in-between there. And so that the people that are applying, or requesting, the relicensing now versus the next group that there is really no continuity between those two groups. And how do you maintain it if you start anew each time?

MR. CREAMER: Are you referring to the applicant in general being the same applicant from the time a license is issued until it comes up again?

MR. TYLER: Yes, including the people that are involved.

MR. CREAMER: Okay, and the people involved.

MR. TYLER: And the people within FERC. Twenty-five years from now there is going to be a totally different group, and I expect ---

MR. CREAMER: Yes, twenty-five years from now, hopefully, I won't be there. But, no, it certainly is

an issue when you have got people coming and going from a process like this. And it does create some problems. As far as the license term, license terms can be anywhere from thirty to fifty years. And the license, once it is granted, it stays with the project, and requirements of that license stays with the project no matter who the licensee is and who the people are. I mean, that is the one constant in this whole thing over that period of time, is that license that project has and what it says. The people involved, you are right, they come and go within the order of whether it be a power company, whether it be those of us at FERC, any of you guys out here. And it's a tough thing to deal with when you have changes within because it is kind of like you have to bring new people up to speed on what the requirements are in a license. And there is a knowledge base that kind of goes with those people when they leave a process, that type of thing is certainly problematic in some cases. But the Federal Power Act requires us to look at each time a project comes up for relicensing, it requires us to look at things with a fresh view. We have a base line, which is what the condition is today. That is our base line. And then we go from there. But we have to --- we are required under the Statute to take a fresh look at the issues and what may be necessary going forward with the project and a relicensing.

That is something that we have to do.

MR. TYLER: It just seems like it would be -

-- it is very difficult if you step back fifty years from now, and to have tried and developed criteria to govern or manage an impoundment. And certainly fifty years from now moving forward, the criteria is going to be totally different. And I don't ---

MR. CREAMER: And that is the reason why we are required to take a fresh look at things. Because, you are right, the conditions change, the needs change, and what may have been fifty years ago important to people may not be fifty years in the future. So, that's the whole balancing thing, and that's why we have to take a fresh look at things. So, in a sense, having new people there is a fresh look at things.

MR. TYLER: Thank you.

MR. CREAMER: We have got a question over here on the left.

MR. JEFF ADAMS: Jeff Adams, a boat owner and immediate past Commodore of Windward Point Yacht Club. And Windward Point Yacht Club has approximately a hundred to a hundred fifty boats at its location. And one of the aspects that we are concerned about --- and I don't know that you can answer the question because I think you immediately took this out of the equation. But, I am going to say our piece anyway. We have large groups of boats that go out and want to anchor in locations. And I feel for the homeowners because when we pull up and we put twelve to

fifteen boats in a raft-up in an area, and we stay all day, and most of us stay all night, now granted this crowd doesn't stay up all night partying all night long. There is other groups of boats that do that kind of thing, but we don't. But in any case, we sit out in front of somebody's property if we don't go to a secluded location, a secluded cove. There are a couple of coves on the Lake now that fit that description. In the future though, from what we understand those two coves are going to be developed to where there will not be any location that is protected from wind, fetch of the water and whatnot; those are going to go away. So we are going to be forced to either cease doing what we have been doing, using the Lake as we have been, or rafting up in areas that are exposed to weather, which changes sometimes drastically and quickly those are going to go away. I don't know whether you can address that or answer those questions.

MR. CREAMER: Well, a development happens, and when we look at things and try to balance what the competing uses are. And your specific issue is a tough one to deal with, I am going to tell you that right now. And when you mentioned fifteen to twenty boats kind of tying up together, how about five thousand? There's other lakes in this country where that happens. Not all five thousand at a time tied together, but they are all in a cove. And you have lines of hundreds of boats that all tied up together.

And it is a tough issue, and I think it is an issue that is something that you have to find a local solution to. And, I don't know what the solution in your case, with the case here, is.

MR. ADAMS: Well, our understanding right now is that SCE&G owns the land around the two remaining coves. And my understanding is that is potentially up for sale to development.

MR. CREAMER: I can't speak to that.

MR. ALLAN STUART: You are probably talking about what they refer to as Hurricane Cove and Two Bird Cove.

MR. ADAMS: Correct.

MR. STUART: It is my understanding that Hurricane Cove, I am pretty certain, is going to be designated as a special recreation area. Both of them are going to be designated as special recreation areas. I think, my understanding, is those areas would not be developed.

MR. DAVID HANCOCK: That has not been determined officially.

MR. STUART: Okay. But the areas, I know, at this point at least have been designated as special recreation areas.

MR. ADAMS: What does that mean?

MR. STUART: It's basically --- my understanding is it is going to be designated for mooring

activities such as what you are talking about.

MR. HANCOCK: Not specifically mooring, but any type of recreational activities on water, activities, you could have a jet skier coming there matter. But you can't restrict other boaters from an area that is mooring.

MR. ADAMS: Well, we don't expect that. We don't like it, but we don't expect it.

MR. HANCOCK: Nobody does, I don't think.

MR. STUART: There is a separate proceeding that's going on based on a FERC Order that came out in response to the Shoreline Management Plan, a revision that was done a few years ago. And that's the Hurricane Cove and Two Bird Cove are being dealt with under that process.

MR. HANCOCK: And while he talked about that, I wanted to address Don's comments over here about the long process, the fifty years. In our past license we had a five year review of the SMP, the Shoreline Management Plan, and land use, and that type thing. So there is a process that is probably going to be effect for every licensee, a review process, whether it may be ten, we hope in ten years. And those type things. So that will give a look every ten years basically of the license itself, of the Shoreline or different aspects of it that could be changed or altered, depending on the needs.

MR. DON TYLER: And hopefully keep it a semi-living document that way.

MR. HANCOCK: It is a living document.

David Hancock, SCE&G. Usually these Shoreline Management Plans, at least from my experience with them, they are living documents. And he is right that just about every one that I have seen has built-in component where you revisit five years, ten years, you know, in that interval. So, they are in fact living documents and meant to be that way.

MR. JOHN FRICK: I would like to know if some special consideration could be given to landowners who own large tracts of land? I obtained a piece of property a few years ago that belonged to some of my ancestors where the property was taken under eminent domain when they built the Lake. This property is like 130 acres, and my intent is to do a low density development. I think one of the problems with the Lake now is you either have high density development or you have nothing at all, which makes everything very spotty. But my plan is to do a low density development. However, SCE&G has designated some of the property that was taken under eminent domain as forest management property, which is a little absurd in that the property is 150 to 15 feet wide. You know? It was logged a few years ago, but it is not really suitable for forest management. And my thing is, I have no problem with buffers, and so forth, and so on. But I would like the meandering path and I would like to be able to have dock permits, especially if I am going to have one to five acre lots on

the property. I am not going to have quarter acre or third acre lots. So, if I am willing to make those types of concessions, I think I also ought to be able to have docks. Because, one of the values of the Lake is for recreation. And it seems kind of ridiculous for me to own 130 acres on the Lake and not be able to get a dock.

MR. CREAMER: Well, you are right, there is not a whole lot that I can really say about that other than I think that is an issue that would be appropriately handled within the Shoreline Management Plan, and what that Shoreline Management Plan says. And, you know, this is news to you that it has come up at many projects, and very recently for me. And it is a hard issue to deal with, and it is an issue that I don't necessarily have the answers for.

MR. FRICK: I mean, nobody came to me and said, "We would like to make this property forest management." I mean, it's almost like taking it because, you know, if somebody had come in and said, "Would you like to put this in a conservation easement," or something like that where there would be at least some monetary benefits to doing it, it would be different. But I didn't have any input into it, somebody just arbitrarily went up there and designated this piece of property as forest management. And like I said, it's kind of hard to do forest management on a fifteen foot wide strip.

MR. HANCOCK: Tommy Boozer needs to be here

and tell you that.

MR. FRICK: Well, I have talked to Tommy. But, you know, the problem is, is that you get different responses depending upon the day, the hour, and the person you talk to.

MR. HANCOCK: We are pretty consistent on that, but forest and game management property, he is talking about land use. And the property around Project 516 has different land uses. And it was done before the last license, I would imagine, in '84. And there was property set aside for forest and game management, and that is property that SCE&G owns from the project boundary line down to the high water mark. And how they did --- I've been here nineteen years, so it was before my time, who selected those sites for that, there is a lot of forest and game management property in the upper end of the Lake. You are either in Saluda or Newberry County more than likely. And then you have property, there is a classification of property around the Lake that SCE&G still owns, it's called fringe land. Well, all of it is fringe land, but it's called future development. And that is what he was talking about possibly in the Hurricane Cove area, Two Bird Cove; it's a classification of land that is classified as future development. It could be sold to the back property owner.

And that's when the buffer zone is established. In that '84 license, we were required to keep a 75 foot set back. And

that property could have been sold if it was classified as future development. Forest and game management property was a protected classification to try to protect some of the land around the Lake from development.

MR. FRICK: I understand that, and I understand how it's very good to have two, three hundred acre pieces of property designated as forest management and game management property. But you understand from my standpoint how absurd it seems to have a 15 foot wide strip, you know, to a 150 foot wide strip, depending upon where you are on the Lake, designated as forest and game management.

MR. HANCOCK: I understand. He's talking about the property from the project boundary line down to the high water mark. It can vary in depth. In some places it may be 300 feet, you know; in other cases like he says, it may be 15 feet.

MR. FRICK: Or 5, or 2.

MR. HANCOCK: Yeah. And that's more the rare than the norm. It's more --- the deeper areas is more, from what I have seen.

MR. FRICK: But again, forest management, even if it were 300 foot wide, it is not really adequate or suitable for forest or game management if SCE&G doesn't own the other property back behind it. And it puts a burden

upon the private property owner from whom the property was originally taken under eminent domain, you know, because it

makes your property less valuable. And there is no compensation to the back property owner for that, in effect taking.

MR. HANCOCK: This is property, what he is talking about, that was bought back in the 1920s. And the Lexington Water Power Company did buy that property. And it's just been classified as a protected classification. And those classifications are being looked at during the relicensing process.

MR. FRICK: Could some consideration be given --- because I have no problem with the 75 foot buffer, I have got no problem with 100 foot buffer, to be perfectly honest with you. But being a back property owner, I want to be able to enjoy the Lake without having to go around to some public boat ramp, or whatever, to put my boat in. And all I am looking for is some consideration as far as, I don't mind the meandering cove. I don't even mind giving you concession that the lots will only be at least 2 acres in size, or whatever. But everybody likes to have docks and that type of thing. I don't think my access and use of the Lake should be restricted when it was essentially taken by eminent domain years ago. And now somebody is sitting at a desk drawing lines on a map around the Lake puts my property in game and forest management when SCE&G didn't own the back property.

MR. HANCOCK: Well, we put our property in

forest and game management. We didn't put your property in forest and game management, we put SCE&Gs property in forest and game management.

MR. FRICK: But when your property is only 15 to 150 foot deep, it doesn't make much sense to penalize me. I mean, you have got 300 acres over on the other side. So, if you put the 300 acres in forest and game management, which would make a lot of sense because deer can actually raise there, and so forth and so on. But putting the burden - the conservation burden, if you will - totally on the private property owner, I don't think is in the best interest of everybody concerned.

MR. HANCOCK: I do understand your concern, because if I owned property like that I would have the same concerns you do. But, I can't answer --- I cannot give you a satisfactory answer at this point. Especially going through the process that we are going through with relicensing.

MR. FRICK: But you would be willing to look at it with me further and see what we could do?

MR. HANCOCK: We are looking at reclassifications of property right now through this relicensing process, working with some of the Technical Working Committees, and the agencies involved, the DNR, the U.S. Fish and Wildlife, and everybody concerned. And a lot

of the stakeholders are being represented. And I don't know if you are a member of any of the groups that are in these

Technical Working Committees, but you may ought to talk to them and voice your concerns about that, and some of those groups might be Lake Murray Association, Lake Murray Coalition, Lake Watch, you know, some of those groups. A lot of those groups are in the Committees. Is that fair enough?

MR. FRICK: Yes. Oh, my name is John Frick.

MR. STUART: It would be very beneficial for you to go to that left side and go to the Lake and Land Management Resource Conservation Group, it has got all the Meeting Minutes of the Technical Working Committee and the Resource Groups, and it pretty much identifies what the issues that we are discussing or have been discussed, and I think that will give you little bit of background before, you know --- you can contact those guys. I think it would be very beneficial for you.

MR. FRICK: It seems like, you know, the people that own one or two acres on the Lake, you know, and they have got 100 foot, and they have got a dock, have a lot more input in what is done at the Lake than the people like myself that own 130 acres and yet mine is restricted, you know, adversely so. And we have very little --- seems like we have very little input even though we are a much larger stakeholder.

MR. STUART: This process has been ongoing since last October, and we have encouraged all public

participation whether you own a tenth of an acre or ten thousand acres. So, it is not too late to get in. But, like I say, you would need to kind of do your homework, catch up. And the Technical Working Committee Meetings, or the Resource Survey, are open to everyone. They are primarily can meet the capacity of an observer unless you do your homework catch up and get up to speed to the issues where we are. We can't stop and go and restart. But can demonstrate that you are caught up, and you understand where we are, you are certainly willing to be an active participant in any of those groups.

MR. FRICK: What was the web site?

MR. ALLAN STUART: The web site is www.saludahydrorelicense.com.

MR. ARGENTIERI: I just want to add something. This is Bill Argentieri, with SCE&G. There are other reasons that could play a factor in the reason why that certain piece of property might be designated the way it is, and that has to do with ESAs and other environmental issues. But, if you would let David know where your property is while we are reclassifying, or going through the reclassification process, they can take a look at that specific property and see what is involved and the reason for its classification. And if there is --- if we have the ability to change a classification, then we can take a look at that. If there is a specific other reason, an

environmental reason, for it to be classified the way it is, then there most likely would not be the opportunity to change that. But if you could let David or Tommy know which property in particular you are talking about while we are going through the classification process, we will address that.

MR. STUART: One other thing I wanted to add. Some of the recent discussions we had where we are trying to promote homeowners that run down to the 360 to try to establish buffer zones and some other things, and civic programs. so I suggest you really get involved. So, we recognize your --- and just come to the table and --- we are not unreasonable in these, I mean, you know, there are still State agencies, Federal agencies, that you tell these folks.

MR. FRICK: There's one other aspect to this, also. We look at the development of the Lake, you know, talk is done in the papers and all that about a leaking septic tank, and this type of thing. The real danger to the Lake is not septic tanks simply because if the lots are large enough, you know, the septic fields keep all of the earth soil in the nutrients pretty much on site. The real danger to the Lake is from all the public whose treatment plants, which dump the affluent property into the Lake. You know, that affluent really ought to go elsewhere

because all the water soluble nutrients they go through an anaerobic and aerobic digesting process, which supposedly

kills the bacteria, but that doesn't kill the chlorine in it. But the water soluble --- the algae and all that come from all water soluble nutrients that the water sewer authorities and so forth put into the Lake. Now, on TV after Charlotte, okay? We have them put the deionizer beds (phonetic) in, take the phosphorus and potassium, and so forth and throw them out. So, a greater look when you look at water pollution, algae bloom, Hydrilla blooms, and so forth, some needs to go back to some of these public municipal water treatment plants and so forth that are really the main cause of the nitrate and potassium levels, not the farmers, not the septic tanks.

MR. STUART: Just kind of a point of order here. There are no waste water discharges that dump directly into Lake Murray, there are a couple that discharge into, I think, the Lower Saluda and --- there's several, that's where they are. And our Water Resource Group, SCE&G has identified that for a number of years, we have been working forward.

MR. FRICK: Everything on the Lake side of the railroad lines, and so forth, dumps into the Lake. That goes directly into the River.

MR. STUART: Yeah, I encourage you to go to the Water Quality Resource Group, the Conservation Groups, a

lot of professionals in that area. It is definitely widely recognized, and even though they are outside the project,

per se, they are looking at as many ways of maybe (inaudible). A lot of that probably would fall on DHEC, a regulatory authority. It's certainly worth catching up on, I think it would be very profitable.

MR. MALCOLM LEAPHART: Malcolm Leaphart, Trout Unlimited. If I could change your topic. I would like you to discuss a little bit about the Federal Legislation that provided for fish friendly flows. I know that things have changed a lot over the years, particularly like over the SCE&G license. This is something that you now have to factor in to these plans, and wondering if you could give us an example maybe of the Southeast tail race that maybe has a different type of license requirement, or requirements, because of the requirement for that as opposed to it not having that Legislation.

MR. CREAMER: Probably the best example, the Legislation you are talking about or some of the Amendments to the Federal Power Act, Energy Policy Act of '92, and some of those. Probably the best project in the Southeast that I have the most knowledge of because I worked on it would be a little bit north of here that borders North Carolina and Virginia, and that would be the Roanoke Rapids, the Gaston Project. They did some very good things with regards to environmental measures, with regards to flows and project operations, at that facility. And both from a ramping standpoint, flows for fisheries; not so much recreation,

although there was some consideration given to recreation but because of the location of the project there is not a lot of whitewater. But one of the big issues for them on that project was flood plains, and bottom lands, forests, and protecting those. And so they did some very good things with regards to changing and their license with regards to operations that will go a long way to enhancing those flood plain areas.

MR. REED BULL: I am Reed Bull, and I represent the Midlands Striper Club here that uses the Lake, and a very interesting striper population. And for quite a few years there has been a problem, and it is not every year, but it happens fairly frequently. There are some striper kills during the summertime due to the dissolved oxygen, depletion, and basically we are on the Resource Groups and all of the developing information studies now because nobody really knows --- well, we know what is causing the problem but nobody really understands the circumstances that make it happen and what can be done. So, from what I hear you saying, I mean, we need to have studies done to find out as much as we can, and then come up with recommendations that would go to your group to make some decisions on what would be included in the licensing. And, is that basically the process? And, what can you tell us about that?

MR. CREAMER: Yeah, that's essentially the

process in a nutshell. You know, what our expectations are of this process is as it starts is the involvement, you know, all the relevant parties around the table and identifying what the issues are. And from that, then the company will sit down and try to decide, "Okay, now what do we know and what do we need to do to fill some data gaps to address the issues?" And, so the necessary studies are done and that information along with the existing information is then used by the group to come --- hopefully, will come to some agreement on what needs to be done to address the issue. And then that becomes --- if there is agreement amongst the parties, that becomes their proposed measure, part of their proposed action in their application. And the Commission certainly looks with favor on agreements reached by parties. You know, to the extent that parties can come together and resolve through local decision making and local solutions, really. That's what we like to see, because otherwise you put the decisions in the hands of those of us in Washington that doesn't know your particular needs down here. And all we have is what we have in front of us, the paper record and that sort of thing. So, what you said was essentially the process, all that information is used, those are done, gathered, information gathered, and that all is used to arrive at a decision for an operating condition and a license.

MR. BULL: One of the things that might

affect that is the EPA now has a requirement that all bodies of water must have TMDLs established, and that. Now, Lake Murray does not have those. DHEC at some point in time, Department of Health and Environmental Commission is responsible for that. At some time they plan to establish those. Well, we have --- how can that relate? Obviously that may take longer than what is involved with this relicensing process. But how could possibly that be part of the relicensing process, because as they were talking about the sewer treatment plants, and problems; there are a lot of chicken farms, turkey farms, cattle farms that are up these rivers that, you know, we could establish some things under that TMDL process that would benefit SCE&G. And that is something they don't have control over it now, but can somehow that get into this process that that would be a long term goal of the process?

MR. CREAMER: Certainly. I mean, we have a lot of projects that have TMDLs established for them that -- you look at the license requirements and, you know, some of those things that are in the TMDL that they are required to meet, get translated into a license requirement. So, certainly. I mean, it is something that we are very cognizant of and we will address it to the extent that we can during relicensing. And if there is information gathered along the way as this relicensing is going on that is germane to the relicensing effort and can be used in the

relicensing, I would certainly encourage the use of that information. Now, that TMDL process might not be complete before this licensing process concludes. I mean, I don't know what the schedule --- what time line you are talking about. But, the other thing that these licenses typically have in them is re-opener provisions. So, if something comes along like TMDL as that process concludes after a license is issued for this project, we have the ability to go back in and include to the extent that we need to things that came out of that TMDL that is relevant to this project. So, we have the ability to go in and change that license. So, you know, we do it with Endangered Species Act consultation stuff. And so certainly we have mechanisms for handling that. We have gotten criticism over the years with regards to delaying processes because we are waiting for this, or we are waiting for that. And so we are making a concerted effort now to find inventive ways to keep moving forward with these things, and still being able to do what we need to do environmentally and under the Statute. So, re-openers are a big part of what we do now.

MR. STEVE SUMMER: Steve Summer, with SCANA Services. I would like to make a comment about the TMDL process. And, Andy, you jump in if I say something wrong. The TMDL process is driven by impaired waters, or waters that don't meet State Water Quality Standards. So, in the instance of, say, sewage treatment plant input, you might

have a condition where phosphorous might be higher than what the Water Quality Standard might allow. And then the TMDL is established to control, or at least, limit the sources of phosphorous that are coming into an area. So, to get a TMDL, first of all, you would have to have a Water Quality Standard; secondly, a body of water that is listed in the 303D list, I think it is, as impaired for that particular pollutant. And then, the State could establish a TMDL for that pollutant. Is that right, Andy?

MR. ANDY MILLER: Yes. I am Andy Miller, with DHEC, Bureau Water. And I did want to comment on what Steve said. He is exactly right. You do need to have a impaired water, and it just so happens that in two arms of the impoundment of Lake Murray we have phosphorous impairments. And we have been --- DHEC and some of the other stakeholders that are involved in this process now have been trying to develop, or at least get the means to develop a TMDL for phosphorous. And that is still ongoing. We are having discussions both within the FERC relicensing process, the Resource Conservation Groups, and outside, you know, the efforts are continuing to come up with those means for developing that. But, I had a question. You had mentioned that TMDLs had been a part of other projects. And I was wondering, do you know of any --- can you name any projects in which a TMDL was a product of the FERC relicensing process?

MR. CREAMER: Speaking from my experience, no, I can't think of any off the top of my head; it doesn't mean it doesn't exist. But, most of the ones that I have been involved with the TMDLs have gone on, you know, they coincide with relicensing, or they occurred ahead of the relicensing. But, any with the product of relicensing, off the top of my head, no, I can't think of any. But that doesn't mean that they don't exist. And that is something that I can look into and get back with you on it, if that is what you --- you know, if you need that information, I would be happy to do that I am sure if you have got a card, or I can give you my card later.

MR. RON AHLE: I am Ron Ahle, with the South Carolina Department of Natural Resources. And, I am very interested in what you just said about re-openers. I have been involved with relicensing projects for many years, and can't say that I have ever been involved with a re-opener. I am not sure if it is better to go ahead and put provisions in your license that you are currently working on that you are going to address certain things in the future. You know, putting it in upfront instead of waiting until later on to find out that you need a re-opener. What is involved in a re-opener? Who can request it? And, who has to agree to it? I think that is basically my question.

MR. CREAMER: Okay. There is essentially two types of re-openers in just about all the licenses that

we issue now. One of the falls under the purview of our Standard L Forms, which is the generic license requirement for every project that we issue. There is a standard re-opener. There is a public process involved. I mean, we can't go and re-open a license without going through the company and having a public process. That is one mechanism. It has been used sparingly. Usually what happens --- I am thinking back in the last time I have looked at this type of information. There might have been two or three cases where that type of re-opener was used. Typically, what we try to do is work with the power company and other stakeholders to try bring resolution to the issue without having to use that. Our Compliance folks work in that fashion. So, that type of re-openers may be --- the last time I looked at this kind of information two or three times. The other type of re-opener that you see quite often in licenses is specific to Articles. There are type of Articles we include are our standard, they are a Series 400 Articles which are the specific Articles; they are not general, they are very specific with requirements. And, those Articles can have in many cases provisions in them to re-visit based on information --- let's say a condition is put in place, and then there is some monitoring that goes along with that. There typically is provision in that Article that will allow us to, based on that monitoring, make changes.

MR. AHLE: Is that the preferred?

MR. CREAMER: That happens much more often. You know, relative to implementation of Articles, that is a very common thing. And that seems to work. You know, it seems to work fairly nicely; I haven't heard too many ever since we started doing that. It is kind of --- we don't use the term, but it's in effect deaf (phonetic) management. And we have been using that more and more, because we know we can't answer all the questions in the time that we have.

MR. TIM HARGHLAY: Tim Harghlay, again. I already tried this once with you, and I was wondering though --- I didn't realize all these other folk around, perhaps somebody from SCANA can explain what may or may not going be happen with what is the equivalent of the swimming beach over there? Like, I was there when there was a near drowning and nobody could call for help; and there is a bunch of double talk as to whether there is any --- whether it is in SCANA's best interest to have anything like a telephone to call for a EMS. And it would appear to me that at this point in time when you have got it all coming up, you might think through it. And I was just curious if you have.

MR. DAVID HANCOCK: David Hancock, again. The park site that he is talking about is the park site on the Lexington side of the Dam, and is where we have a public beach area. It is a "swim at your own risk" area. There is a security phone that was tied directly to the security

guard office up there at the gate. And, that is going to change now with the situation, we have a whole new guard house now, and I don't know if there is going to be a public phone down there for after hours. I am not sure about that yet. But, there is a phone down there where the security guard's office is --- you know, not his office but there is a little security office down by the beach. And that phone is directly tied to the phone in the guard house when that guard house is manned. We do not man that twenty-four hours a day.

MR. HARGHLAY: I used that very phone after I saw somebody all but drown, and it just went up to the little lady that takes money. And they just sort of nonchalantly walked down later. They don't have any process where they call your emergency operation center, they have no process to call for anything. And since they are not going to do anything, it would nice if there would be an alternate way that the public could in fact call for help when help is necessary.

MR. HANCOCK: They do have a process. And they are required to call 911 and notify our claims office and also notify security personnel. But, they do have a process, and it is written down.

MR. HARGHLAY: I have written several letters and got "Go mind your own business," answers. So, you might want to take another look at it.

MR. HANCOCK: Who have you written that to? Who did you write your letters to?

MR. HARGHLAY: President of SCANA, the Sheriff of Lexington, talked to your emer --- well, that is my phraseology, I mean, you know.

MR. HANCOCK: Did you get a written response back from the President of our Company?

MR. HARGHLAY: Yeah. He said he was reviewing it, and ---

MR. HANCOCK: Okay.

MR. HARGHLAY: "Don't bother me," you know.

MS. CLARISSA ADAMS: My name is Clarissa Adams, I am a boat owner, but we own property in town. And I just wondered if you all were considering --- I don't know the ins and outs of it, haven't gone to the web site so I apologize for not knowing a lot of the other things. But, like in Charleston or on the coast, there are a lot of ways that you can purchase a dock-a-minium. So, you own --- legally, the way they do it is you own a tiny parking lot, or a parking space because then you buy a dock so you are able to permanently keep your boat there. And I think the requirements --- and I could be wrong, but I have heard that if you have a boat that is over 30 feet, you are not allowed to keep your boat at that property. So, and our boat is larger than that. So, buying a piece of property wouldn't solve that. So, I just wondered is there a way --- and, I am

not a --- I don't own property up there, but is there a way for someone who did to market that? And would they go to y'all? Or, would they go to a Commission? Or -- it is just something I am interested in.

MR. HANCOCK: On Lake Murray, we have what we call multi-slip facilities. Windward Point, I guess, where you guys have a boat tied up now, is one of them. And in our general permit that is issued by the Corps of Engineers, DHEC put in a requirement that you couldn't have a boat larger than 30 feet parked at a residential dock. And, the purpose of that was mainly because of most boats that were larger than 30 feet had on board toilet facilities, and they would be required to be at a multi-slip facility where there were pump out stations. And that was the purpose of putting that in the GP. We are in the process now, you know, with the Lake Management, TWCs, and Shoreline Management Plan, to talk about those type issues. But right now, Lake Murray does not have dock-a-miniums, or whatever you want to call it. But we do have multi-slip facilities that are --- some are leased and some are owned by individuals, maybe within a development, or whatever. Did that answer your question?

MS. ADAMS: Right. But a person can't --- like we lease, or we pay a dock fee every month, but an individual can't buy --- in other words, if I had a large piece of property, I couldn't sell docks ---

MR. HANCOCK: That's correct.

MS. ADAMS: --- for them to own forever, and still have to pump out --- in other words, in the coast it's like a private marina, I guess, but you own that dock.

MR. HANCOCK: And some of that may be changing on Lake Murray because of some of the new --- they are old projects, they are old multi-slip facilities; but they may be going from a public facility to a private facility. And they may sell that slip to an individual.

MS. ADAMS: They don't have to go through y'all to do that?

MR. HANCOCK: They're an existing facility. They already have gone through us. You know, SCE&G --- I mean, get a look at it with the Corps of Engineers, as with a multi slip facility. And right now, we have a moratorium on any requests for any new multi slip facilities until we get through the relicensing process.

MR. GARY CHESNO: My name is Gary Chesno, I am a recreational fisherman, kayaker. I don't know really who to direct this question to, SCE&G or Federal Energy Commission. But, can you guys talk about how the release coming out of the Dam is going to change with this new relicensing, or just some information on the flow coming out of the bottom of the Dam changing erratically, and things of that nature? Thank you.

MR. BILL ARGENTIERI: This is Bill

Argentieri, with SCE&G. Our future flows will be determined through this relicensing process. That's part of both the Water Quality, Fish and Wildlife Resource Conservation Groups are looking at the types of flows, whether they be minimum flows or other flows to help support the Water Quality and the Fish and Wildlife in the River. So, that has not been determined, that is what we will be determined through the process. So, to say what specifically the flows will be come relicensing, we don't know at this time. We are still in the process of doing studies to help determine that.

MR. REED BULL: Reed Bull again. A quick question. What is the criteria that determines whether you issue a thirty year license or a fifty year license? Excuse me. In this process?

MR. CREAMER: Okay. The criteria. It is based on the amount of redevelopment at a site, and the amount of environmental enhancements that is being proposed.

As we talked about this a little bit this morning, there are three categories basically. The Commission can issue a thirty year, a forty year, or a fifty year. That's typically what you see in licenses. A thirty year license generally has little, if any, redevelopment or environmental enhancements put in place. A significant amount of

redevelopment and/or environmental enhancements, generally we look at that as potentially a fifty year. And then the

forty year falls in-between what we categorize as moderate level of redevelopment. And there is no quantitative criteria, it's based on our judgment of looking at the project, looking at what the cost of power is, and what all of the enhancements are going to mean to that project. And then that goes into our decision whether or not the Commission is going to issue a thirty, forty or fifty. Now, one variable in this, is that while most licenses are thirty, forty or fifty, the Commission has in the past issued licenses that might be say twenty-seven years --- or, not twenty-seven, let's say thirty-seven. And the reason they do that generally is, if there is another project in the basin and they want to coordinate relicensing so that you can look at a basin more comprehensively, if they are close enough in the process in terms of relicensing, the Commission may opt to kind of coordinate the license expiration; so, you might see a thirty-seven year license somewhere. So, it just depends.

Any other questions?

(No response)

MR. CREAMER: I guess, if there are no other questions, I guess we are done.

MEETING ADJOURNS.

**Saluda Hydro Quarterly Public Meeting
January 12, 2006
Saluda Shoals Park – Environmental Center
10:00 AM & 7:00 PM**

Meeting Agenda

7:00 – 7:30 **Welcome and Update on Resource
Conservation Groups**

7:30 – 9:00 **Presentation – *Saluda Hydro*
Operations by Lee Xanthakos,
SCE&G**

Adjourn

SALUDA HYDROELECTRIC PROJECT RELICENSING

FERC PROJECT NO. 516

Quarterly Public Meeting

January 12, 2006

10:00 o'clock A.M.

SALUDA SHOALS PARK - ENVIRONMENTAL CENTER

Welcome and Update On Resource Conservation Groups,

by, Alan Stuart, Kleinschmidt Water Resources

Presentation,

by, Lee Xanthakos, SCE&G

(Transcribed from recorded cassette tapes of Proceedings:

by, Annette B. Gore, Court Reporter.)

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PUBLIC MEETING:

— MR. ALAN STUART: Hello, I am Alan Stuart with Kleinschmidt Associates. I would like to welcome everybody to our second public quarterly relicensing meeting update. Basically we have begun the process, we have established Resource Conservation Groups. Those have been showing up at some of our other quarterly public meetings, we rolled those out. Right now, basically what we have done for the most part are develop some mission statements. Did everybody get a copy of the handout as you came in? Briefly, I would like to just go through those. These mission statements were developed through the efforts of a diverse group of people, everybody from biologists to engineers, to attorneys. And actually, even a rocket scientist has been involved if you can believe that. So, it's been a very interesting endeavor.

The Operations Resource Group, this is their mission statement. I would like to go ahead and read it. This one is finalized by that group; there are some that are in draft form, and we hope to have those final by January 19th. This one is final, though. "The Mission of the Operations Resource Conservation Group (ORCG) is to oversee the development of a robust hydrologic model for the Saluda Project which will establish a baseline of current hydrologic, hydraulic, and operational conditions, and aid

in analyzing and understanding the potential upstream and downstream effects of potential

changes to project operations, in support of the missions and goals of all other Saluda Hydroelectric Relicensing RCGs. The objective is to fairly consider those impacts, to include low-flow conditions as a part of developing consensus-based, operations focused recommendations for the FERC license application. Model results are to be presented in readily understandable terms and format. A key measure of success in achieving the mission and goals will be a published Protection, Mitigation and Enhancement (PM&E) Agreement." That's basically the Operations Resource's goal and mission for this upcoming current relicensing. As you can see, it's quite lengthy, and it's quite involved. It's going to take input from all the other Resource Conservation Groups; it will take the recommendations from those groups and apply them to basically the water available for the project, in the simplest of terms.

Lake and Land Management, which is a very important RCG to Lake Murray: "The mission of the Saluda Hydro Relicensing Lake and Land Management Resource Conservation Group is to gather and/or develop information, study and consider all issues relevant to and impacting upon the Saluda Hydroelectric Project Shoreline Management Plan (SMP) and supporting guidelines. The outcome should be the development of a consensus-based, updated SMP for submittal in the Project 516 license application. It should include/consider properties within the Project Boundary Line

(PBL) for Project 516, upstream and downstream, and such areas beyond the PBL which SCE&G, through its SMP, can materially influence." That includes both the Lower Saluda and Lake Murray; so, it's a very project wide, comprehensive approach to Lake and Land Management.

The Recreation (RCG), this group met yesterday and we basically finalized this Mission Statement yesterday. "The mission of the Recreational RCG is to ensure adequate and environmentally-balanced public recreational access and opportunities related to the Saluda Hydroelectric Project for the term of the new license. The objective is to assess the recreational needs associated with the lower Saluda River and Lake Murray and to develop a comprehensive recreation plan to address the recreation needs of the public for the term of the new license. This will be accomplished by collecting and developing necessary information, understanding interests and issues and developing consensus-based recommendations."

The Fish and Wildlife Resource Conservation Group Mission Statement, it is one of the three that are in draft form. We don't expect significant changes to these, but they are still out to the group for comment, the group being the Resource Group Members. "The mission of the Fish and Wildlife RCG is to develop a Protection, Mitigation and Enhancement Agreement (PM&E) relative to fisheries and wildlife management for inclusion within the Saluda

Hydroelectric Project license application. The objective of the PM&E Agreement shall be to assure the development and implementation of a level of integrated management best adapted to serve the public interests. To achieve this mission, the Fish and Wildlife RCG shall identify the need for, define the scope of, and manage or influence as appropriate, data collection and/or studies relative to impacted fish, wildlife, and plant species and ecological communities, eco-systems and/or habitat within the Saluda Hydroelectric Project."

The Water Quality Group, theirs also is in draft form. "The Mission of the Water Quality Resource Conservation Group (WQRCG) is to develop water quality related recommendations to be included in the Saluda Hydroelectric Project FERC license application. The goal will be to achieve State water quality standards compliance or beyond for Lake Murray and the lower Saluda River. A means to work towards that goal is to identify data needs and to gather or develop that data. A primary measure of success in achieving the mission and goals will be a published WQRCG Protection, Mitigation, and Enhancement (PM&E) Agreement."

And lastly, the Safety Group was kind of an ad hoc RCG that was developed as we were going through the list of the issues. One of the goals of the Group is to carry on a Safety Committee throughout the --- well, for as long as

the Group wants to continue to process; its not only to define the issues right now during licensing. They would like to carry that on. And its members include some of the homeowner groups and SCE&G. That's the long term vision for the Group.

"The Mission of the Safety Resource Conservation Group (SRCG) is, through good faith cooperation, to make Lake Murray and the lower Saluda River as safe as reasonably possible for the public. The objective is to develop a consensus-based Recreational Safety Plan proposal for inclusion in the FERC license application. This will be accomplished by gathering or developing data relevant to Saluda Hydroelectric Project safety-related interests/issues, seek to understand those interests/issues and that data, and consider all such interests/issues and data relevant to and significantly affecting safety on Lake Murray and the lower Saluda River."

Those are basically the six Resource Conservation Groups that have been established. As you can see, it pretty much covers all the issues that we feel will be raised during the relicensing process. One of the things I would like to recommend, I know a lot of people in here are not part of any of the RCGs. Those RCG group meetings are open to the public. Since you haven't signed up for it,

they are open to you as an observer. So, we encourage if you feel the need or feel the interest to come to one of

these group meetings, please do so. The dates are published on the web site. That web site address is www.saludahyorelicense.com. Or, you need to let Alison Guth know because we typically meet over at the Lake Murray Training Center, and there are some security issues that we have to get you through the gate. But, you know, it is open to anybody that would like to attend. We have a lot of presentations. We have had presentations by DHEC, the Lower Saluda River Advisory Council, just numerous presentations. And on water quality standards, just the entire plenary of information is going on. So, please, keep up to date on the web site. I encourage you to attend some of these presentations. They are very, very informative. That's all I have on the Resource Conservation Groups. We are continuing to meet now that the Mission Statements are being finalized, or near final, we are starting to get into some of the issues and develop a study scope within each group. The draft study plans, or final study plans, that are developed will be available on the web site; if you are interested, please download that information and take a look at it. It should have a scope of what we are trying to accomplish, the data that we are trying to collect, and hopefully how that data will be incorporated into addressing issues for each of those Resource Conservation Groups. Are there any questions on the activities of the Resource Conservation Groups?

(No response)

MR. ALAN STUART: Right now, I am going to turn it over to Lee Xanthakos, who is going to give a presentation on the operations of Saluda Hydro. You are encouraged to ask questions throughout the presentation. Alison will come around with a wireless microphone. The reason we are doing that is because it is being video taped and audio taped for the public record. So, she will come around. If you have a question, please raise your hand and Lee will identify you, and give Alison a chance to get to you to ask your question. If I can make a suggestion, please keep your questions as concise as possible because this is a fairly lengthy presentation. So, if you could do that, that would be great and we appreciate it.

MR. LEE XANTHAKOS: Hello, everyone. I have got to start off by kind of telling you that this is the first time I have given this presentation in a big auditorium like this, normally been in a smaller kind of more cozy room. So, I hope that through the questions and discussion we can still get that, that sort of feel where everybody participates. And I apologize to the people behind me, so it looks like you will be looking at my back most of the time.

My name is Lee Xanthakos, I work in the SCE&G System Control Room; I am the Manager there. And as we start to talk about Saluda, I thought it was necessary to

kind of give some background on what we do and what our purpose is. And once that foundation is created, then you can kind of understand how we use Saluda and why we use Saluda in the way we do. So, with that, the contents of the presentation, normally I would just do one at a time; but I think we can do them all.

We are going to talk about the Grid. The Grid is probably something all of you have heard about, at least on the news recently. You might remember there was a blackout in the Northeast about a year or so ago. That happened on the Grid, and therefore it affected about 50,000,000 people.

We will talk about how the Grid works; we will talk about balancing the Grid, which is a very important part of what we do. And those of you that have toured the Control Room before have seen how we do that, and how we measure that. We will talk about the rules. Remember, the Grid is --- well, we will get into this. But, the Grid is a very large machine essentially. A lot of power companies are connected together; at times they rely on each other; ideally they don't have to rely on each other, they would work independently of each other and work well. That's not always the case. And what we don't want is for one company to take one action that negatively affects another company. So, there is coordination and there are rules that affect the

way we do stuff. And we will talk about emergencies on the Grid. I just said it's a machine. And just like your car,

sometimes parts of it break down. Just like any mechanical device, at times it has some kind of a problem. And it's our job to make sure that the Grid continues to work even when there are problems. Then finally, we will talk about Saluda and why Saluda plays such a major role in that. And it has a lot to do with the facility's characteristics and how they line up very closely with a lot of the requirements we have, which is sheer luck in a lot of ways.

Okay, what is the Grid? And a lot of people have the misconception that any time you look out at a wire maybe the wire is feeding this building, that that is part of the bulk power system or the Grid. And that's not necessarily the case. If, however, you drive down one of these streets - and I forget which way it is - and you see some pretty enormous towers that are going down, you know, one right of way; and the rest of it is going down another right of way, and you don't see the end of it. And it looks like even if a tree fell down, it couldn't touch them because they are up in the sky so high. That's the Grid. That's what we call the Grid. And there's a picture of it. We have all seen it, we see them on the highways. They run down these huge right of ways. And the reason you call it a Grid is because this power line, the picture of this power line --- and I'm not sure where this place is, but if you were to hop on that line right there, you could - if you were a little electron - could zap yourself around and eventually end up on the

wire that is running across the Saluda Shoals Park here. That's because every one of these towers are connected together. And the other interesting thing is that moving on these lines --- see, that little electric electron happens at the speed of light. So if you are down in Florida and you hop on one of these lines, you can be in Maine faster than you say, "Take me to Maine." Or, you can be in Michigan. And actually we move --- this is a side note. We do move electricity across those distances. When it's really cold up North but it's moderate down South, the South helps that part of the country by selling them economic electricity when we can. And the reverse is true in the summertime when it's mild up North and really hot down here, they send electricity down here. So, there is a lot of that going on.

This is a representation of the Grid. Every one of these little bubbles, and I don't think there is like a laser on here or anything. But, every one of those little bubbles represent what is called the Balancing Authority, and that is a topic we'll elaborate on. But right down there where you see the SERC arrow, there is a blue region.

That stands for Southeastern Electric Reliability Council, which is a council that we are members of. And as you can see, each one of those little bubbles, which is a company, SCE&G or a Balancing Authority that SCE&G is one of, has

been connected by a line to some neighboring Balancing Authorities. And even though we are connected --- and it's

hard for you guys to see it, maybe you can see it better on your handout. Even though we are connected with our neighbors by just one line on this map, that's not the case. We are connected by many lines. Some of the folks, again, and I will keep going back to them because I think they have some benefit. Some of the folks that have been to the Control Room have seen on our board where we are connected with Santee Cooper, and about thirteen places - Duke Power, to progress centers three, and so forth, and so on. So, this is just a representation of that. All these acronyms that you see, I told you all that we are part of the Southeastern Electric Reliability Council. FRCC is Florida Coordinating Council --- Florida Reliability Coordinating Council. ERCOT, which is Texas, is Electric Reliability Council of Texas. All those together make up a large organization called NERC. And that is written up at the top left there; and that stands for North American Electric Reliability Council. But if you watched any of the Hearings after the Northeast blackout, you would have seen Mike Gent (phonetic) in front of --- I guess, it was Congress explaining to them why we had a blackout. And he was the Chairman of the NERC at the time; there is another Chairman now. But all these Councils work together then to balance --- well, they don't balance the Grid, but they set some of the standards that we

are governed by. And we will get into that.

Are

there any questions yet, before I move on?

(No response)

MR. XANTHAKOS: Okay. So, this is almost a blowup of what we just saw. And SCE&G is the power company that serves about 1/3 of the customers in South Carolina. Actually it's the lower third of South Carolina, is more accurate. And we are connected to these five other balancing authorities that you see up there: Duke Power, CP&L is Carolina Power and Light, also called Progress Energy. Actually that's more of a correct name, but I tend to call them CP&L because I am used to that. SC stands for Santee Cooper. SOCO is Southern company; they are an enormous power company out of Birmingham which serves Georgia, Alabama and Mississippi. And SEPA is a unique company that doesn't have any customers, actually, of their own. They only generate electricity and they send it to other companies through a Department of Energy group. And again, remember that even though I am showing just one line is connecting to these companies, that's not the case. There are many, many lines connecting them. Okay, how does the Grid work? And this is what is kind of interesting, too. SCE&G does not control how much electricity it sells. We cannot determine --- I'm sorry, we do not determine what our customers' demand is; the customer determines that. And the way they do that is they walk into a room and just like whoever came in here this morning, they flipped the lights on, or they cut the air condition on, or the heat, depending

on the time of year. So, when they do that then our group gets it, that's all added together and that creates something called loads or demands, customer demands. And that is not something we can control. Response is something that changes constantly; and somewhere out there right now a person in the facility, a large facility, is shutting down a big machine. And then at the same time there is somebody else somewhere else cutting on a big machine. So, customer's demand is determined only by the customer and it changes always. And again, I will go back to the folks that have visited the Control Room, we have a chart there, and they saw that. They saw that customer demand moving. And you know, it would be great if the people that actually have visited the Control Room, when I say that, they nod and go, "Yeah, we saw that," make me feel a little better. But, our job in the Control Room is then to use our power plants to meet that demand.

We generate electricity to balance what demand the customer demands. And we do that through three different ways. Well, there's a couple --- there's many different ways. But the three basic ones are: coal fire fossil plant, which burns fuel like coal, natural gas, oil, and make steam. Or, they actually just turn it themselves and they create electricity. There is nuclear plants. We have one large nuclear plant which burns --- doesn't burn, but actually heats the water through the use of a radio active,

you know, material; I'm not sure what it is actually. And then the last one is hydro, which is the movement of water through gravity, through a turbine to generate electricity. And that's one that's the most interest to you guys, and that's because Saluda being a hydro plant. And there's two kinds of hydro plants. There is run of river plants, which is simple dams put across the river that water flows through. There is no reservoir behind it. And they generate pretty small amounts of electricity when you compare it to the whole Grid, in the order of maybe six to fifteen megawatts. We have other facilities like Saluda Hydro, which has a reservoir which holds water back until you need it to generate electricity. And Saluda generates about 200 megawatts. So, you can see there is a substantial difference in the amount of output that you can get. There is a third kind of facility, which we will probably get into as we start discussing these things. It's a pump storage facility. It's the kind that is similar to Saluda, except at Saluda when the water is released to the turbine it flows down the river and we never have the ability to recover that water. There are others where it goes from say one pond, which in our example might be Saluda or Lake Murray, to another pond, another holding reservoir to generate electricity. But then later in the day when there is not high demand, say at midnight when everybody has gone to sleep, those generators turn into pumps and they take that

water from that lower reservoir and put it back in the upper one, and then you repeat the cycle again the next day. And we have a facility like that called Fairfield Pump Storage. Okay.

Any questions so far?

(No response)

MR. XANTHAKOS: Okay. Balancing the Grid. Once the customer is in place, once the generators are in place, our job is to make sure that those generators act any instance in real time are generating the same amount of electricity as what is demanded by the customer. If the customers' demand says, you know, two million watts of electricity, and we generate three million watts of electricity, we are basically going to burn down some stuff. You know, because there is way too much electricity on the Grid. If they are demanding two million and we only generate a million, then some of the lights are going to go out. There is just not electricity there to keep the lights on. So, our full time job is to make sure that there is always enough to meet that customer demand. And this happens in real time. I mean it happens just right now, and it's going to happen five minutes from now, and happened five minutes ago. And the way I know that, even though I am not in the Control Room, is I can look up and I can see that our lights are still on and they are bright; but they are not too bright where they will burn the filament in them. And they

are not dim, either. So, I know that the folks that work for me are actually doing a pretty decent job right now. I also know that because if they weren't, they would be calling me, or somebody else would.

Let's see, this is an interesting concept. And demand, I told you, changes all the time. The demand from an hour ago is different than the demand we have right now. But what is interesting is that you note a pattern depending on the time of year. You have winter pattern. And if you can imagine, what happens is you start off at about 2:00 or 3:00 in the morning, everybody is asleep in their beds, they are not using a whole lot of electricity. So then they wake up maybe around --- the early risers get up about 5:00, some other people start to get up at 6:00 to 7:00; and they get out of the covers of the bed and go, "Man, this house is kinda' chilly today." So, they go and they cut their heat on. And that increases electricity a little bit. And then they go like, "I'd sure like a nice hot cup of coffee," so they go in the kitchen and they cut their coffee maker on, they cut their toaster on, and maybe they cut some lights on because it's still kind of dark in the mornings in the winter time. And so, the load pattern that we see in the winter time is a very sharp increase of electric demands in the mornings. As people start to go to work, they cut off

their --- they might cut off their heat, they might cut off their stove, they have finished drying their hair. And that

sharp demand that we saw in the morning tapers off and it is reduces throughout the day. Especially since the sun kind of comes out and it heats things up so people don't have to cut their heaters on.

Summer days are different. Summer days, it's already bright outside when you wake up at 6:00 in the morning. And summer days are longer than winter days, so you may not cut on as many lights. It's not cold in your house, and in fact it's probably pretty comfortable because the sun hasn't come out to heat it up yet. So you are not turning your air conditioning on at 7:00 in the morning. And although you might do some of the other things you do during the winter time, the big ones are things like air conditioning and that sort of thing. So, our customer demand on a summer day is one that slowly increases during the day, and peaks in the afternoon where air conditioning usage is the highest. Because by about 4:00 o'clock on a 95 degree day, almost all air conditioners are on and running.

So, we adjust the way we operate because of that. We adjust sometimes even the type of plants we use because of that. Okay.

So, regardless of the time of the year, regardless of the pattern that you see, every one of these balancing authorities has to balance its generation to its demand. And, this is just a simple, it's actually a pretty fictitious load. We don't normally see 4,000 except in some

of our peaks. The folks that visited us this week saw those in the 2,000 range. And another reason it's fictitious is because that demand right there that says 4,000 is not changing right now. In real life that number would have already changed by the time I finished my last sentence. And we are also showing that we are generating exactly 4,000, which isn't always the case. Very hard to match demand exactly to generation. Normally there is a small area which is "ACE", and we will talk about that, of up to plus or minus

40. We start to violate some industry rules when we get plus or minus 60 off. So, that's kind of a theoretical situation, but it's a good one here for the example I am going to use.

If that were real, right now everything would be working great; every customer in South Carolina, or every one of our customers would be satisfied with the electricity they are getting. Their lights wouldn't be too bright, nor would they be too dim, because they are perfectly balanced. But, you know, inevitably what happens is one of our machines breaks down. In this case it's the 1,000 megawatts machine which throws us out of balance. And the customer demand doesn't change. Remember they control demand, I can't do that. All I can control, when the machines allow me, is generation. And in this case, they are not allowing me to.

If I had it my way, we would have --- the demand of 4,000,

I'd be generating 4,000. But the machine, for whatever reasons, decided it had to come off; so that I am only generating 3,000, and that creates an imbalance. And because I am connected to all of my neighboring utilities, what happens is I start to kind of lean on them. I'm essentially taking electricity away from them. Now, that may or may not be a problem. Remember I said that it's impossible to have perfect balance. So, in a situation like this what I would hope is that some of these guys are over-generating a little bit. And I am actually hoping --- you can see these arrows go past my neighboring utilities, I am really hoping that their neighbors, some of their neighbors, are over-generating a little bit so that when my unit trips and I am out of balance, I can lean on that over-generation and pull that electricity into me temporarily until I take some kind of a corrective action. If I didn't have that ability, then basically 1,000 megawatts of customer lights would go out since there is no electricity to serve them. And that's the reason the Grid works so well is because of this; first of all, because everybody is connected; but second of all, is because it's impossible to balance so well. At any one given time, hopefully, half of the power companies are over-generating a little bit; half are under-generating a little bit. So, if there is a problem, you can lean on one or the other for a little while to create balances, almost simulate balances. So you are able to put your system back the way it

is.

Are there any questions about that so far?

(No response)

MR. XANTHAKOS: Okay. Again, these are fictional numbers. But, it might be that what happens is under the situation where we have this imbalance, we start taking in 350 megawatts from Southern Company, we are taking 50 from SEPA, 250 from Duke, and so forth and so on until I am basically --- if you add all these numbers up, I am taking in about 1,000 megawatts. And even though I am only generating 3,000, the customers' lights are still on. Because, I am doing 3,000 of it, my friends here are helping me with the remaining 1,000. Okay? And what you see here is that it could be that my neighbors don't actually have that electricity to spare. SEPA here, which I'm taking 50 from, they are taking it from their neighbor. And they might be taking it from TVA. And if I could draw another circle out here, it might be that TVA doesn't have it either, they are taking it from AT, which is another company past them. The same for Progress; they are able to give me 50 of it and they are having to borrow 150 from somebody that they are connected to. And that's the way that the inter-connection works. And it's impossible really, unless you have some pretty powerful computing tools, to see what exactly these

flows will be if generation trips. We know that there will be 1,000, but we don't know exactly what Balancing Authority

it is going to come from. Yes?

MR. PETER PROVOST: Hello, my name is Peter Provost. Are our partners allowed to disconnect us if they can't supply us some of that need?

MR. XANTHAKOS: Theoretically, they are. Participation in members --- and NERCs, that I showed you earlier, to start is voluntary. And I could talk about that a little bit without getting us too far off the subject. It's voluntary today. But after the black out, the President signed an Energy Bill which gave power to the Federal Government to make NERC rules into law. So it could be that even though it's voluntary --- participation in those groups today is voluntary, it may not continue to be voluntary. It's hard to say. But, they don't disconnect for the simple reason --- is that one day CP&L is going to lose 1,000 megawatts. And if they disconnect on me, then --- you know, I'm a pretty nice guy most of the time, but I might be inclined to disconnect from them if they are having problems. And this is a side note, and this is just a funny story. I feel a little tension in the room, so I will lighten it up a little bit. It used to be that --- and this is --- a Systems Controller had about thirty-five years on the job, he still works for us today; told me that when he was training, said, "We got a call from Santee Cooper," and Santee Cooper said, "We lost a power plant and you are going to see some flows on your power line right here, you know.

Can you support us?" And remember, the system thirty-five years ago was not as robust as it is today. And the dispatcher at the time said, "Yeah, we got you, don't worry about it." So, they hung up the phone. And as soon as he hung up the phone, he turned around and he opened those wires up, and he said, "I'm not going to go down with them."

So that used to happen. But it was thirty-five years ago. It does not happen today. I do not know of one instance where it has happened in the last --- you know, I don't of an instance when it has happened. And actually, you know, I need to stay on track and not get off. But maybe that should have happened during the Northeast black out. If the company that was responsible had taken action of separating itself from the Grid, or if maybe the neighboring utilities had altogether said, you know, "This guy is dragging us all down," and separated out that one company, then the Northeast black out may not have happened.

MR. PROVOST: Thank you.

MR. XANTHAKOS: Sure. Any other questions?

(No response)

MR. XANTHAKOS: Okay. So, that's how you kind of create the temporary --- and I hesitate to call it balanced, but it is a temporary balance while you are leaning on your neighboring utility. So, what are the things that might

cause an imbalance like that? And here is another funny story, too. Is, I had originally --- See this little

miniature (4) right there? There are four things that I thought of, and you know, I'm not showing them to you here, but I had asked other groups, you know, "What do you think those four are?" I hadn't realized that Alison has passed these out to everybody and you already had the answer. The first time I did that, I think, "Man, these guys are really catching on." Power plant break down. You know, after all I have said that they are just machines; we have fuel problems. There is a coal plant right next to Saluda, or the Saluda Hydroelectric Station, called McMeekin. Those of you that have taken a tour have seen it if you have driven over the Dam, you have seen the big coal pile. Right? That coal does not burn well when it's wet, after it has rained, part of our coal plants have problems maintaining a constant generation amount because it's hard to burn wet coal. Power lines don't always allow power to flow. You know, if you look down at those large right of ways, and you see these big lines, you think that it is impossible for a tree to hit them; you know, if a tree falls down, it looks like it will go underneath. That's probably the case 99% of the time, but occasionally there is this really big tree out there. More likely is this guy that had a couple of beers and decided he is going to drive home, and he runs into one of these towers and he pulls it down, plus the two next to it. Tornadoes go through and they rip them up pretty good. So, ice is the great one. Ice can really tear them up. So, that happens.

And then purchase power, haven't really talked much about that. But, I mentioned earlier that in the summer time we might be buying power from up North. Actually, that was the case, now in the summer time we sell power up North. But there is this large flow of electricity from one part of the Grid to the other Grid, depending on seasonal differences. And, there are power lines between the North and South, and the East and West, that has to move that electricity. Well, if there is too much electricity to be flowing, those power lines don't have the infinite capacity, they can't carry --- they might be able to carry a million watts of electricity, or two million watts. But, they can't carry eight million or ten million. Eventually the company that owns those has to say, "You know what? I've reached your limit on how much electricity I can move for you, I can't continue to do this." And they cut that movement of electricity. When they do that, the company that was purchasing electricity now has to find it somewhere else. So, they may have to crank up a unit they had not planned on. The reverse, of course, is true if the company that was selling that electricity might have to shut down the units that they had planned on running. Okay?

MR. XANTHAKOS: Any questions about those?

(No response)

MR. XANTHAKOS: All right. So, when there is imbalance, what does SCE&G have to do to return that

balance?

And there is only two examples here that I can come up with. One is, we increase generation. You know, if we have a plant on line and available, we increase its generation to create a balance. Or, we will talk about partnerships. We ask one of our neighboring utilities to increase generation for us.

And the other one is, we reduce demand. Now, I kind of lied to you a little bit earlier, I told you we can't control demand. And that is mostly true, we don't like to. But in a situation where --- remember the company in the Northeast that caused the black out? In a situation where we cannot do Option A, or we cannot create balance by increasing demand, or by increasing generation, then we have no other option than to reduce demand. And we are not able to reduce it in small blocks. Under the transmission system is big wires which are connected to big cities, like the City of Irmo, or Batesburg-Leesville, parts of Aiken, Summerville, and I could go on and on. And I can't just shut down a street in Summerville; but I can shut down all of Summerville. And we do have an emergency action plan that has cities lined up, one after the other. And if I have to reduce demand, I will start at the top, I will shut that one down; and if don't have demand created yet, I will hit the next one. And I will keep going down until I have to stop.

And that plan is shared with my neighbors; they know I will do it; and their plan is shared with me and I'm confident

that they will do it, too. So, that's the situation that I really don't want to get into. So, I would much rather always do choice one and increase demand.

Now, if a company decides not to do either one of those, inevitably what you are going to have is a black out. There is really no other way for it to happen.

MR. XANTHAKOS: Any questions?

(No response)

MR. XANTHAKOS: Okay. Now, so that we don't have a black out, and so that we are sure that companies like SCE&G thirty-five years ago don't cut off the switch to their neighboring utility that may need power, what happened is these industry participants form something called the North American Electric Reliability Council. They formed it, I think, in the '70s. And these are the guys that make some of the rules. And if you will look over here, I didn't start this slide off well, but we are going to get down here from a National to a Regional, to a smaller Regional. And this is what they do. So, the North American Electric Reliability Council creates the standards; they create the rules that we operate by. And my office currently operates under about 800 NERC rules. Some of them are pretty simple, you know, get training once a month. Some of them are not quite as simple.

Once this rule is created, we have smaller council called the Southeastern Electric Reliability Council. Remember on

that first map of the U.S., the blue regions, SERC? That's what that stands for. And it's their job to monitor my compliance with these 800 rules. And we undergo audits and turn in reports quarterly and monthly, and all that sort of thing. And if they feel like my reports aren't completely forthcoming, they visit companies to make sure that they are doing what they are supposed to do.

And then finally, there is VACAR. And VACAR stands for Virginia/Carolinas. It's kind of a partnership almost; an agreement at least, between all the companies in South Carolina, North Carolina, and Virginia. Most of them, at least. And what we do is we get together and we meet about eight times a year; and we talk about how are we going to operate under these rules so that we don't violate any of these compliances, so that we are never not compliant. And so, it's a pretty good working relationship at this level. It's a good relationship at this level, and it's also a good relationship at this level, all the way, which is nationally. And so, I think it works pretty well. Okay.

So, now that we have talked about the Grid, we've talked about balancing, we've talked about the rules and who makes the rules, and how we are monitored, we get into actual operations, which is --- oh, no, we don't. We actually get more deeper into rules. Excuse me, I'm jumping forward a little bit.

There is one rule that NERC made, which is the

main impetus for why we run Saluda the way we do. It's called BAL-002. And I have asked this question for every time I have given this presentation; nobody has gotten it wrong yet. Well, what do you guys think BAL stands for?

UNIDENTIFIED: Balance.

MR. XANTHAKOS: Balance, right. I mean, that's what I have been talking about the whole time. So, BAL-002, and what it says is at the minimum a balancing authority --- and remember that's what we are, or a Reserve Sharing Group. Now, keep Reserve Sharing Group, you know, in your back pocket for a minute, we will get back to that. And that is very important. But it says, "As a minimum, the Balancing Authority or Reserve Sharing Group shall carry at least enough Contingency Reserve to cover the most severe single contingency." What that means is, that a Balancing Authority, which as generation to meet its customer demand, must carry enough generation in reserve in case its largest unit trips off line. Is that self-explanatory? Okay. So, if we have --- it's almost like having a spare car; like if they made a rule that said, "If your car fails, if your main source of transportation fails, you've got to have a backup vehicle to get into and take you where you need to go."

So, what is SCE&G's single most severe contingency? What is the unit that we are most worried about under this rule? And that unit is V.C. Summer, which

is our nuclear station. So, it's about 1,000 megawatts; it operates out of Jenkinsville, South Carolina; and this plant generates enough power in one hour to power over 1,000 homes for one month. So, it's a pretty large unit. And remember what I said earlier, what our loads were? During these recent tours, they were in the 2,000 megawatt range. Well, these guys are generating about half of that electricity, a little bit over half of that. And I will tell you, we don't want to have to carry 1,000 megawatts of generation off-line and available for us to recover the loss of this unit. That is a lot of power, and enormous expense that very few companies want to do. So, what we have done is, we have gone back and we have talked to our neighboring utilities. Remember VACAR, the folks that I said we have a good partnership with, and we have fallen back on. And you know, I don't know how to go backwards on this thing. But do you -- you don't have to, that's okay. Do you remember the standard? If you can flip back, it said, "A balancing authority or a reserve sharing group"? Well, what we have done is we have gone to a partnership, and we formed a reserve sharing group, we call it VACAR reserve sharing group. And we have agreed that together we will carry enough reserve to meet --- to carry 1,500 megawatts of electricity. Now, here's the thing. Why would we agree to do that? Why would these companies agree to form a reserve sharing group with us? Well, the answer is really simple.

They have all got nuclear plants, too. They have all got 1,000 megawatt units, but they don't want to carry a reserve for it, either. So, what we have also done to be able to convince the SERC and the NERC that this works is, we have agreed that we are not just going to carry 1,000 megawatts of reserve; we are going to carry more than that, we are going to carry 1,500 megawatts of reserve which is one and a half times our largest single contingency. Which makes it, you know, it certainly increases the reliability. And so, of that 1,500, SCE&G's portion of that, because we are one of the smallest of these five companies. Actually, we are the smallest of these five companies. Our portion is 200 megawatts. So, instead of having to carry 1,000 on our own as a balancing authority, we carry 200 as members of this reserve sharing group. Okay?

MR. XANTHAKOS: Are there any questions about that?

(No response)

MR. XANTHAKOS: Let's see what the next slide is, and I can elaborate a little bit more. Okay. Let's set aside this slide for a minute. Some of the reserve amounts that the other members carry are Progress Energy and Dominion Virginia Powers carry about 350 apiece; Duke Power carries about 550; and Santee Cooper carries a little bit over 200.

So, if you add that up, it comes out --- I think it comes around 1,600 or so -- 1,670 --- which is close to 1,500.

And what we have agreed to do is, if I call on reserve say from Duke Power, they deliver that electricity to me instantaneously, which means that if my ACE becomes negative 500, and I call on reserve from them, they give it to me, in theory, instantaneously. So that my ACE now becomes zero, and their ACE becomes negative 500. And then they have to recover from that. And that's how it works. So they almost --- it's almost as if they take the burden off of my system. Okay?

The rules that we operate by is that this has to happen, you have to recover that, 100% of that loss, within fifteen minutes. Now, I told you that they give me electricity instantaneously; but by the time you try to figure out how much electricity you have lost, how much you can --- you have to supply your own reserve first. By the time you get your own reserves on the system, it takes a little bit of time. So, we give each other fifteen minutes. And there are only a few units on the SCE&G system that can generate up to 200 megawatts in fifteen minutes; and those are mostly hydro units. The Saluda, the Fairfield Pump Storage, and there are simple-cycle turbines, which account for about 100 megawatts. There's Parr, and there's ERCOT. IF y'all can't remember those names, you might want to jot them down.

When this Reserve Sharing Group has been exercised, when we use someone else's reserve, or when they

use our reserve, we report a Compliance Report to the rest of VACAR. So even though I might only call on reserve from Duke, I share a report with Progress Energy, Santee Cooper and Dominion Virginia Power. And why do you guys think that might be? It's really simple. And it's because I want to provide them assurance that I am doing my part to meet this agreement, which is great for them; but more importantly, when they supply reserve for someone else, I want to see that they are doing their part. Because if Dominion Virginia, for example, has a hard time sending 350 megawatts, which is their portion, to say Progress Energy, if they have a hard time doing that in fifteen minutes, actually if they do it in anything less than instantaneous, I start to get a little bit concerned because it could be that next month I am calling on them for help. And if they can't give it to me, then my second option of course is to reduce demand, which is not what I want to do. So, remaining in this --- providing comfort to our VACAR partners, providing them assurance that we can do --- that we are doing what we say we are going to do is the way for us to remain in this reserve sharing group, and hence is a way for us to keep from building 1,000 megawatts of generation, which just sits there and doesn't generate any electricity. So it's very important for us to be able to maintain capability. Once the Compliance Report has been sent to the rest of VACAR, we report quarterly compliance to

SERP. And then SERP compiles all that information from every company in the Southeast, and sends it on to NERC. Okay.

MR. XANTHAKOS: Any questions?

(No response)

MR. XANTHAKOS: I think we are going to get into some examples here. And this is actually a pretty practical example. The Williams Station is a large coal plant down in the Low Country, in the Charleston area. It's actually in Goose Creek. And they generate 600 megawatts of electricity. So, let's assume we're running in perfect balance right now, which we're not, we're a little bit off but it's okay. And we lose Williams Station. So, our ACE becomes quickly negative 600. And what happens is a big red bar appears on our screen that says, "There's a problem with your ACE." Alarms go off because it's past our alarm limit.

And so this nice little bell starts to ring in the Control Room. It used to be really aggravating bell. I changed that. And so we know there is a problem. And so now all of a sudden we have fifteen minutes to get 600 megawatts back on our systems. Or, we violate BAL-002. Depending on the operating conditions, and these are kind of --- you know, this is typical. We load up 150 megawatts in available units at Fairfield. Fairfield is a Pump Storage facility; it

generates about 560 megawatts. And a lot of times it's fully loaded. A lot of times we can't do this. But there is many

other times when we can; you know, it's not always generating at 100%. So, in this case we did have a little room, we put on 150, which reduced this to 450. We loaded up Saluda, which is 200 megawatts; that took off 450 ACE, down to 250 ACE. And then we called on 250 megawatts of reserve from Duke. See, Duke delivered to me instantaneously. So, my ACE is now back to zero; Duke's ACE is negative 250, and they have a couple of minutes to recover that. We might operate like that depending on the time, depending on the time within an hour until the top of the next hour, which is our first opportunity to go out and buy electricity from the market. Remember those companies up North or out West that may not

--- they might have some pretty mild weather, we go out there and we search and see does anybody have 600 to sell us? So, if we find somebody that has 600, we'll buy it. When that energy starts flowing to us, we will cancel this emergency schedule, we will shut down Saluda, and we will shut down Fairfield. And it's basically back to normal. But instead of us generating it ourselves at Williams, we are now buying 600 from the market. And that's kind of how that works. In this whole process here with the bullet, from the time the Williams Station is tripped to bullet 4, must happen in less than fifteen minutes or we report less than

100% compliance. This happens at the top of the next hour.

And we will continue to buy that electricity until we can

bring on another unit, which will probably be another steam unit because that would replace Williams. Or, we might buy a long term contract from whoever the seller is if it's at a decent price. Okay?

MR. XANTHAKOS: Any questions?

UNIDENTIFIED: Why would you not continue ---

MR. XANTHAKOS: One second. She is going to bring the ---

UNIDENTIFIED: Why would you not continue to run the Fairfield and the Saluda unit in a case like that, rather than going to the spot market?

MR. XANTHAKOS: Well, the reason is --- there's two parts to that. The reason we would get off of Fairfield is because Fairfield eventually runs out of water. It's not like Saluda, or Saluda would eventually run out of water as well. But at Fairfield, we bring it down to its minimum level every day; and then we fill it back up to its maximum level. And you can only generate for probably about six or seven hours of the day doing that. So, if I increase my generation over what I had forecasted it to be, over we had planned for, that means I will run out of water sooner than I expect. Does that make any sense? The reason I would get off of Saluda is because there is another standard, BAL-002 --- there is another one after that, I don't remember the

name. But it's a BAL standard, I'm sure. Which says that I have to recover my reserve within ninety minutes. So if I am

carrying reserves on Saluda and I use them to serve a contingency, I still --- I have ninety minutes to get reserves back from somewhere. So I am forced to use another resource with ninety minutes, and then back Saluda down to zero in case I lose my next power plant. Losing two power plants in the same day is not common, but it's not unheard of either. So that's why I would get off both of those units. Okay?

MR. XANTHAKOS: Any other questions?

(No response)

MR. XANTHAKOS: All right. I believe there is another example coming up. Okay, Example 2. This is a reverse example. This is what CPLE calls SCE&G for 150 megawatts of contingency reserves. In this case, we are delivering it in one minute on a zero ramp. But this is basically the equivalent of instantaneous. So, even though we are not generating the electricity yet, we program it in the system and our ACE automatically becomes negative 150. We basically eliminated --- we basically alleviated 150 megawatts worth of demand on their system and we put it on our system. So we are negative 150. So now, SCE&G has how many minutes to recover from that?

AUDIENCE: Fifteen.

MR. XANTHAKOS: Fifteen. Actually less than fifteen because, remember it probably them a couple of minutes to call us by the time they figured out what in the

world was going on. Maybe twelve, which is still plenty of time. SCE&G loads up the last unit at Fairfield Pump Storage; those units are about 75 megawatts. So that takes care of half of our problem. And then we load up one unit at Saluda, in this case it would be Unit #5, which is 75 megawatts, as well. And we alleviate --- is that the right word? Sorry guys. I'm an engineer and I can't even spell the word. We reduce demand by 150 megawatts. Okay? In this case again, what would happen is CPL would eventually have to get off of this; they would have to give us this back. You know, what they do to do that, I can't possibly --- I am not going to speculate. They could go out and buy it. 150 megawatts is not a big deal. And if they are calling on 150 from us, they probably already called on 550 from Duke, and probably 300 or so from Dominion Virginia Power. And we're just finishing up the problem for them. But once they get that back on, they would call us back. We would shut this unit down, we would shut that unit down. We'd be back to normal.

Okay? Yes, sir. One second.

UNIDENTIFIED: The bottom line is, in ninety minutes you have got to get your 200 megawatt reserve back, ready basically? Is that correct?

MR. XANTHAKOS: That's correct. Yes. And there are --- well, I hesitate to even bring it up because this might happen one day out of every three years. Oh, yeah,

well --- Let me repeat the question. The question was, bottom line SCE&G has to get off of their reserve within ninety minutes. Is that good enough? And the answer to that is yes, because of the rules that are in place. And I said I hesitate to bring this up because it might happen on occasion. But there are occasions where, you know, at 105 degrees or 115 --- whatever the heat index might be, and Saluda is the absolute unit we have on line, and we have to use it. And we then go out to the market to buy power, and they simply say, "We can't sell it. We don't have any power to sell to you. We are using everything for ourselves." And on a day like that, the system is running on its ragged edge, and I would be sweating bullets. But I don't think it would be more than --- you know, if that were to happen, it would be at the peak hour, which would be like 4:00 o'clock on a hot afternoon. By 6:00 o'clock the loads are falling; it would 120 minutes; we'd get off of it as soon as we could. So, I would say 99.9% of the time ninety minutes or less. Point, one percent of the time, two and a half hours.

UNIDENTIFIED: Everybody kind of does that?

MR. XANTHAKOS: We do that. No, you know, not everybody uses a plant like Saluda to cover reserve. I don't know what they would do. But they do recover their reserves within ninety minutes somehow. It could be that they use their --- they bring on another unit, or something else. But you have always got --- it's kind of like insurance, that

you really can't be without. Okay? Oh, you know what? I messed up. Is that enough? No. I had --- you know, I'm not flipping through here, and I haven't given this presentation in a while. But SCE&G loads up one unit at Fairfield for 75 megawatts; loads up one at Saluda. And this example, I didn't write it, but it was one of the smaller units. It was one of the 35 megawatt units. And then I would say, "Is that enough?" No, they have to bring out one more 35 megawatt unit. But they could have just as easily brought up #5, which is 75 megawatts that --- Okay. All this stuff that we have gone through is not just a spread sheet. This isn't fictional, it's real. And this is really how it happens. I mean, for the folks that came to the tour, you know, we had a great tour; we talked. You know, we looked at all kinds of stuff, and there was pretty low pressure in the Control Room. That could have changed at any time very quickly and with absolutely zero notice. The ACE that we saw, which was hovering between negative 60 and positive 60, could have quickly become negative 600. Again, because of the Compliance Rules, we report our compliance to each other after the fact. Okay.

Why is Saluda such an important role in our recovery of reserve? Well, remember the fifteen minutes? Getting 200 megawatts on the system in fifteen minutes is not easy. If you take an average, that comes out to about 13 1/2 megawatts per minute. And to give you some idea of how

other plants work, V.C. Summer Nuclear --- let's assume we had it back down by 200 megawatts. Which means if we needed reserves we could call them and say, "Give me 200 megawatts as fast as you can." They can move that plant at about 1 megawatt a minute, which would mean for me to get 200 out of them it would be 200 minutes. Which translates to what? About 3 hours? A little over 3 hours. Saluda can do that in about five minutes. SCE&G could also use its coal, it's steam fire units to do that. They give us about 5 megawatts a minute. You're still too slow, you could have more than one unit. Lets say five coal units back down. The trouble there is, what if it is one of those five that trips? You know, if you are counting on reserves on Williams Station, say you back down Williams by 200 megawatts, so you think you can get them up. But then it's actually Williams that trips. Now, where are your reserves? They just went away with that unit. So you can't really use coal. And the last alternative, you can use quick start turbines. I said, we've got about 75 --- between 75 and 100, depending on the time of the year, and the fuel. But those quick starts only have about a 50% success rate. And I have to be careful when I say this, because especially if there are fossil-hydro people in the room. They come on every time we call them. They don't always come on within the fifteen minute requirement. And remember, we said that it might take CPL a couple of minutes to call us; might take us a couple of

minutes to our folks. So really, they have got less than fifteen minutes. I mean, they are lucky to have ten. And for them to crank up from a cold start, just fully loaded, it's pretty tough for them to do. It's not the same as having gravity pull down water that is sitting there waiting.

MR. XANTHAKOS: Any questions?

(No response)

(Side B of Tape)

MR. XANTHAKOS: The review is, generation trips can happen any time, there is always exposure. Summer afternoons and winter mornings are more likely times for sudden emergencies. Why would that be? Why do you guys think that is? There's heat, there's cold, and plus you've got more units on line. I mean, if I have only got four units on line and I've only got a 25% chance of losing one. If I have got ten units on line, hey that's six more units that could trip at any time. So there is more units on line. And the conditions are much more difficult. One of my co-workers is sitting in the back, he is trying to lay low because he didn't want y'all to know he's there. But, he will tell you that our most difficult mornings are winter mornings when it's about somewhere between 18 and 22 degrees outside. I did not know before I came to work for this company that fuel can actually freeze. I had no idea that that was possible, but apparently it can. And if you haven't prepared for it, or for some reason you thought you had a heater

working and it cut out during the night, then there is no way you are going to bring that unit on. And that's the equivalent of a trip. There are many factors that cause interruptions of generation. We talked about those. There are a few warnings. Sometimes a power plant operator can call us up and say, "There's something going on here. We think we are losing this plant. We are going to try to hold it on as long as we can." In cases like that we don't always have to use reserve. We can go out, we can buy that 150 or that 600 megawatts ahead of time. And we can casually bring that unit off line. Those are really nice situations when they happen. But when they don't happen, it's Saluda that is the most reliable option for the lights to stay on; Fairfield, as well. But remember Fairfield runs out, and there is also a lot of other constraints at Fairfield. If there is flooding in the Broad River, we can contribute to that floodings which makes Fairfield unavailable. And there's all other kinds of rules like that.

MR. XANTHAKOS: Any questions?

(No response)

MR. XANTHAKOS: Okay, that's it. That's the presentation.

MR. STUART: Very good. Thank you. Are there any questions?

MR. KEN LOWDEN: This is very interesting, but very seldom in here did you talk about the customer. And

certainly we don't see much of this ever going on as residential unit users. But to industrial people who are the extruders, who require consistent energy, does this ever impact them? Or, do you have any feed back mechanism there? Are there costs associated with one electrical source being more fuel --- or, more efficient to purchase than another? How does the cost come back? And what if there are thirty kids down here in the River and, you know, it's calm and --- is this ever a threat that they could be in danger because of the need to produce for our State needs or out of State needs? So, where is the customer in all of this, I guess is what I am --- where I am at?

MR. XANTHAKOS: Okay. There were three questions. I am trying to remember them all. You might have to help remind me along the way. I remember the first one and the last one. I can't remember the middle one.

MR. LOWDEN: Start with the kids on the River then.

MR. XANTHAKOS: Okay. Well, that's true. I mean, there is a lot of folks on the River; it's not just kids or fishermen; there's boaters. And my understanding is --- and I don't --- you know, I control the electric system. But, at the most dangerous areas where there is rocks and rapids, and people can get stranded, there is alarms, there's bells, there's whistles, and that sort of thing. Also, you know, there has to be an element of personal responsibility. I

would hate to think that there is twenty second graders out there without some kind of adult who knows how to read the River. Keep in mind that even when we generate Saluda, if we go from zero to 100, there is not this perfect water moving down. The elevation does rise, but it rises at a controlled pace. So, if you are watching the shore line, if you have done what you are supposed to do, which is find a rock to look at occasionally; if that rock starts to get buried under water, get off of the River. You know, there's a lot of ways to mitigate that. As far as the industrial customers are concerned, their needs are a lot different than the residential customer. The tiniest blips in Charleston, if Williams Plant trips in Charleston then our Michelin customer out here would have seen that blip and they would have called us probably before we could have called on reserve. Their machinery would have probably tripped off line and would have messed up some of their processes. So, some of our larger customers have direct telephone lines into our Control Room. Then the middle question was?

MR. LOWDEN: The cost?

MR. XANTHAKOS: Cost. Every single megawatt of electricity we generate costs a different amount of money. There is no exception to that. And when we plan the system

ahead of time, these folks --- there's another group called Electric Resource Commitment. They plan the system to run

with the most economic megawatts on the system. So if we forecast that we are going to need 4,000 megawatts, they look at our fleet of generation, which is 5,800 megawatts, and they say, "Here is your 4,000 best, most economic megawatts to use." Now, what happens is --- so, we're talking about operations here. Forecasting is great, but you cannot forecast a trip. Right? Because if you did, then it wouldn't be an emergency, you would have planned for it. So, you can't forecast a trip, which is an emergency. And what happens in that case is, economics go out the window. My primary goal is to keep the lights on; so, for that period I throw economics out; I bring on the quickest unit I can rather than the most economic unit. And once I have balanced the Grid, I push it back to the ERC folks and say, "Okay, here I am with these units, here I am buying power from Duke that I didn't intend to buy. Give me a new plan. What is the most economic way for me to run now, with the loss of that previous unit?" And then within the next hour or so, we readjust everything. All of that is transparent to the customer. Okay?

MR. PATRICK MOORE: I just have a quick question. Every so often somebody does drown on the Lower Saluda, and every Fall during the low oxygen period it becomes I won't say impossible, but very difficult to meet the water quality standards for dissolved oxygen. What options are available to you guys if hypothetically through relicensing it shows

that it is either unsafe, particularly from, you know, to instantly go full force to eighteen thousand cfs. safely, or to generate and, you know, if you can't generate and meet water quality standards, what sort of other reserve capacity --- You know, how would you all handle that?

MR. XANTHAKOS: Let's say a ramp was put in, for example, what would happen --- and this is just my opinion, I certainly can't guarantee this. But I think that Saluda -- - if there was a ramp put in place, I believe the use of Saluda would actually increase under good water quality times of the year. And the reason is, we've got to carry reserves somewhere. If we can't carry them on Saluda, we would carry them on Fairfield. Now, on a given day like today, we plan on using Fairfield, we plan on using that water. If I have to keep that aside and not use it because I'm carrying a reserve, I have to replace it somewhere. If you go through the facts which we just talked about, what is the most economic use? The most economic use then becomes Saluda. So, if I am carrying reserves on Fairfield, I'm probably going to be generating at Saluda. So if there is a ramp, I would have started it at --- you know, let's say it's a 50 megawatt a minute ramp, or 50 megawatt an hour ramp, we would have started at say 4:00 in the morning; over the next four hours, we would load it up, and we would use it instead of using Fairfield. Now, under the dissolved oxygen, it would be the same thing under the low DO season.

If we can't use the Saluda, we would have to use something else. So we wouldn't run Saluda, we'd still have to carry reserves on Fairfield; so we would have to build another plant or try to find some other economic source of electricity.

MR. PATRICK MOORE: And what is the capacity of Fairfield, again?

MR. XANTHAKOS: 550 megawatts. 640 when it's pumping. Could you tell us your name?

MR. PATRICK MOORE: Patrick Moore, the Coastal Conservation League.

MR. XANTHAKOS: That's Patrick Moore with the Coastal Conservation League. Okay. Other questions? Alan, do you have a question?

MR. ALAN STUART: Alan Stuart, with Kleinschmidt. Could you explain the operational restraints of Fairfield with respect to the Broad River?

MR. XANTHAKOS: Okay. The question is to explain the operational constraints of Fairfield with respect to the Broad River. You know, in our classroom where we have done it up at the training center, I have always had a marker board. You know, I guess you guys don't want to see that anymore. I know Steve doesn't. We talked a little bit about Fairfield and how it is different than Saluda. And what

happens is when water is released out of Lake Murray, it goes into the Saluda River and it flows away. You never get

that water back. At Fairfield the process is different. When water is released out of Lake Monticello, it goes into the Broad River, but there is a second dam there called Parr. And what that dam does is it keeps some of that water, not all of it but a lot of it. Later on in the day when prices are --- remember I talked about the difference in the cost of electricity? When we are generating with very economic electricity and our customers are not needing that power, we use it to turn the generators into pumps, and they reverse their rotation; and instead of taking water from Lake Monticello into the Broad River, they take water from the Broad River and they put it in Lake Monticello. And then we use it again the next day. Now, under ideal conditions what we could do is, we would take Lake Monticello, you know --- not even ideal, just completely imaginary conditions, from an economic standpoint, what we do is we would empty Lake Monticello all the way to the bottom every night; and then with the extra electricity we'd fill it right back up to the very brim every night. Well, we can't do that. I mean, that obviously is not realistic. What we can do is operate it within the balance --- let's see, 425 is our maximum elevation, and we can take it down to 420.5, which is four and a half feet. So we can lower --- that's one of the constraints, is the elevation. We can take all the way to the top. We can only lower it four and a half feet. When we reach that bottom, we have to stop generating. And not

only do we have to stop generating, but we cannot generate again until after loads have reduced, prices have reduced, and we have put water back in there. Okay. So, that's one of your constraints. That's the highest side constraint. There's another high side constraint which is, the V.C. Summer Nuclear Station, uses Fairfield water as cooling water for some of their pumps. And if it's really hot outside, the water at Lake Monticello is already warm, as they use it to cool down their pumps, of course, it heats up a little bit. And if they start putting hot water back into the Lake, that of course is not good. So, we shut Fairfield down so that we are not taking more water out; that would cause the temperature to go up. And eventually, VC Summer has to start backing down its generation, as well. So that's another high side constraint. The low side is --- I don't know if you guys have ever --- how much you look at the U.S. G.S. site, but you can add up how much water is coming down the Broad River. Normally, on a day like today, it might be 10,000 cubic feet per second, could be 8,000, during a draught, you might see 800 --- it's very little sometimes. But when it has rained a lot, it really, really adds up quickly. So after any given rain, it's not uncommon to see 40,000 cubic feet per second. I remember a real hard rain we had, it was about 140,000 cubic feet per second. In any case, at some point when it hits 40,000, when the flow in the Broad River hits 40,000 cubic feet per second, we have

to just stop generating at Fairfield. And the reason is, because you are already under a flooded condition in the River, and if we start adding water to that flooded River, then it just makes a bad situation worse. So, under those conditions we basically count Fairfield as if it were a unit trip. As if it was running and then it was not running. And then we go out and we buy electricity or we crank up another unit. I think that's all of them. I don't think there's any other constraints unless I am missing something. Is Bill here?

UNIDENTIFIED: Yes.

MR. XANTHAKOS: Is that it? Okay.

UNIDENTIFIED: What's it like in Lake Murray?

MR. XANTHAKOS: Same question on Lake Murray. Right now, and I guess that's part of this whole relicensing process; there's really not a lot of constraints. The constraints we put in place are from what I understand voluntary. Some of those that we have done is during low DO season, we have worked --- I guess, which one of the governmental --- is it DHEC that calls us to look up tables? There is five units at Saluda, they operate differently, have different characteristics. Not just in the amount of generation on they put on the system, but also how well they mix oxygen into the water. So, we have created these tables

where on a day where Progress calls us and says, "You need to use ---" you know, "We need 150 megawatts of

electricity," and we can't use Fairfield to give it to them, we then look at the tables and say, "Here is the best four units to put on line from an environmental standpoint to generate that 150." Then also, during the low DO seasons in the Lake, on the Lake side, as soon as we found out about it, we immediately made all the units available until that season was over. Keep in mind, I don't --- you know, I don't necessarily know what the DO levels are until someone tells me what they are; and then once I know, then we can stop generating. But up until that, it's hard for me to tell because remember my purpose is to balance the Grid.

UNIDENTIFIED: (inaudible)

MR. XANTHAKOS: Right, there is a couple other small ones like if you generate on Unit 1 between like 15 and 25 megawatts, it causes it to vibrate and stuff like that. And also, you have got to generate more than 35 megawatts if you plan on using #2, and that has to do with the way it functions with the coal plant. So there are a number of constraints. They are nowhere near what Fairfield is. Yes?

MR. JIM GOLLER: My name is Jim Goller. Could you further explain DO reporting to you in the Control Room? I didn't quite understand why you don't regularly get DO reports.

MR. XANTHAKOS: Okay. The way we normally get DO reports are through the fossil-hydros, I guess. I'm not sure

of the name of the group in the fossil hydros and environmental folks. And what we do is, I guess it's maybe in the late --- early August, late July timeframe, we get a report that says, "Here's what the DO level is in the Lake now." And we then take that level, we transplant it to our look up table, and from that look up table we --- if we have to generate at Saluda, that's usually the units we run.

We then get an update when that level changes. So somebody else is monitoring that and providing that kind of information. Does that make sense? Then we use that information to use the look up table to run the units that are best for the River.

MR. GOLLER: Do you feel like that's an adequate reporting method, and accurate enough and accurate enough to make your judgments from?

MR. XANTHAKOS: Yeah. Well, I think so. The problem comes into play is when you have this table that was created through a series of studies, and it might say, "Run Units 1,2, 3, and 4 at 15 megawatts." And you go to bring on Unit 4 and it has a mechanical problem. So, whatever oxygen it was supposed to be mixing, is not mixing. But there is really no easy answer for that.

MR. GOLLER: One reason I am asking these questions is, I know that during the summer when you were, I believe, testing turbine venting on Unit 2, Unit 1 or 2, and you brought Unit 5 on line, and then there was a fish kill

on the Lake, why was the decision to run Unit 5 rather than Units 2 and 3, or 3 and 4?

MR. XANTHAKOS: Yeah, I think the testing was on Unit 1. Unit 2 couldn't be run because they are not --- you know, we are going back several months. Unit 2 couldn't be run because, remember, you can't run Unit 2 unless there is already 35 megawatts on it because of water problems in the --- because of water that it's putting in the River. Unit 3 was out for service. And so we were limited to the number of Units we could run. The table didn't show Unit 4, so we used Unit 5. Of course, we didn't know it was going to cause a fish kill or we would have never run it. So, as soon as we heard that, the Unit was made unavailable for the rest of the summer immediately. Remember, a lot of the information we get is after the fact. Go ahead.

ALAN STUART: I was involved with the turbine venting testing that you are referring to. It was a coordinated effort with DHEC as part of some of the agreements that were established as part of the look up table. The reason Unit 5 was run is the turbine venting, we tested Unit 2 --- The goal is to test all the units together, or a combination of 2 and 5, to develop these look up tables. Unfortunately one of the things that you have to do is we had to close the vents as part of that to establish the base line. That's why --- that was primarily the reason for the fish kill because the vents were all closed during

the closed testing. Again, that information was developed with DHEC, the study plan was submitted. So it was something that ---unfortunately DHEC had forgotten about it, and I think that you probably saw SCE&G's letter to them to explain that. So, that's why. It was an atypical situation.

MR. CHARLIE RENTZ: I am Charlie Rentz, and I wanted to ask if the level in Lake Murray --- the practice has been to lower the level during the winter time, and then of course, we had the long time the Lake level was down during the Dam reinforcement. It's being lowered now, of course. Do these levels affect the operations of the Saluda Plant, and how so does that affect your balance?

MR. XANTHAKOS: Oh, yeah, it definitely affects us. You talking about how lengthy they are. I think that if you could summarize that question by saying, "How do you operate during a draw --- How do we operate during a draw down?" And there is an effect, there's an enormous effect.

Take today, for example, probably generating about 100 megawatts right now, which is half of the unit's capability.

Well, in that case, we have Fairfield units that we leave off and available. Because, remember, you have got to have 200 megawatts off and available. Once it's generating, it doesn't count anymore. So, we are keeping other units to the side. The other one is --- and, actually, we were able to

work with the FERC well during the draw down of the major --
- the major draw down during the Dam project. Their

original request, Randy, you might have to help me with these numbers, was that we bring it down to 345. But if you look back at the charts you see that we never really came all the way to 345; we were always in the 346, 347 range. And the reason was because we explained to them what I've explained to you today and how we use Saluda. And explained to them that we need that water in case of an emergency to crank it up as quickly as we can. And they understood that if we kept it at 345, and had to generate, it could bring it below that level. So they gave us a two foot buffer. But once we brought it down, we kept it at about 347 and used it for reserve. So, actually, our operation went kind of back to normal after that. Now, during the fill up of the Lake -- and once again, it doesn't affect us a whole lot. We let the rain come in so that the Lake fills up. And if we have to use it for reserve, we do. And the reason is, because if you think about only using it for up to 90 minutes, I can say with a good degree of certainty that when I've used the Lake for reserve it has had almost zero affect on the elevation in the Lake. And when we have run it for 90 minutes, at most 90 minutes, normally it's less than an hour, it's not even noticeable to a Lake owner.

MR. STEVE BELL: My name is Steve Bell, with the Lake Murray Watch. Alan, could you explain to us how the model, the model that we are developing, the Operations Resource Committee is going to look at all these issues and

how we are going to plug that in, and that kind of thing? Because, I think all our questions are going to be eventually answered through that model. Thank you.

MR. STUART ALAN: What Steve is referring to is the Operations Group, the Hydraulic Water Budget Model. Obviously there is a set amount of water that can be used for generation, for recreational enhancement, minimal flow releases to protect fish habitat in the Saluda River. Each Resource Group will develop a set of recommendations to propose to the --- or, as input to the model. Okay. Each one of these recommendations, it may be a minimal flow requirement of a continuous thousand cfs, discharge to protect this habitat. All right. That takes water out of Lake Murray, so it begins to reduce the storage amount, what's available for power generation, what's available for Lake level management. And so, that's what these RCG Groups are going to develop for a list of recommendations that they would like to see. We'll take these back to the Operations Group and begin to give equal consideration to each one of those Resource Groups and try to develop that PM&E, Protection Mitigation and Enhancement Agreement, to try to best serve the Resources. And what we can --- with water available and the power generation needs, and to provide enhancement. Does that explain your question?

MR. BELL: I just want to make sure that people understand that we are going to be putting information into

this computer model, this model; and you were going to run it and then we are going to get results, and we'll be able to see, you know, when this happens how it affects other areas and things like that. And so, all of this is going to be looked into detail in the relicensing as far as, you know, how the Saluda Hydro is operated.

MR. STUART: That's correct. And, as I said this, you know, models are great; but models are just tools to use for decision making purposes. They don't provide the final answers, you know. So, you know, given the technology that's available, you know --- but we feel pretty confident that we are going to use the best hydraulic models that are available to do the analyses.

MR. TONY BEBBER: I am Tony Bebber with the Parks, Recreation and Tourism. Lee mentioned ramping a minute ago, And I think I understand that. But, it's gradually turning on units over some designated time period, or something like that?

MR. XANTHAKOS: That's exactly what ramping is. It's the --- the Plant's capacity is 200 megawatts. An example of a ramp would be to bring only 50 megawatts on in any one hour. So it would take you four hours to go from zero to full two hundred. Another example would be fifteen minutes, you know. And the problem is, of course, from an

operational standpoint it eliminates the unit of the reserve unit. But, I guess, the confusion I have always had with

ramping is, what is reasonable? You know, is 50 megawatts in an hour reasonable if you crank off 50 of those up from the first minute of the hour? You know, did that help anybody? I don't know. Those are difficult questions to answer.

MR. KEN LOWDEN: One more question, I promise I will be short.

MR. XANTHAKOS: That's fine.

MR. LOWDEN: My name is Ken Lowden, said that earlier. But, I guess the question I have now is, of course, we're interested in relicensing of this facility. And, you know, thirty years ago or so, my fishing shack out here, whatever happened on the Lake didn't impact it much. But today, the Lake has a major economic impact, it impacts a lot of people in the community. What is being done at a bigger level to look at possible assets that could produce power, that perhaps would still give you the control you have, that you need from this facility, but might in fact have less impact on the economic picture, and the environmental picture, and just what we are today with Lake Murray?

MR. XANTHAKOS: There's probably much better folks in the Company to answer that question. Keep in mind, most of my operation happens in like right now, in the next hour, or maybe after the next day. So there is definitely folks that can better answer that. But, I do know that they

are looking at other resources. Quick Starts are certainly one they are considering. So, I guess, the point I want to get across to you with that question is, the majority of the time that we run Lake Murray is not because of electric usage. My electric usage is very short. You know, I tried to stress that. I'll get off of it in less than ninety minutes.

The majority of the time when you see the Lake run is because of rain, a tropical storm coming this way, lowering it to work on the Dam, lowering it to work on the roads. And all of that is dependent on how much rain has come in. Remember, Lake Murray has a maximum elevation of 360. We don't want to get close to that because flooding would even happen at that case. But eventually, that's a still water. So, the answer to your question, the majority of the time that we operate Lake Murray, the majority of the time the water is going out of Lake Murray into the Saluda River. I don't think there will be a major change, because it's based on how much rain we get. It's based on how much work has to get done on the roads and the Dam. If you really look back, the majority of water we have released, it's been because of that; it has not been because of electric usage. So, I think the answer to your question, you might be surprised at how little we've changed. Some of the things --- this is one where I've drawn on before. But, what really confuses folks

is our inability, maybe, our insufficient ability of just maybe in the fact that we haven't been focused on sharing

stuff like this with the general public. There has been many times in the past, and I have got folks here that will testify to this, where there is a tropical storm headed this way; and it's dropping eight inches of water; and the Lake is already at 356, which is pretty close to full, it might be higher. This summer we kept it at --- did we go to 358? That's pretty darn full. Yeah, it's fine until that tropical storm gets here. And the problem is that as that tropical storm is headed towards Charleston, and they are projecting that path through Columbia, I may not have the ability to lower that Lake fast enough if I wait til the last minute. So, in my caution, I start generating four days out, five days out, if I can make enough room to catch eight inches of water. And remember, we are talking about water in the Lake; we are not talking about water that just dropped on the Lake. We are talking about a huge basin of water. And we are also talking about Lake Greenwood, which is upstream. And when he starts dumping water, it's coming right into Lake Murray. So, we are talking about all these inflows of water. And I start generating five days early to get it down, and I might drop it a foot and half or two feet. If the tropical storm does take the path that they predict, and we fill back up two feet, I'm a genius. I mean, I did great. My boss sends me a letter, "Did a great job." But if that storm veers up I-95 and goes into Fayetteville, I get hate mail. So, it's very difficult to know what to do when the

biggest difference you have is really rain fall.

UNIDENTIFIED: (inaudible)

MR. XANTHAKOS: Yes, but that's how I started that.

UNIDENTIFIED: The Lake people are looking for it, when that happens how do we avoid ---

MR. LOWDEN: Up at the school, too, is how do we have a better communications within the community so that when it does to come down a couple feet in a couple of days, you know, people aren't totally surprised because you started two days early, or you know, whatever.

MR. XANTHAKOS: And my caveat by saying that at first, we have done a good job of getting the information out. Or, hoping to do, and it doesn't seem like these are difficult. But we are working on the web site, an internal company web site, that is available to everybody. And with I, and my most three most senior people can type in there what our short terms plans for Lake Murray are. So, when you see it go from zero to, you know, --- fully generating, we can type in there "Tropical storm 'so and so' is headed this way and we are creating room for that." And you may not agree with that, but you will at least understand it. You know, you will at least say, "They are not just doing it because they feel like it." And this is actually a joke I

make to a lot of people; I have not said this in this group, but the folks I've talked to on the side, and some of you

may be in here. We don't have like a big spinning wheel with an arrow on it that says, "Run Saluda, don't run Saluda," that we just flip around and make our decisions by. Every time we run Saluda, it's been for a reason. You know, it's been for a really good reason. And that's kind of how we are going to operate.

MR. PATRICK MOORE: Again, I am Patrick Moore. Just to clarify, you mentioned that your power needs and your contractual VACAR needs are ninety minutes or less usually --Fifteen minutes or less --- Yeah, fifteen minutes we're back on to get some more there back in ninety minutes. Over the past seven or ten days it's been running from 700 cfs to 18,000 cfs. And if that's not to meet those VACAR requirements, I guess my question is why not run at --- and at 18,000 I think it's six or twelve hours a day, why not run at 9,000 twenty-four hours a day for the purpose of draw down instead of these huge releases that contribute to down stream erosion and could possibly create safety concerns when we have warm weather like this and people might be at the River?

MR. XANTHAKOS: Yeah. I guess it just goes back to the agreement that we made, which was to keep the Lake up high, to keep it at 354 through the end of the year. And then so that we don't affect --- have a minimal effect on it to lower it within the three week period. If I run at 9,000 cfs twenty-four hours a day, I cannot lower it to the six

feet that I have to lower it for them to do their work. The only option is to run at this rate. So, the rate is a function of the time span that I have to lower the Lake.

MR. MOORE: So, I guess what I am saying is 9,000 twenty-four hours a day --- Not --- 18,000 twelve hours a day.

MR. XANTHAKOS: It's been probably about --- it's been 18,000 for sixteen hours a day probably. So, it's two-thirds of the day. So your numbers aren't quite adding up. Now, it may seem that way on the graph because it takes some time for the water to flow and to increase and to drop off.

We have been running it over twelve hours a day, sometimes up to sixteen at that level. And if you did 9,000 it wouldn't add up. I would never be able to lower it in two weeks.

MR. MOORE: Okay. Well, getting away from the numbers, is there no way to lower those peak, I guess, in terms of the erosion concerns and safety concerns and just run it more consistently instead of having to drop --- you know, raise the valleys and lower the peaks?

MR. XANTHAKOS: Yeah, absolutely. There's an infinite number of ways to run it. We could run it for 9,000 cfs for twenty-four hours, we could run it for 18,000 for twelve hours, we could run it for 4,000 for forty-eight

hours. But there is, also --- there is down stream concerns and up stream concerns. And I will go back to what was given

to me, which is you've got three weeks to lower the Lake six feet. And the only way I can do that is the way I am doing it right now. So, I'm working under the constraints that were given to me.

MR. MOORE: So, it's not a demand-profit issue? You're not running it ---

MR. XANTHAKOS: No, no. Actually, folks that visited the Control Room, you know, I said that 99 times out of 100, if you were to come in here today, you would not see us generating any at Saluda; they would be off. I am only generating right now for the sole purpose of lowering it within the three weeks so they can do their work on the road.

MR. MOORE: Okay. So, the raising of the valleys and lowering of the peaks is out of your hands, is what you are saying, that decision is made by somebody else?

MR. XANTHAKOS: No. The rate of change --- the six feet and three weeks was a decision made by somebody else. The way that is done is through my office.

MR. MOORE: Okay. And maybe I'm just being dense and not hearing what you are saying.

MR. XANTHAKOS: Well, I guess another part of the answer might be, why wouldn't we run the Saluda between 11:00 at night and 4:00 in the morning? Why wouldn't we do

that? I mean, why wouldn't --- I will throw it out to the group. Why wouldn't you generate with Saluda at those

hours?

UNIDENTIFIED: (inaudible)

MR. XANTHAKOS: What?

UNIDENTIFIED: (inaudible)

MR. XANTHAKOS: It's getting too much power. I don't need electricity at 2:00 A.M.

MR. MOORE: So it's a demand-profit issue?

MR. XANTHAKOS: No, it's not a demand or a profit issue. It's a balance issue. How can I generate electricity that nobody needs? What's going to happen to it? Where is it going to go? See what I mean?

MR. MOORE: I do.

MR. XANTHAKOS: How can I do that?

MR. MOORE: I mean, you could generate, and it just goes onto the Grid. Right?

MR. XANTHAKOS: No. No.

MR. MOORE: I mean, not if it's not ---

UNIDENTIFIED: (inaudible)

MR. MOORE: Yeah, reduce another source.

MR. XANTHAKOS: All of our sources ---

MR. MOORE: Maybe just run ---

MR. XANTHAKOS: Okay, I see what you are saying. Before we do that, all of our resources are on the bottom. I mean, a power plant --- take Williams Station, for example, which generates at full capacity 600 megawatts, I can't shut it down. It doesn't go to zero; it goes from 450 to 600 once

it's on line. So, I only have 150 megawatt band on that unit. The Nuclear Station doesn't move at all. It's always 1,000. If I called them and said, "We need 200 megawatts," I'd have to talk to the Vice President of the company; he'd go, "Why? We don't move this plant around. This is a ---" NRC would get involved with that. McMeekin Station goes from 125 megawatts to 90 megawatts. If I go below that, they have to come off line. So the unit that I can back down, after I've backed all the rest of them down is Saluda.

MR. MOORE: Okay. So, your night time generation needs are generally met by the ones that run full force all the time?

MR. XANTHAKOS: Right, basically those units.

MR. MOORE: Okay. Thank you.

MR. RENTZ: Am I not correct in saying that you have a minimum flow level that you have to provide downstream? And, does that flow level continue to operate some of the units all of the time?

MR. XANTHAKOS: Okay. The answer to the first part is, "Yes. We do maintain a minimum flow." The answer to the second question is, "No, it does not require use of the unit." The minimum level by the strictest of all definitions is 180 cubic feet per second. The leakage through the units --- I mean without generating any electricity, is above that. Is more than that. It would still be very little. I mean, it would really be very --- it

would cause a very low river. So what we do is we always keep one unit tied onto the Grid, but not generating electricity. And what it does is it allows a little bit more water to flow through. So under ideal conditions, the minimum that we try to maintain is about 400 to 500 cfs. Even though by rules, the minimum is 180. We do twice that, a little more than twice that, without generating any electricity at all.

MR. RENTZ: Could you not create or have a unit that would run at the consistent --- consistently at the rate that the water passes, even though it might be smaller than what you have now?

MR. XANTHAKOS: Yes, you could. So what you would use is --- what you are saying is, "Why not create a unit that uses and generates electricity with 400 cubic feet per second?" And the answer to that is, that would be a very small unit, it would be almost negligible for our system. It would be less than 10 megawatts. So, even though it could be done, I think that there is another group with folks that have probably said, "It's just not economic to build that unit." Let the water flow out.

MS. MARY KELLY: My name is Mary Kelly, and I am with the League of Women Voters. I just wanted to ask a question about the Grid. When we had that big power outage

in the Northeast, there were all kinds of recriminations and blame, and so forth; and, Congress was supposed to do a

whole lot about it. What has really been done to ensure that the whole Grid system is more reliable?

MR. XANTHAKOS: Right. That's a difficult question because you are talking about a national Grid with --- and which power companies have to make a change. Power companies --- you guys are going to laugh when I say this, because I work for the power company. But, are traditionally very slow to change. What the Government has done to try to speed that up is they have made some pretty hard enforceable rules, some pretty serious measurements. And then in addition to that, they have audited every single Balance Authority in North America. Remember I said we're a Balancing Authority? There's a hundred or so of them. And the NERC with FERC auditors have come into every one of our operations and done a five day audit, and measured whether or not we actually follow the NERC rules that we say we follow. So, everybody has been audited. And what happens is once they are done, they make a recommendation --- which means you better do it. And that's one of the ways they rationalize these problems. I would say the most --- the largest effect has yet to come. The largest changes to come.

And remember, I said the NERC is a voluntary organization right now. But, the Energy Policy Act has said that the Federal Government can appoint a reliability organization that is not voluntary. And when they make rules, they become law. And that should be coming out this year. The belief is

that NERC will be that organization. And there's 800 standards that have so far been voluntary, are going to become law. And it will be much more --- it will be a lot more motivation to follow those folks that are breaking the rules right now. I hope that answers your question.

MS. KELLY: Thank you.

MR. XANTHAKOS: We could also get into tree trimming and stuff like that, but I doubt that you are interested in hearing that. There was a question over here somewhere. Okay. Any other questions?

(No response)

(Loud applause)

MR. STUART: As you can see, we've covered a very diverse and very interesting number of topics in our Resource Conservation Group? Again, I encourage you if you would like to be an observer, you are welcome to attend these. Just get in touch with Alison or myself. We try to plan these out about a month in advance. So, please look at the web site at the calendar, and you know, we would love your involvement as an observer. If you have questions, you certainly could ask them at that time if you have the need. So, that's all I have. Are there other questions from anybody?

(No response)

MR. STUART: We are proceeding forward with the relicensing, moving ahead.

PUBLIC MEETING ADJOURNED.

SALUDA HYDROELECTRIC PROJECT RELICENSING

FERC PROJECT NO. 516

Quarterly Public Meeting

January 12, 2006

7:00 o'clock P.M.

SALUDA SHOALS PARK - ENVIRONMENTAL CENTER

Welcome and Update on Resource Conservation Groups

by, Alan Stuart, Kleinschmidt Water Resources

Presentation,

by, Gene Delk, SCE&G

(Transcribed from recorded cassette tapes of Proceedings:

by, Annette B. Gore, Court Reporter.)

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PUBLIC MEETING:

MR. ALAN STUART: My name is Alan Stuart, and this is our second quarterly relicensing update meeting, part of the relicensing of Saluda. We are trying to do some outreach, continued outreach, to inform the people that are not part of our Resource Conservation Group, and really intricately involved in the project relicensing. As I said, our RCGs have begun. Our RCGs, for the new faces here, are called Resource Conservation Groups. We have a total of seven; they deal with Fish and Wildlife, Water Quality, Cultural Resources, Lake and Land Management, Operations, and Safety. Safety was kind of an ad hoc group that we formed in hopes of a number of Lake Murray Association members, would like to make sure that group continues on even after the new license for Saluda is issued; it deals with safety issues on the Lake as well as the Lower Saluda River. So, that's kind of why that one was formed, and thought this would be a good platform to use to do that. Our Resource Conservation Groups began meeting in December. And one of the first items was for each group to develop a Mission Statement. These Mission Statements were developed by biologists, engineers, electricians, a wide gamut; even a rocket scientist has been involved. So, when I go to read these, you will understand that they are very wordy, but

they have a lot of good meaning in them. So, bear with me. All of these are tongue twisters, I can tell you. Did everybody get a copy of these as they came in? All of them --- well, three of them have been finalized. There are three that are still in draft form up until about the 19th of this month, so we do not think they will change very significantly.

The Operations Resource Group: "The Mission of the Operations Resource Conservation Group (ORCG) is to oversee the development of a robust hydrologic model for the Saluda Project which will establish a baseline of current hydrologic, hydraulic, and operational conditions, and aid in analyzing and understanding the potential upstream and downstream effects of potential changes to project operations, in support of the missions and goals of all other Saluda Hydroelectric Relicensing RCGs. The objective is to fairly consider those impacts, to include low-flow conditions as a part of developing consensus-based, operations focused recommendations for the FERC license application. Model results are to be presented in readily understandable terms and format. A key measure of success in achieving the mission and goals will be a published Protection, Mitigation, and Enhancement (PM&E) Agreement." That Agreement is what we hope to develop and submit with

the final license application. The goal will be to develop environmental enhancement measures, to equally consider all the resources.

The Lake and Land Management Group is another very important group: "The Mission of the Saluda Hydro Relicensing Lake and Land Management Resource Conservation Group is to gather and/or develop information, study and consider all issues relevant to and impacting upon the Saluda Hydroelectric Project Shoreline Management Plan (SMP) and supporting guidelines. The outcome should be the development of a consensus-based, updated SMP for submittal in the Project 516 license application. It should include/consider properties within the Project Boundary Line (PBL) for Project 516, upstream and downstream, and such areas beyond the PBL which SCE&G, through its SMP, can materially influence." As you can see, we are not just limiting to the Lake, it covers the whole gamut of the project.

The Recreation Resource Conservation Group, we finalized this one yesterday: "The Mission of the Recreational RCG is to ensure adequate and environmentally-balanced public recreational access and opportunities related to the Saluda Hydroelectric Project for the term of the new license. The objective is to assess the

recreational needs associated with the lower Saluda River and Lake Murray and to develop a comprehensive recreation plan to address the recreation needs of the public for the term of the new license. This will be accomplished by collecting and developing necessary information, understanding interests and issues and developing consensus-based recommendations." Those recommendations will be, again, part of the PM&E, Protection, Mitigation and Enhancement Agreement.

The Fish and Wildlife Group is in draft form. As I said, I don't think it will change significantly. "The mission of the Fish and Wildlife RCG is to develop a Protection, Mitigation, and Enhancement Agreement (PM&E Agreement) relative to fisheries and wildlife management for inclusion within the Saluda Hydroelectric Project license application. The objective of the PM&E Agreement shall be to assure the development and implementation of a level of integrated management best adapted to serve the public interests. To achieve this mission, the Fish and Wildlife RCG shall identify the need for, define the scope of, and manage or influence as appropriate, data collection and/or studies relative to impacted fish, wildlife, and plant species and ecological communities, eco-systems and/or habitat within the Saluda Hydroelectric Project."

The Water Quality Resource Conservation Group Mission Statement, again, it is also in draft form. "The Mission of the Water Quality Resource Conservation Group (WQRCG) is to develop water quality related recommendations to be included in the Saluda Hydroelectric Project FERC license application. The goal will be to achieve State water quality standards compliance or beyond for Lake Murray and the lower Saluda River. A means to work towards that goal is to identify data needs and to gather or develop that data. A primary measure of success in achieving the mission and goals will be a published WQRCG Protection, Mitigation, and Enhancement (PM&E) Agreement."

Finally, the Safety Resource Conservation Group: "The Mission of the Safety Resource Conservation Group (SRCG) is, through good faith cooperation, to make Lake Murray and the lower Saluda River as safe as reasonably possible for the public. The objective is to develop a consensus-based Recreational Safety Plan proposal for inclusion in the FERC license application. This will be accomplished by gathering or developing data relevant to Saluda Hydroelectric Project safety-related interests/issues, seek to understand those interests/issues and that data, and consider all such interests/issues and data relevant to and significantly affecting safety on Lake

Murray and the lower Saluda River."

All of these Mission Statements were developed as a cooperative group. One thing that I have tried to promote is, these Resource Conservation Groups are open to everybody that is interested in any aspect of relicensing of Saluda. One other item, they typically are held in the day time. And I know it is very difficult for people to take time off from their personal lives; but, we do try to post all of the information on the relicensing web site for those new folks that we have. That is www.saludahydrorelicense.com. There is a calendar that has dates listed when all of these RCGs meet. Anyone who is interested in attending can let Alison Guth know. I believe there is a link on the web site that you can e-mail her; or, you can pick up the phone and call any others, and we will certainly get you in. You need to let us know because typically lunch is catered in, and there are security issues at the gate at the Training Center, which is where we often meet. So, to get through there you will need to let us know. Right now, the RCGs, for those have finalized their Mission Statements, are starting to get into some of the issues, scoping and starting to develop some of the study needs and data requests, and stuff. Also, as part of that we typically hold a number of presentations by State, Federal

and local agencies, and also by private individuals. One of the ones that is identified on your handout says Lee Xanthakos, but it is going to be Gene Delk, who is going to stand in for him, is the operation of Saluda. This presentation has been given to all the RCG Groups, and it is very informative. So, I hope you find it educational.

Right now, are there any questions on the Resource Conservation Groups?

(No response)

Any questions in general?

(No response)

Well, I am going to sit down and I am going to let Gene have it. Like I said, this presentation --- Oh, I'm sorry, Randy.

MR. RANDY MAHAN: Randy Mahan. You will notice that I have gotten a microphone here. And that is for a good reason, not because I like to hear myself speaking. But, this gentleman up here who is making a record of the entire proceedings can hear what I am saying. So, if you have a question, which you are certainly free to ask during the presentation, we would ask you to hold you hand up a little bit like, you know, in grade school. But, if you would hold your hand up so Alison can get this to you, and if you would give your name, again, for the record; and then, just speak

normally, the microphone will pick it up. And we apologize for the little bit of formality because we lose a little bit of that give and take that makes it a real good presentation. But I think you will get the benefit, even though we have to kind of stop and ask that you use the microphone to speak. If you do feel like you have just got to say something and you don't have time for the microphone, at least stand up and speak very loudly so that this gentleman can hear, or they can pick it up on the microphone.

MR. GENE DELK: Good evening, everybody. My name is Gene Delk and I am the Manager of Operations Planning at SCE&G, filling in for Lee Xanthakos. Lee is the Manager of the System Control Room. The System Control Room is basically where dispatch of all of our generation facilities take place. And, a little joke I have with Lee is his job is real easy because we plan everything and plans work out just like they are supposed to. So, he should always have, you know, easy operations. But, that is not really true. But tonight we are here to talk about Saluda Hydro and the operations. But more than that, it is to talk about the Grid. And I am going to flip up some points here of what all we are going to talk about. And we are going to try to give you all an explanation of the Grid, how we work with the

Grid, how the Grid operates itself, the rules of the Grid, emergencies on the Grid, and how we have to respond to them for ourselves for emergencies on our system and emergencies on our neighbors' systems. We will talk about the use of Saluda and emergencies. And one key point that we are going to try to get in here is the balancing of the Grid, which is a very important component that we do instantaneously every minute of every day. So, guys are in the Control Room right now controlling the Grid. So, with that I am going to go in. We have got a microphone there, but please stop me anytime and ask questions because it will be a little better presentation if we can answer your questions as they come up.

What is the Grid? A simple definition is it is a bulk power system. It's the high voltage power lines; not the ones you see out on your street in your neighborhood, not the ones right out here underground feeding this building. But, it's the large towers you see if you go down here to the Dam, and they run out across what is the Cold Stream Country Club, and they go out towards Lexington. It's the large tower lines you see when you are driving around. These large lines are used to connect our generation facilities to one another; they are also used to connect our Control area, which I will get into that some in just a minute, to our neighboring Control areas. We tie with all

of the companies around us: Duke Power, Carolina Power and Light, Southern Company, Santee Cooper. And we will get into a little more of that in just a minute. And power along these lines flows at the speed of light, so it's instantaneously. Lee used an example this morning, you can jump on there and ride across country because we are interconnected all the way up into New York, the whole Eastern interconnection. I wouldn't want to jump on those lines, but those little electrons they certainly do that. This is a map of the whole United States, and the NERC regions. NERC stands for the North American Electrical Reliability Council. I think I have got a little better definition of NERC, and SERC, and VACAR on up. But these are the different regions in the country. You have got a large region out West, the WECC. ERCOT, they are kind of down on their own, that's the Electrical Reliability Council of Texas. And then over on the East side, you have a lot of regions that are all tied together that make up what is called the Eastern Interconnection. We are in this area right down here, which is SERC. And that is our region of NERC. And we are --- SERC, this whole area in blue here, with Florida kind of hanging off down there on their own. This kind of narrows in on that map to the state of South Carolina. You see, we sit right there in the middle, and

then we tie to all the folks around us. I failed to mention SEPA there, SEPA is the Southeastern Power Administration, handles all of the chain of dams along the Savannah River system over there, and others. But, the ones that affect us are right there. We basically serve the lower third part of the state of South Carolina. Our customer base is Columbia down towards Aiken, a little bit over in the McCormick area, and then all the way down to Beaufort, Charleston, and all of that. Have a lot of cross over with Santee Cooper where our lines share right of ways, and things like that. Moving further, we will get into how customers actually set the demands on our system. This is just a picture that was taken at night and it just shows the population densities and how the lights light up around the world. And you can see the Eastern part of the United States, just how dense it is and how strong the electrical system is in that area. That demand, you know, your air conditioner is running, your heaters in the winter time, and your lights that are burning right now, they actually set the demand that we have to respond to in the Control Room with generation. And it is instantaneous; it changes. It has changed in the last two minutes that I have been speaking. Getting on into how Power companies make the power is, you have a lot of different facilities. You have

fossil plants, which are your coal plants primarily. You have nuclear plants, our nuclear plant is V.C. Summer right up the road in Jenkinsville. And then you have hydro, which is what we are here to talk about tonight. Fairfield Pump Storage is a major hydro pump storage unit, which I will get into that a little bit, too. And then we have some other hydro facilities, are just basic run of the River. Pump storage, the difference in that and just the typical dam like Lake Murray is, we can actually release the water out of a pump storage facility, which we do in the day time, and generate with it. And then at night, we actually use our other generators and turn those generators into pumps to pump the power back up the hill, so that we can then reuse that water the next day. That's usually done at night when the demand is lower on the system and we've got extra power to pump with.

Getting into talk about balancing the Grid a little bit, as I said earlier, demand is basically created by the load on the system. And we have generators in place, our neighbors have generators in place; and the objective is to balance your demand on the system with the amount of generation you have. In our Control Area we have measures, we have tie lines that tie to other companies, we have metered measurements on every tie line. And we have signals

in our Control Room that actually measure the demand on the system and how we are in our balance. And, that balance is measured in real time, as Lee says right there in the slide.

The other point I wanted to make right here is, where your meters at home, they run on a kwh, kilowatt hour basis; we are dealing in much larger quantities, thousands of kilowatt hours which is megawatts. So, you will hear me use the term megawatts in a little bit. So, that's just, you know, a larger quantity of kilowatts that we are dealing with. System controllers, who are the folks I mentioned earlier, who are in the Control Room right now, their job is to sit there and respond to changes on the system. Load changes through the day, winter has its pattern, summer has its pattern. A typical winter day --- and we are not having typical winter weather right now; you know, it's seventy degrees out there. But, a typical winter day, you know, at night time everybody is sleeping, they don't have their lights on. You know, some people turn the thermostats down at night, so their heaters aren't running that hard. The demand is kind of low at night time, but first thing in the morning when people wake up the first thing they do is flip on the lights if it's dark outside, because some people get up at 4:00 and 5:00 in the morning. Across the whole area that we operate, that's everybody flicking those lights on,

we can see it start coming in. They go over, and they might bump that thermostat up a little bit because it's chilly. They cut their toaster on, they cut their coffee maker on. So, you see a huge spike come in. And if it's a real cold morning in the winter time, that spike is really high. So, our load number will go way up in the winter time. As people get dressed, go to work, they shut their lights off, they cut the coffee makers and all that off, and we see load actually start falling off. The sun comes up, also, and it starts warming things up on a typical winter day, now. And that load will drop off through the day time somewhat. In the evening when people get home, the same thing happens. It gets dark early, they cut their lights on. So that load will start coming back up a little bit. Typically in the winter, it doesn't match what it is early in the morning because, you know, the atmosphere has warmed up, the sunshine through the day. But then about 8:00 or 9:00 at night, it will kind of start falling off again. And summer time is a little bit different. The morning time, the sun is down at night, it has kind of cooled off; but as the sun comes up, the day starts heating up. So what we see in the mornings is, we will see a little bit of a rise there early in the morning because people are getting up. But as the heat goes up through the day, and those air conditioners start pumping

harder and harder, we see demand just grow continuously all through the day. And about 5:00 o'clock to 6:00 o'clock in the evening in the summer time, we will see this huge spike in demand. And that's the peak of the day, one peak; and then it will start falling gradually off depending on how hot it is. On a real, real hot day, it takes it awhile; it hangs in there until the sun goes all the way down. And then it just kind of falls off, and then through the night it is at a lower level.

Any questions on that at all?

(No response)

Okay. Getting back to the balance question. Each Control Area, and a Control Area is basically an electrically metered area, is responsible for their own load in their own system, and having the generation resources to match that load. You will hear me say "load", "demand" and "load" are the same thing. But on this example, we would have a demand on our system of 4,000, and we need to have generation on our system of 4,000 to be perfectly in demand. Duke, they have got a Control Room, they are doing the same thing up there as are the other Control Areas. 365 days a year, 24 hours a day, you have got guys in the Control Room monitoring the system, dispatching plants to meet that demand, which changes all the time. It is always changing

in some magnitude. On the generation side, which you will hear a little bit later, you know, you have got machines out there that are generators. And those generators have problems. A generator might fall off line. If we lose a generator, the demand is still there, we have got to replace it. But this right here would represent a perfect scenario of balance for our Control Area.

As I just mentioned, when you get a change in generation you get changes in the Grid. The Grid, as I said, was all tied to one another. And because we are all tied to one another, we don't just control for ourselves but we affect our neighbors. So, when generation is lost in our system, is the demand generator in balance? So, we have got to have generation to pick up. Well, instantaneously we can't just flip a --- you know, when that generator goes off, we don't just have another generator come on to take its place. But because we are tied to other Control Areas, the system kind of picks itself up, and we kind of work with each other. The same thing happens for Duke. If they lose a generator, there will be megawatts that are transferred from our system towards them that help actually control the system and keep the Grid stable. On this example, with the load of 4,000 generation, we lost 1,000 megawatt unit. And just for example, we are going to say we lost V.C. Summer. We have a

measure down here in the bottom right corner called ACE. That stands for Area Control Error, which is what that System Controller sits there and monitors. He has got a big chart up there in the Control Room. I don't know, I think Lee has taken some folks on a Control Room tour. I don't know if anybody is here --- you have been there, so you have seen that. But we have got a big chart up there. And ACE has a certain boundary that we can keep it in. If you lose a major unit, that ACE chart is going to go negative, and they are going to have a big, red flashing light come up. So, that System Controller knows that he has got to do something to get the system back in balance. And his job is to sit there and monitor these alarms, and these charts. He has got charts for all of his power plants up there that will alarm him when there is a problem. And when the ACE goes negative, what happens instantaneously is power starts sucking in from our neighbors. Their generators are responding to push load out to kind of keep the system in balance. And so, what we have to do is, within a fifteen minute period --- and I will get into more of that in just a second. We have got to respond to get ourself back in balance. To take the example further, and these are just sort of hypothetical numbers that we have thrown in here. But when we lose that 1,000 megawatt unit in our system

right here in the center, instantaneously we get an in-rush from our neighbor. And if you add those up, and just for example, we might get 350 flowing into our system from Southern Company. 50 may come from SEPA; but let's say SEPA didn't really have it, they may actually be pulling that same 50 in from another Control Area that they are interconnected with. The same with Duke, 250 might be coming from them. From CP&L we may see a change on the power lines where we are pulling in 200 megawatts right here. Well, they may be pulling in 150 from the neighbors to the North of them; so they may be supplying 50 and then pulling in 150. But all in all, instantaneously it balances itself out. But when that happens, we are depending on our neighbor; and, that's not really the way you run the system. We have got rules that we have to live by; so we have to come back and balance the system to get off of being --- pulling all this power in.

What that was, the difference between the demand on the system and the generation on the system when they are not perfectly matched - and they are never perfectly matched - is called imbalance. And here are some reasons basically for imbalance. As I said earlier, these power plants are machines and they break down. You know, you have got components out there. We have tube leaks in a boiler, you

know. You have got a lot heat in there, a lot of water, you know, being made into steam. And it's just wear and tear on the boiler. So, we have tube leaks and that causes the unit to go down. Fuel problems, one of the problems we have had with fuel is, on a cold winter morning, you know, fuel in a line running from a tank out in a tank yard over to the diesel turbine that is trying to run, well, it gets cold, too. And we have had problems with the fuel not wanting to flow very well. So, we couldn't keep the turbine on. Imbalance could also be caused by power lines, if a tree falls into a line. On transmission right of ways, you have got large, open right of ways that hopefully the trees won't fall into. But from time to time, you know, an insulator might break on a power line; because that is equipment out there, too. But when there is a disruption in the flow along a power line, you can have an imbalance also. That would be more of an imbalance on the demand side because you would lose load off your system, not generation. In that instance we might have too much generation and we would have to back some generation down. We also, because we are trying to run the system in the most economical manner, we go out and buy power from time to time. As I said earlier, we are interconnected with all the companies around us, and they buy power from us, and we buy power from them. And

everybody is trying to run their system with the most economical units. But sometimes when you are buying that economy power, it might be that you are buying too much, and the load's lines might load up. Well, when lines load up, the Security Coordinator, which is there to basically handle the security of the whole Grid, they might call what is called a TLR. And I'm getting into some specifics that probably don't interest you. But what TLR does is, it basically cuts the transaction. So, that cheap power we were bringing in is no longer available. Well, when something you are bringing in, generation from outside, is no longer available you have still got demand, so you have got to replace it. So, you have got to get your generator back on line. That imbalance that causes that has got to come back into swing. Probably said some of this, I'm not really looking ahead at these slides. But, in a case when you do have an imbalance, you basically increase generation or you reduce demand, you know. Reducing demand is shutting lights off. Well, we are not in the business to shut lights off, we are in the business to keep lights on and keep the power flowing. So, naturally what we would prefer to do is increase generation. Reduction in demand is something that you would do in an extreme emergency, such as the Northeast black out that they had a few years ago up in --- I guess it

started in Cleveland. And this is what? I guess this is New York City after the black out. As you can see, it's getting dark and no lights are on. Thankfully, I am going to knock on wood, we haven't had that happen in the Southeast. So, we like to think we are doing something right. And a lot of that is because we have really --- the companies we tie to, we have really good working relationships with those guys, and we all depend on each other. I keep talking about a change and a loss of generation in our system, and others helping us, well, it goes the other way, also. They lose power plants on their systems and we try to help them at the same time.

Getting into the Grid rules and who sets them, and what they all mean, as I mentioned earlier NERC is the North American Electrical Reliability Council. And coming down this left column, below that is a region of NERC which is called SERC, which is the Southeastern Reliability Council. And then underneath SERC is sub-regions within SERC, and the sub-region we are in is called VACAR. It's the Virginia, Carolinas sub-region. VACAR is made up ourselves, Santee Cooper, Duke Power, Carolina Power and Light, and Virginia Power. Over on the right, the rules, NERC has over 800 Reliability Standards. And they go from the planning standard side all the way through the operating

standard side. And we have to live by those standards. It governs things such as how do you respond to a tree in the transmission line. You know, you have standards on how do we recover from an emergency. What kind of time do we have to recover. Things like that. Coming on down, SERC has actually compliant sub-committees that basically monitor the compliance with those standards that NERC puts out. And then, at the lower level, which is where all the task forces are, we have task forces in VACAR that basically come up with a governing agreement for how we are going to work with our neighbors, how we are going to work with the guys around us to meet these standards and agreements that we entered into. As I mentioned earlier, balancing is one of the big things you have got to do. You need to balance your demand with your generation at all times. One of the standard BAL 002, and you can guess what BAL stands for. This is a NERC numbered standard. Basically, that's what governs how we --- what we would need to do and how we use Saluda to do it. It says at a minimum the Balancing Authority or Reserve Sharing Group

--- and that's an important point right there. I use the term Control Area. That's actually an old term. Just about a year ago NERC came up with some new standards. We used to have policies, and they changed the policies to standards,

and they changed the acronym from Control Area to Balancing Authorities. So, you will hear me uses the old term because it's real hard to get used to the new ones. But, it says as a minimum this BAL 002 --- says that Balancing Authority or Reserve Sharing Group shall carry at least enough contingency reserve to cover the most severe contingency. All right, what that basically says is, you have got to cover --- you have got to have enough generation in reserve to cover the worst loss onto your system that you can have.

It just so happens on our system at V.C. Nuclear Plant, that's our largest unit on our system. So, one way of meeting BAL 002 for just our Balancing Authority would be to hold 1,000 megawatts of generation on stand by at all times.

That's expensive to do that. We have an option in the "or" statement there, which is a Reserve Sharing Group. We are a member of a Reserve Sharing Group, and I will get into some of the specifics of that to help you understand how it works. And, again, I am ahead of myself. But this is V.C. Summer Nuclear Plant, a right pretty picture there taken at night. It generates 1,000 megawatts, which is enough power to heat 1,000 homes for one month. As I said, we don't want to carry 1,000 megawatts in reserve because that's expensive. To avoid it, we actually are entered into contracts and agreements with our VACAR partners, Virginia

Power, Carolina Power and Light, Duke, Santee Cooper, and ourselves; and it is called the VACAR Reserve Sharing Group.

Collectively as a group, we carry 1,500 megawatts in reserve, which is equal to about one and half times the largest unit in VACAR. I think it is one of the Duke units, and the numbers are a little bit rounded. V.C. Summer is just a hair under 1,000; and I think Duke has got a unit, it was Catawba, they upgraded one of their other units so it's a little larger now. But basically, we all as a group, instead of carrying one times our largest unit, as a group carry one and a half times our largest unit. When it breaks down by formula --- and the Reserve Sharing Group is based on the load of your system and the amount of generation you have on your system, or your largest unit on your system. In the Reserve Sharing Agreement, we have to carry 200 megawatts of the 1,500. And I think --- I wrote these numbers down earlier. Virginia Power and Progress, they carry roughly 350 each. Duke carries about 550; naturally they have the larger nuclear unit, larger load on their system. So, they have to carry the Lion's Share of the reserve. And then Santee Cooper is about like us, we both carry about 200 megawatts. Having reserves on your system is there for emergencies. And most of the time when you are not having a problem, that 200 megawatts is just kind of

sitting there waiting; it's waiting for when that event does happen for you to respond to that change in generation, to keep yourself back in balance of demand. Now, there are other reasons a unit like Saluda might run. You know, they have rain coming in and all that, so --- but most of the time, from a reserve standpoint, it's just kind of sitting there and we're counting.

Getting into a little example here, or basically stating how emergencies happen on the Grid, and I might have said this earlier. If generators trip, the Balancing Authority, or Control Area as I used the term earlier, we have got to recover in fifteen minutes from that event happening. That's one of the NERC rules. You know, if instantaneously we would lose that generator, yeah, our neighbors were going to help keep us up for a little bit. But we have to recover from that loss in fifteen minutes. And on our system we only have a few units that can actually respond to give us that 200 megawatts in a fifteen minute period. Going a step further, that we don't have on a slide, is not only do we have to recover in fifteen minutes, but let's say we do recover we've got to --- and we would use our reserve to do that, plus maybe our neighbors, you know, if we lost a large unit. And examples, I am going to show you in a little bit our larger units. We have got to replace

those reserves ninety minutes following the event. So, if we use our reserve, emergency recovery, you get back in balance, you probably used your reserve to do that. Well, ninety minutes later you have got to get reserve again. Because ninety minutes later you might have a neighbor trip, and he may need reserve to help. How all this is measured is basically we have come up with compliance reports that we do with VACAR and those have been generated on a quarterly to SERC. And SERC compiles them and sends them up to NERC. A little bit more on that, if the event happens on our system and we call on reserve from say Santee Cooper, then we will be obligated to generate a report, send it to Santee Cooper, they have to fill the report out to make sure that --- to show that they recovered in order to ensure compliance with the standards that are measured. Probably the easiest way to explain more of this is just to go through an example here. Williams Station, that's a big plant we have down in Charleston area, somewhere around Goose Creek, Monck's Corner --- below Monck's Corner. But it's a fossil plant, burns coal. And it's 600 megawatts. When a plant falls off line, or has a problem, comes off, we call it a trip. And if we were in perfect balance and all of a sudden we lost Williams Station, our ACE would go negative 600. So, we have got a problem. That big red chart up there

would go to flashing. And the dispatcher sitting there, he would respond. And he has got fifteen minutes from that event to get 600 megawatts back on the system to get us back in balance. You know, one option would be he could just go open a few breakers and drop 600 megawatts load. As I said earlier, that's not what we want to do. We want to go generation on line to keep everybody's lights on; you know, keep the employees working at the plants that are running. What we would do to get 1,500 megawatts, and this is just an example, we have got Fairfield Pump Storage up here, and if this happened in sort of getting close to a peak of the day, we may cut on a couple of units at Fairfield to give us 150 megawatts. We can get those dispatched very quickly. We have got folks up there at Fairfield sitting in the Control Room that can flip the switch and get them going. We would call on 200 megawatts from out here at Saluda. And our dispatchers in the Control Room can actually start those units up from right there at their desk. Well, we are almost there, but we need some more reserves, and that might be really all we have got that's quick that we can get on. So, we would call Duke and get 250 megawatts from Duke. And that would get us over that hump in that fifteen minute period. Now, when we call Duke to get 250, well he is carrying 550 in reserve, but he is just going to use his

reserve to supply it. And then to get off of that in ninety minutes, we are going to have to go and buy power on the spot market, or get another unit started. We might have another unit that's slower to start that we can get cranked up. But we would need to get 600 megawatts back very quickly to get off of our reserve and to get off our neighbors' reserve.

Another example here would be, let's say CP&L called us and they had lost a unit, a small unit, 150 megawatts. But we are obligated to supply 200; so, we would ship them 150 megawatts instantaneously, or as soon as they called it. The one minute ramp that he has got there, that's basically how you actually tag the transaction into your neighbor's Control Area. And you come up with an agreed upon amount of time that, you know, you are going to go up, and it's going to affect his ACE. But when we put that instantaneous ramp in, our ACE is going to go down because we are supplying more generation off of our system, so it becomes 150. So, now we have to recover, because our ACE just went negative for helping supply our neighbor. And so, in order to replace that 150, we are going to load up Fairfield, and we might load up one unit at Saluda; but I know there's an example here because I did cheat and look ahead. Is that enough? Well, one of the small units at

Saluda is only 35 megawatts. So, if you have got one unit at Fairfield that's 70 and one at Saluda over here that's only 35, you wanted 150; so the answer is, no. You have got to put one more of the units on at Saluda. And then that gets you off over the hump.

That's just two examples, and they seem, I guess to me, pretty simple because we live it every day. And I don't know if it's simple to y'all. But, that's really how it happens. I mean, we respond to problems on our system and we help our neighbors respond to problems on their system. The whole Grid is interconnected and it's there to kind of keep itself up, and to not let anybody fall off. And then after the fact, we actually all do report to one another.

Let's get into more --- I guess why y'all are here, probably more interesting for y'all would be, why Saluda? Well, Saluda --- I like to use the term from our standpoint in the Control Room, Saluda is like a bread and butter. You know, it's a unit that comes on, it's water, water flows by gravity, spins those turbines, and pretty much all the time we can depend on it much like our units up at Fairfield, unlike some of our other generation that doesn't respond as quickly. V.C. Summer --- well, if you need 200 megawatts in fifteen minutes, it's about 13 megawatts per minute that you need to be ramping up. V.C.

Summer, let's say it was back down for some reason, which isn't normal in a nuclear plant. That's your base load unit, the cheapest thing you have got on a system; you want that load at all times. But if it was back down and you needed some megawatts, you could call up there but you are only get about 1 megawatt per minute. And in fifteen minutes that ain't going to help you out a whole lot. Our coal plants average about 5 megawatts per minute. You know, coal is back down sometimes. But there again, only 5 megawatts a minute, you don't get a lot of that quick response. Quick start turbines certainly would help. But, as I mentioned earlier, there is issues with mechanical machines. And from our experience, the quick start turbines, you know, you've got fuel that has got to flow. It's an engine, you have got to get it started, it's got to turn over and start. They don't run a whole lot, so you have got to hope it's going to start when you crank it, you know. It's not like something you run every day; you get in your car and drive every day. So, they are not as reliable as your hydro resources are for responses to emergencies. A little bit --- what I mentioned earlier is about the reserve being off line, there's a lot of times at night, load drops off at night. And in weather like we are having right now, it is so non-typical. We have got power plants off line right now because there is not

enough demand on the system to have all of those units on line. So, what we are actually having to do this week in addition to keeping units off line is, we are actually backing our steam plants down to their minimum. Williams Station, as I mentioned earlier, is a 600 megawatt plant. But you can't just shut Williams down tonight and have it back tomorrow morning. You know, these big coal plants don't operate like that. It will only back down to about 450 megawatts; so, that's your minimum run. And when we say we have got minimum problems, that's because we have backed everything we have got down to minimum, and we have still got too much generation on our system. So, that's just a point I wanted to bring out about the weather this week. The other thing that I had a note down here to mention is, if you are holding reserves on one of these coal plants because it's backed down --- so, let's say Williams, we've got it backed down to 450 and it can do 600, well, you can do the math and see what you can get in fifteen minutes, which isn't a whole lot. But, if that is the unit that trips, guess what? Your reserve just went away with it. So, that station doesn't really do you a whole lot of good for reserve.

A little bit of review here. Generation trips, they happen at any time. They can happen tonight at

midnight. And to give you another example there with the use of Fairfield Pump Storage up there. At night time what we do, as we back the steam down, we will start pumping at Fairfield Hydro, Fairfield Pump Storage. Well, when we pump up there that puts more demand on our system, so we have got to have more generation. But, the way we do that is, as load drops down instead of backing your generators on down, we might start throwing pumps on to balance it out. So we will start pumping some water back up the hill. At night time, if we lose a major unit at night time, and let's say it's a 600 megawatt plant, well, we could be pumping 600 megawatts up at Fairfield. Well, the way we recover there is, we just shut the pumps down. We don't have to run Saluda, we don't have to ramp anything else up, we have just gotten rid of 600 megawatts of load, so we are back in balance. So, that's kind of a little trick we can use with the Fairfield Pump Storage that is really good for companies, Control Areas Balancing Authority, to have pump storage facilities.

But, on into the review, generation trips can happen at any time. There is always exposure because there is always machines that are running. Summer afternoons and winter mornings are the most likely times because that is when your systems are peaking, that's usually when you have

more units on line, so you have got peak conditions that you are trying to respond to. There's many factors that can cause that interruption of generation. And, you know, we get a few mornings, we might have a plant operator call us and say, "Hey, I have a tube leak that just sprung out. I have got to bring this thing down to the minimum." We try to get them to hold on as long as we can, but the longer you run those units with a tube leak the worse damage you can cause to the actual boiler itself. So, you don't want to cause more damage because that's going to be more time without that unit on line. But as far as Saluda, when we need it, it's 200 megawatts, it meets our reserve sharing obligation which is exactly 200, by chance. And it's very reliable, and it helps us to respond to emergencies when we need them, when we don't have other units to do it with. That's really I have got in the presentation. You guys are very nice in not asking questions, but I guess we ought to open it up now. I feel like I flew through that, but if you folks have got any questions, I will do my best to answer. If not, I am going to point to Randy.

MR. BOB REAM: I'm Bob Ream, and I am just a homeowner attending out of interest. And, understanding your Grid and everything was very helpful. What didn't come out of it, to me, was what is the sensitivity of the amount

of power coming from the Dam? To put it in simpler words, if you have a billion units of something and the Dam represents one unit, it's sensitivity on the system isn't very much; and in that, it doesn't give you an appreciation for how much the Dam impacts on that Grid. Is it a substantial volume? How much of a reserve is it? Does it make a hundred units when you are trying to recover 200,000 units? That really doesn't come through to the listener.

MR. DELK: Let me go to the demand on our system. Our peak load occurred about last August. And I don't know the exact numbers, but seems like it was about 4,800 megawatts. But, 4,800 megawatts would be the highest peak demand we have ever seen. So, we need 4,800 megawatts of generation. The Saluda would be 200 megawatts of that 4,800. But from a generation standpoint, we can add up 1,000 up at V.C. Summer. Getting a little specific here, but we only get two-thirds of V.C. Summer because our friends down at Santee Cooper own the other third; so, you know, we don't 1,000, we get 760, or whatever. But then we go to --- Williams Station is another 600. So, we can stack all of our, you know, the resources that we have, the generation resources, and add them up. I mean, 200 would be Saluda versus our peak demand of 4,800. Is that kind of what you are asking about?

MR. REAM: To me, as a listener, it doesn't sound

like it's enough (inaudible).

MR. ALAN STUART: Alan Stuart with Kleinschmidt. You maybe do have that 4,800 at peak demand, you still must maintain 200 megawatts in reserve somewhere.

MR. DELK: Oh, yeah.

MR. STUART: So, if everything is exhausted, they have to maintain 200 megawatts as part of the Sharing Agreement.

MR. DELK: Yeah. Maybe I didn't get clear enough on the Reserve Sharing Agreement. The Reserve Sharing Agreement basically, which looks at the whole reserve sharing group; and it divides up the amount of generation that each Control Area needs to hold at all times to be able to recover from the loss of one and a half times the largest unit in the Reserve Sharing Group. And our portion of that is 200 megawatts. So, we have to have 200 megawatts on standby all the time to respond to changes on our system and our neighbors' system because of the Agreement. Now, 200 megawatts is a lot better than having a whole 1,000 megawatts, or 765 megawatts, or 780, or whatever the number changes, you know. Because, it's simple economics, you know, you don't hold something sitting here that you are not running it, it's just sitting there on standby, and you run it if you need it. So, would you rather have 200 that you

have got to hold there? Or, 765? We would rather be the part of this Reserve Sharing Group and only have the 200.

MR. REAM: So, is it fair to say that the Saluda Dam, then, is the majority of the reserve that is your primary source of reserve?

MR. DELK: You heard me use the term, and this is my term, I kind of coined it because I work in the Control Room. It's the bread and butter, because it --- you know, we don't normally operate Saluda to serve load, it's usually sitting there on standby all the time. When it is run, it's usually --- I mean, there's other reasons it runs. We are running right now because we have got to get the Lake level down, you know, to do the work on the --- what is it, the rip rap along the road there. So, you know, we are running it right now. I think we are running it at about --- did you see today, was it 100 megawatts or so? To try and get rid of that water. So, if we are running it at 100, then yeah, I have got another 100 sitting there that I can count towards reserve, but I have another 100 megawatts that I have got to have somewhere else so that I will have 200 megawatts that I am not running anywhere. But it just so happens that most of the time --- and another example, when we would run Saluda, that Lee used this morning is a very good example. When we have these storms coming up, you know, hurricanes or

these tropical storms coming up out of the Gulf that might dump a bunch of rain on us, well, the first thing we do is to start calling Bill Argentieri when the thing even comes on the weather channel, and say, "Hey, you need to start running your models and tell us how much water is going to come in the Lake." Because, you know, if the Lake level is up at 355 to 358, or wherever, it doesn't take a whole lot of rain to keep it going up; and, you know, we don't want a flood. You know, that 360 there that is our limit. So, we will start actually running ahead of time to try and get the Lake level down to make room for that rain that's coming. Now, you know, what typically happens, we start running it because these models are predicting that the flood is going to come our way and we are going to get, you know, six or eight inches of rain dumped on us, and the Lake level is going to spike up. So, we try to start making some room, you know, head room in there. And Duke, if it's raining up at Lake Greenwood, you know, they are going to start opening their gates and start, you know, piling a bunch water down into us. So, we have got that coming down. And I think your model takes all that into account. Correct? So, you know, we will run it then to make room for that water that's coming in. You know, as typically happens sometimes, we'll start running like crazy and drop the Lake a few inches, or maybe

a foot; well, that tropical storm turns and goes the other way, and we don't get one third of what we thought we would get. But, if it does come, we have gotten rid of the water and the Lake comes right back up to where it is? Well, you know, we look pretty good. We don't control that weather, you know. But, to your point about the 200, if we are running Saluda, we have got to have the 200, the total of 200, somewhere else. And it's usually at Fairfield or Saluda.

MR. TONY ZANDEREJ: You talk about your 200 coming out of Saluda, to get the 200, what does that bring the Lake level down? Per day? Per hour?

MR. DELK: You know, I would argue that when we run it for emergencies as I just mentioned, we crank those units up to 200 megawatts to respond to an emergency, well, we have got to get off of that in ninety minutes. Because, we have got to have our reserves back. I don't even think, I mean, I don't think you will see it for the emergency --- It's a very, very small fraction. You probably could see more evaporation in the summertime. You know, with the drought we had what? Three years ago, now? And we were sitting having conversations with Duke Power every day about, you know, "What are you going to do at Greenwood? Are you going to help us out? Are you going to put some water in

the Lake?" We weren't running the Lake at all, and I mean, it was dropping, and it was pure evaporation from not having any rain coming.

MR. ZANDEREJ: Is there a lower level when Saluda no longer becomes reserve? Like if it gets down to 354 in the summertime?

MR. DELK: Well, I think that number --- that number right now was 345.

MR. ZANDEREJ: 345 is when you would stop the Saluda Plant?

MR. DELK: Now, I say that. You have got the River downstream, you have got to keep flow, so --- but I mean, you have got leakage around the units that keep that. Now, Bill knows those numbers of what you have keep flowing, I mean, you know, to keep the River going.

MR. ZANDEREJ: I'm doing it backwards. But for the record, my name is Tony Zanderej, we are just a homeowner. We used to live on Lake Lanier, and Lake Lanier seemed to, when there was drought, would just go way down and they would keep it down.

MR. DELK: Is that Duke, sir?

MR. ZANDEREJ: No. It's actually --- it's not a generation plant. Over in Georgia. Yeah, it's Army Corp. So this lake wouldn't go down, and you would keep it down

for creating generation in the middle of the summer, or something?

MR. DELK: No. Like I said, Saluda is mainly our bread and butter for reserve. We don't dispatch it every single day, you know, to meet that demand that I told you about that comes in every morning. We have got other units that we are load --- that's called loads following, is what you are getting into, which is, you know, what units do we run to meet demands on the system on a daily basis? Now, if we have to do something like we are doing right now, we have got to get the Lake down, well, yeah, it's going to serve some loads; but that head room that is not running right now, well, that we don't count as reserve. But we have got to go get the rest of our reserve from somewhere else, though, here. Yes, sir. I think she wants you to get the mike.

(End of "A" side of tape)

MR. TED TSOLOVOS: If you are running 17,000 ccs down the Saluda, whether your are running ---

MR. DELK: Say your name, please.

MR. TSOLOVOS: Ted Tsolovos, with Trout Unlimited.

Whether you are running 17,000 ccs, or 8,000 ccs, you are only getting 220 megawatts? It doesn't matter? I mean, is

there a formula there for the amount of water going down?

MR. DELK: Bill needs to talk about that. I look at megawatts. You know, we want to keep the lights on.

MR. BILL ARGENTIERI: Bill Argentieri, SCE&G. Megawatts generation equates to cubic feet per second. So, 18,000 cfs, cubic feet per second equals about 206 megawatts. If he is only using 100 megawatts, then we are going to be looking at 9,000 cfs. So, that the amount of megawatts that we are using reduces as the --- no, the cfs reduces as the amount of megawatts reduces.

MR. TSOLOVOS: So, I'm sorry. If it's 9,000 it will be ---

MR. ARGENTIERI: Equal to about 100 megawatts. 18,000 would be equal to a little over 200 megawatts.

MR. TSOLOVOS: At least when I am out there, I am going to (inaudible).

MR. ARGENTIERI: What's that, now?

MR. TSOLOVOS: So, if I am out there fishing and I get caught out on the island, or something, briefly how much electricity is burned.

MR. ARGENTIERI: If you can measure cfs while you are out there, yeah.

MR. DELK: You might just impress your friends, say, "Hey, you know, I think somebody just lost a power

plant somewhere."

MR. KEVIN CLOUD: I am Kevin Cloud, I am with Trout Unlimited. And, you mentioned Fairfield and the Saluda, what makes --- are there other plants producing?

MR. DELK: Producing? Oh, yeah. I mean, we can go through the list. McMeekin Station right down here, the big coal pile you see right beside the Saluda facility, that's two units, 125 megawatts each, 250 megawatts of coal plant; Cope station down outside of Orangeburg, between Orangeburg and Bamberg, 415 megawatts, coal; Williams, we mentioned that. Urquhart --- down in North Augusta, got one coal unit and combined with cycled gas facilities there. Our newest plant, Jasper, which is down in Beaufort --- what's that? Jasper County. But, we just put a large combined cycle unit down there, three gas turbines with one steam turbine. We have got a lot of little turbines, you know, scattered around the system. You know, in an electric system, and we didn't get into all the voltage, and how you have go to keep the voltage up, and all that. But, you want your generation dispersed and spread out because of us keeping the voltage up and keeping the lights bright, and all that. I didn't get into frequency and all that, but we could, you know. If we were out of balance --- this is something that I learned in the Control Room, which I thought was pretty neat. But,

if we are out of balance and it's because we are generating too much, and let's say everybody, all of our neighbors were out of balance, you know, the whole Eastern interconnection, every Control Area decided, "Well, you know, we are going to run a little high today; we are going to get up above our -- - our ACE is going to be positive and not zero." What happens is, the frequency of the whole interconnection - because we are tied together - starts creeping up above 60 cycles per second; and it might be 60.01 or .02, and on up. Well, what that causes is, your clocks to run a little faster in your house; so we actually would be speeding the time up. And, that's true. I mean, we have actually --- we entered into --- there is a time correction monitor for the Eastern interconnection that's AEP, American Electric Power Company; and they actually monitor the interconnection frequency and then the time component. And we actually will enter into time corrections where we will put a little offset into our ACE. Everybody in the Eastern interconnection will do it to get our clock time, our electrical Grid clock time, back on the atomic clock time. So, that's monitored in the Eastern interconnection. Yes, sir?

MR. JAY SCHABACKER: I am Jay Schabacker, a homeowner on the Lake. And I didn't have a lot of the

knowledge that you have as I walked in here; and so, I was under the impression, maybe I still am, that Saluda is the coal plant, plus the water generators. So, you may have to correct me and tell me how much you generate in the coal plant, and how much you generate in the water generator. And, explain that little bit.

MR. DELK: Okay, you want just those two units? Do you want to understand that? Is that what you are asking?

MR. SCHABACKER: Well, tell me about the coal plant.

MR. DELK: There are two units right down --- you are talking about McMeekin Station, there is two units there. Coal fired boilers, 125 megawatts each. We run those pretty much full boil, wide open. That's what we are serving load with right now.

MR. SCHABACKERK: They are not related to the ---

MR. DELK: No, no. They are completely different facility, different operators. You know, when we have got to dispatch --- you know, when we want ramp a coal plant up, we call the operator at that facility and get them to ramp it up. Like right now, you know, it is getting dark outside, people --- well, some people are going to bed right now, I guess. But what happens is load is actually dropping off right now. So, what the guys in the Control Room are doing

right now is, as load drops off, well, he has got this generation on line; well, he has got to get back in balance; so, he is calling our power plant, and he is doing it on --- he's trying to do it on the most economic basis we can. And he is calling the most expensive unit we have got on out there, and he is saying, "Okay, back me down 50 megawatts."

And, you know, a load may have only dropped 20 right now, but he knows it's going to continue to drop so he will get that steam plant to back down 50; and then load is going to kind of come back, and keep coming down, keep coming down, and he will be back in balance. And he will do that all through, til later on tonight. And he will get all of his units back down to where he is basically as low as he can get his units. And then he is going to start pumping at Fairfield. He is not pumping at Fairfield tonight, I know that because there is not enough demand on the system right now to necessitate us pumping expensive, you know, water up the hill and creating an expense. So, we won't be pumping tonight, we will be backing those units down as low as we can get. What that is also going to cause us to have to do tonight is, the water that we have been running at Saluda to try to get rid of, well, if we don't have the pumping load, we are going to have to shut those units off at Saluda. And it will be shut down tonight. Now, tomorrow morning we can

start those units back up as the load comes in to try to keep getting rid of that water.

MR. SCHABACKER:: Someone said to me --- explained something to me, quite awhile ago which is not the way you are talking about it right now. And that was maybe incorrect. But that was, well, the Saluda Power Water Generation Plant, we use that when --- ramp it up when the other coal plants are down for maintenance, or something or other. In other words, your output from the Saluda is variable depending upon the needs of the others. It was a little bit different than what you said.

MR. DELK: Do you remember the name?

MR. SCHABACKER: And the other alternative is, it seems like the generation from the water generation, is that pretty constant? I mean, you don't stop and start it? It's pretty constant? In other words, you are not fluctuating the power upward from the turbines too much?

MR. DELK: No, not on --- like, what we are doing at Saluda right now, I think we --- I wasn't a part of the actual plan that was developed, but we are trying to get the Lake level down. And I think the plan was, "We will start those units up, get them to a certain level, and just run it there all day." Does anybody else know --- Mike, do you know?

I think it's 100 megawatts, you know, all day long, leave it right there and let it run all day, and let's get rid of some of that water. But, no, changes in demand, you know, that's --- and our response is called load following. We are trying to follow that load. Now, you say hydro. See, we consider hydro to be Fairfield. So, to your statement, yes, we do use some hydro to follow load. Fairfield is our prime example up there because we can start a unit as the load comes in; when load gets on up, and that first unit is maxed out, yeah, we will go start another unit at Fairfield. But, typically, we don't do that with the Saluda Plant here. And then, our other hydro facilities are run of the River; so, whatever the River is giving us at that time, that's the generation you are getting. Okay?

MR. GREG ATKINSON: Greg Atkinson. And maybe the gentleman with the model, if it's going down to 345, how long is it going to be there? And, theoretically, how long in turn would it take to fill back up to a normal winter level?

MR. ARGENTIERI: Bill Argentieri, SCE&G, again. We normally don't take the Lake down to 345. The normal operating range is between 358 and 350. The only time we would take it down to 345 would be for a maintenance activity. So, if we ever took it down that long, it would

be down there based on --- it would be down at that elevation based on how long the maintenance was going to take. Whether the maintenance be on the Dam, the spillway, the intake tower, wherever the maintenance activity was required. As far as filling back up, that is all based on Mother Nature; and if there is a lot of rain, it will fill up quickly. If we don't get a lot of rain, it will take longer to fill up.

MR. ATKINSON: When is the process --- should it be finished this time, to start the process?

MR. ARGENTIERI: For why we are drawing it down at this time? We are looking at a six week window to do the actual work, once the water level is down to 348. So, we are shooting to have that --- the Lake level down to 348 by sometime next week. So, we should have that actually sometime early next week, it should be down there. And then a six week window to do the work; and then whatever it takes as far as the rainfall that we get to bring it up. Normally, January through May is our rain season. So, in a normal year we should have enough rainfall to bring the Lake level back up to normal Summer levels, which are 358.

MR. DELK: I think there was one over here.

MS. SUZANNE RHODES: I am Suzanne Rhodes, with the Weather (phonetic) Federation. It's sort of a different

kind of a question. But, it seems to me in the past we have heard a lot about brown-outs. And even with the drought over the last two years, I haven't seen that much about brown-outs. So there are kind of two questions. One is, is it because you have refined the balancing? Or, the other is, what percentage of your generation has the failure --- or, how does demand and generation have to separate itself before --- where are the brown outs?

MR. DELK: I don't know. I mean, luckily, we --- and like I said, in the Southeast, you know, we are pretty proud of the way we have handled the Grid in the Southeast.

We have got really good working relationships with Southern Company, who is huge. Now, they cover Georgia all the way to Mississippi, Alabama, and all those states; and Duke, which is getting bigger and bigger. So, you know, we do have problems. We do have loses of generation. But fortunately, we have had reserves on line, and we have been able to use our reserve and our neighbors' reserves, and we haven't had to drop any loads. You know, one of the things in the blackout that --- you know, and we have looked at many, many reports of the blackout; and a lot of changes are going on on our side of the business in response to the blackout. But that blackout, in our minds, could have been prevented. The events that started that blackout started about 1:30 in the

afternoon. The blackout in the Northeast didn't occur until about ten minutes after 4:00. But there were some lines in the Cleveland area that started loading up; and when lines load up, the lines heat up, and when lines heat up, they sag down. And what happened is, they started loading up and the line sagged down. And that was because they had some generators that were off line in the Cleveland area that would have been supplying loads. Those generators were off, and it was requiring power to be pulled in more than the lines could handle. So, you had lines tripped off. Well, when one line trips out, it is not carrying load; that load that is still being served is being carried by other loads; because, as I said, we are all interconnected. But, I know I'm getting --- we haven't had the experience with the problem, thank goodness. But we do have mechanisms in place that if we did see an event occurring, you know, we could go --- and the Controller is sitting in the Control Room right now; he can open a breaker, and he can --- you know, we control the Grid, we don't control your city streets, but he could open a breaker that wouldn't just shut down one street out here in Irmo; he could open a breaker that would shut down all of Irmo. So, we would see --- an instant relief is what we could get, if we got into that emergency. You know, we haven't ever had to experience that; but we do --- we

train our dispatchers, our System Controllers in doing that so that they are ready to do it. Because, if dropping load saves the Grid, then that's what they have the right to do. Matt Bullard, sitting here, works for me, he is a NERC certified System Controller. And we all have to be certified in these NERC standards; it's an exam you have got to go take. And you know, you were in training today. Right?

MR. MATT BULLARD: Yes, sir.

MR. DELK: And we go through training every month on different things to make sure these guys are ready to respond when those events happen. Because, you know, when they are sitting up there in the Control Room monitoring the Grid, they have time to pick up the phone and call a manager, or call a vice president, or call anybody; they have got to respond and take action right then. And that's what they are --- we have a written statement in there that comes from the Vice President of our Company that gives them the authority to shed load on the system. But, their objective is not to shed load; their objective is to sit there and use the resources that we have got on our system to keep the lights on.

MR. REED BULL: Reed Bull, with the Midlands Stripers Club. The hydro unit, generation unit, at Saluda, there are five.

MR. DELK: Yes, sir.

MR. BULL: And, as I understand it, there are four that are deep draw and different sizes. What are the sizes of those? And, is basically the sequence in which you turn them on, basically based on the demand? Like one is 35, if you need 35 you cut it on? But there is no fixed sequence because --- there has been a lot of discussion about Unit 5, and I think, as I understand it, and I am telling you more than I know right now, it comes off at a high level --- and, there has been some association of that with problems with the dissolved oxygen during the summertime. And, I mean, are there some things that can be done to not use that unit? Or, do you have to use it so often? Or, what? Just generally, what are the ground rules there?

MR. DELK: You had better ---

MR. ALAN STUART: Alan Stuart, with Kleinschmidt. As part of an agreement with the South Carolina Coastal Conservation League, I don't think we have a representative here, we did some turbine testing on those units. Four of the units, I think, deliver about 37 and 1/2 megawatts.

MR. DELK: I can answer that part.

MR. STUART: Okay.

MR. DELK: Number 5 unit is about 70 megawatts.

The first four, which if you are looking at them from the Dam, the four to your right, the big ones on the far left, I think, those are about 35 megawatts each. So, you are right in your response. If we need it, we would try to get it from whatever combination of those. If we needed 100, it will be a 70 and one of the 35, probably. But it could be four of the 35, you know.

MR. STUART: Can I elaborate on his statement? During the period from about July through pretty much the end of November, the DO in the bottom of the reservoir obviously is very low. And the discharges from the hydro affect the DO in the tell rates at Saluda. As part of a settlement agreement with the South Carolina Coastal Conservation League, we did some turbine testing. SCE&G installed what they call hub baffles on the units, on the runner. And these hub baffles, they accentuate the air flow through the unit, and actually inject oxygen into the discharge, into the tell rate. As part of that turbine testing, we went through and documented how much each unit would aspirate. And as part of that, we developed what they call "look up tables". And their group, based on this turbine testing, some obviously like Unit 1 is very good at aspiration, where Units 3 and 4 may not be as well. So, what they try to do is match generations based on using operating

Units 1, 3 and 4; it's a 30% gate. And so --- as opposed to, you know, if they need 100 megawatts, we'll say. Take the numbers here. Instead of just firing on Unit 5 and Unit 1, what they would do is, probably fire up Unit 1 fully because it aspirates the best; and then a combination of maybe 2 and 3, which may do half of --- you know, make up the difference to get to the 100. So, that's why Unit 5 typically is the last to come on, as far as I know. It does aspirate very well, but it is typically the last to come on, as far as I know.

MR. BULL: Well, if you look at (inaudible) it creates a problem in the (inaudible), it creates a problem for the stripers. I think --- and I don't know whether this is right or not, but it's what I have been told. So, that's what I am trying to find out, what's right and what's wrong.

The several fish kills we have had over years, there seems to be some association with the amount of time that Unit 5 is run, which is pulling off the higher area that has some dissolved oxygen content that may be affecting that striper kill. I am just trying to find out what we know about it.

MR. STEVE SUMMER: Steve Summer, SCE&G. In the Southeast, it's very common for reservoirs to stratify in warm water on the top, cold water the bottom. As that happens in the summertime, as things decay, everything from

microscopic plants and animals, to leaves, or anything else in the water, the bacteria tend to use oxygen up. So, as that summer progresses, we are getting toward the fall, the dissolved oxygen levels in the bottom of the Lake get very low. And because of the stratification in the Lake, we have a layer between the warm water on top and the cold water on the bottom called a thermocline (phonetic). That layer effectively prevents mixing from the surface, which has a lot of oxygen because of the contact with the air, and the bottom which has no contact with the air and can't get any oxygen source. So, as long as that thermocline (phonetic) is stable, and that stratification is stable in the Lake, that dissolved oxygen in the bottom part of the Lake continues to go down. And we get into the cooler weather, mixing starts to happen and the problem goes away. The stripers end up doing pretty well in Lake Murray. But, they have temperature limits and dissolved oxygen limits. And it just so happened that they don't like the water on top, in the late summer it's too hot for them, they want to go deeper. They try to go deeper, they can't function very well because there is not much oxygen; so, they tend to get stuck in a band of water that just so happens to be right about where the intake of Unit 5 is. So, the crunch for the stripers can happen, but the operation of Unit 5 may impact that.

Operation of Unit 5, or not operation of it may not prevent the kill, it might help make it worse or better. And generally, during that worse time of the year, we have tried to have Unit 5 last off, and the last on, first off, to try to prevent that from happening. Sometimes they are doing better than others.

MR. BULL: One other question. This fish kill last year, and then there was another one back in '90 or '91, I can't remember the exact year. Didn't both of those occur shortly after the Lake was down and the water was brought back up? Because, ya'll drew it down the first time, was in --- was it '90? And then we did it in '96? '90, '96? And then recently. Could that be something that is contributing to it? I think all the vegetation may have had something to do with this summer.

MR. SUMMER: I think that's entirely possible. You know, when we flood that reservoir, you have got a lot more material that grew up over that time period, to that long draw down. So, I can't say that that was the case, but it sure seems reasonable that it could have been a factor.

MR. DELK: Yeah, we'll have to practice, I'm not very good at it. Over the year before we had the --- well, last year we, I think, D&R put in how many stripers?

MR. Mahan: I don't know what the stocking rate

is, it varies over the years. I thought over the past year and a half it's been over a million stripers. About a million stripers put in there. Do we have any estimate on the number of stripers? Now, I think one of the real problems with it is, the stripers that seem to be most impacted are a pretty nice size area. But in terms of having overall impact on the striper fishery, in terms of numbers, it's really a very small number that gets impacted by this. At the same time, it doesn't make it any easier to see out there when you go out and --- and, we were out there on the boat when this started happening to see the kind of stripers --- I know, just would have bitten my hook if I had just been out there fishing. And they are in the hundreds at the same time. Overall, Lake Murray certainly is no worse, no different, than most other Southeastern lakes, deep lakes, that have striper populations. Fish kills happen every now and then. I think what we need to do is just to --- as Steve indicated, we need to understand as well as we can what the impact of our operating Unit 5, and as much as we can to reduce whatever adverse impact that is, is to be careful that we do that. Last on, first off, a pretty plain rule on there; but, if there is anything in addition to that, we certainly --- that's one of the things we are looking at in our fisheries, RCG.

MR. DELK: Let me have one more response to the Control Room. And Lee would have answered that question better because he is the manager over that group. But, what they did with those look up tables is our most senior guy in the Control Room, is called a Senior System Controller, he basically --- and there is two guys that have that position that are in there every day. Not weekend, but --- they actually understand the look up table. And when the guy on the generation desk needs to start those units, what he would do is look back and say, "I need 'X' amount. Tell me what to run." And that's what he would do. So, we do use those look up tables that were developed to do that.

(Off the record)

MR. MALCOLM LEAPHART: Malcolm Leaphart, Trout Unlimited. I have a couple of questions about the Grid. One, I understand this is a --- being in the Grid is required by The Federal Power Act. Right? Okay. My question is, it looks like what you are emphasizing is having the insurance, if you will, of having the ability to generate the 200 megawatts quickly. Okay. But, I guess, what I am wondering is, is this also a profit maker? What kind of steps do you have, say, over an annual period as far as power in, power out? Do you ever bring power in from other

MR. DELK: Oh, yes.

MR. LEAPHART: And, how does it compare to the, you know, the power that you send, you know, back out to the sub-regions?

MR. DELK: Yeah. I mean, what we do every day, every night at midnight, we actually have a check out with all of our neighboring utilities. And we verify meter readings on, you know, how much power flowed to Duke, how much power flowed back to us. You know, on a AC power system, power is going both ways. I mean, it may be --- we may be bringing in power --- we may be perfectly in balance, but still bringing in power from Duke. And that power might be going out to Southern Company. We may be sucking in power from Duke right now - and I am just going to use Duke for an example - and then some event happens on the system, and all of a sudden the power flow on that line will be reversed. Matt, one of his jobs here is, when he is on shift, is to actually study the Grid, and study --- "Okay, this is the way the system is configured right now. We know the load is going to about to change." Okay, what's going to happen? You know, if this line --- he runs what is called a contingency analysis, and it says, "Okay, if this line trips off line, this is how those flows are going to change." So, we are constantly studying the Grid, monitoring the system.

And then after the fact, we do check outs with our neighbors to see, you know, where the power flows. And if we are out of balance, we actually have to go and do things to bring, you know, a balance back between. The measurement that --- it's an ongoing --- accumulated measurement on the Grid is called "Inadvertent". Inadvertent is simply the difference between the amount of power you schedule to flow and the amount that actually flows. And that is measured continually; it's broken into what is called "on peak hours" and "off peak hours". But it is a running total, and if your inadvertence gets out of whack, you know, you do something. And say our inadvertence is out of whack with Duke, well, we will go and put in a schedule adjustment to bring that inadvertence back in line so that everybody, every Control Area, every Balancing Authority, is doing what they are supposed to do. A little bit more to your point about being interconnected. You, by all means, want to be interconnected; because, if you are not interconnected and you are your own system, and you are dependent on your own self only. And it's a lot better --- that's called "islanding". And during the blackout, one of the things that happened is, there were portions of the Grid up in that area that actually kept their lights on, but they were on an island. And they weren't interconnected to

anybody. And they were responsible for balancing that generation and load. That's not a desirable state because if you lose a generator, and you are on an island, you know, you don't have anybody else with power to come in with flows and keep your system whole, you know. If you lose that generator, you are probably going to lose your system very quickly. So, one of the basic things they teach you in interconnection operations is, you by all means do everything you can to stay interconnected with the systems around you.

MR. MAHAN: Malcolm, I think I also heard you ask basically the question of whether or not we make money by selling hydro, by selling Saluda to other utilities. We do not sell Saluda in the market.

MR. LEAPHART: (inaudible)

MR. MAHAN: You know, I find it interesting that all this relying upon one another, you know, when we lose some --- we lose generation and we get that instantaneous response from our neighbors, and so forth, there is no money that changes hands that's on those transactions. Which is why it is --- everyone absolutely wants to make sure that somebody out there is not gaming the system by leaning too much on this, quote, "free power". We don't do it to our neighbors, we don't want them to do it to us. And that's why

I say we don't sell Saluda. Okay? Saluda is there to meet those reserves and, guess what? Nobody makes money on reserves. The only way you make money on reserves is by avoiding costs that you otherwise would have if you had to maintain 100% of your own reserves.

MR. DELK: And I kind of think of it like this. When you are running --- you are in the Control Room, a Controller sitting there, you know, yeah, he has cost in his mind. He wants to be --- he wants to run the least cost unit. Because running the least cost, you know, it keeps --- most of them are on the E&G system, it keeps their power bill down, it keeps yours. So, but profit is calculated down stream by somebody in a finance group. You don't have time to worry about that. But you do have to --- you know, you do try and think of ways you can minimize cost. But in emergency situation, when you have got to keep the Grid whole, you probably are not being very profitable because you are going to get whatever the quickest generation you can get on line. And it might be your most expensive. But that's what you have got to do. Now, you try to get off it very soon by replacing it with something that is less expensive. But, in that instant when you are trying to run the Grid, you really don't have time to think about profit, even though you are keeping cost in your mind.

MR. MATT BULLARD: Pumping at Fairfield late at night, (inaudible).

MR. DELK: Matt mentioned about pumping at Fairfield. Well, we wait to start pumping at night after we have --- after all of our load have dropped off. And we, a lot of times, are buying very inexpensive power from other systems, and we are using that power to pump with rather --- you know, we may have our own steam backed down to the minimum, and maybe buying power off our system for that pumping, to get the water back in the pond. And that makes the value of that water as a generator the next day less expensive.

MR. ROY TRYON: Roy Tryon, Trout Unlimited and Palmetto Paddlers. I appreciate your presentation, it was really clear and compelling. So compelling that I am now wondering as a paddler and as a trout fisherman down in the Saluda whether there is any solution to the problems that we perceive as, you know, the flow that sometimes carries some of us away. Given the fact that the Saluda seems to be the key to your ability to ramp up quickly for that margin that you need. Do you see any way to --- out of this for us? That is to get a more reliable flow?

MR. DELK: You know, like --- what we very much want to have in the Control Room is that quick start ability

to get the megawatts. Because, our objective, as I have said over and over, is to keep the lights on and to be able to respond to emergencies. And then we try to get off of it as quickly as possible. You know, it's a dam; it was built to generate electricity. And that's kind of what we use it for, understanding that there are effects downstream. But, you know, it's not like we do it every single day, either. We don't have emergencies every day and have to ramp it up every single day. And a lot of times in our emergencies, we don't use Saluda; we use another unit, we will use Fairfield. If Fairfield --- as I mentioned earlier, if Fairfield is pumping, we will just shut the pumps down. Or, if we only have one unit at Fairfield, we have got a total of eight units at Fairfield, we will just start the other seven, or however many we need. And a lot of times, what we might do is, if we have got one of those steam plants backed down on its minimum, what we will do is start a quick hydro resource until that slow ramping steam unit can come up, and then we will very quickly back off of the hydro to recover, and then allow another resource that is unloaded to load on up, and then we will get off. We do try and get off as quickly as possible.

MR. TRYON: Yeah. I mean, it probably seems unreasonable on my part to, you know, ask this question

MR. DELK: Hey, I just mentioned Duke.

MR. TRYON: Yeah, I'm sure a couple of times when I have been literally carried away and ---

MR. DELK: I'll give you point of order.

MR. TRYON: But I know you are running the business.

MR. DELK: I work in the Control Room, so I've got --- you know, some of my buddies that are striper fishermen, you know, they think they are my best friends in striper season and they call me, and I'm --- "No, way. Do nothing for you." One day I said, "Well, let's go fishing," you know. Got him and brought him to fishing, I said, "Yeah, we'll go." So, I went up to the Control Room, and you know, everything was perfect. I said, "Meet me at my house," because I live right over here in Lexington. And we got there, and from the time I had left the office, got home, he picked me up, we got there, the River was already high. I'm like, "Great," you know, "here I am on the River and, you know, we aren't going to catch anything." But, wasn't anything I did. We had lost a unit somewhere and we just had to have power.

MR. MAHAN: Don't be so gloomy about the prospects, there might be some things that we can do or look

at. If nothing else, what you guys who spend a lot of time on the River, in the River, need as much as anything else is much good, real time information, as much advanced information as you can get. But see, one problem with quote, "advance information", what we expect or plan to do today and tomorrow, is even the person in charge may not be able --- we can't predict when that plant is going to come off line, we are going to get a call from another utility that says, "We need 200 megawatts from you, and we need it now." So, there are always going to be those circumstances where the water is going to come up in the River faster than we might like to see for the benefit of those who are on the River, or in the River. But, what we can try to do a better job of, I think, is to get information to you, and make it available to you as much as possible. We are working on a web site that will give you --- give folks who can --- who are planning some activity on the River, the ability to go in and see basically that gives us almost the same kind of information as our System Dispatchers have. But, the System Dispatchers understand, and we need to be sure that anybody who looks at that information, understands it can change in an absolute instant. And once you get on the River, it's going to be very difficult to know what may have happened since the time you checked it before you went and got in

your car, and went down to the River, and got in the River.

But, we can do a better job, and we certainly want to do that. Malcolm?

MR. MALCOLM LEAPHART: I was going to try to clarify because we have discussed this issue for probably twenty years in the lower Saluda Advisory Council. And it's pretty much a consensus that not having a schedule release is a real safety concern. But, I think, you addressed that well. My question was, just kind of light here and anecdotal. As they have been generating looks like about 19,000 cfs for the past few weeks to lower the Lake quickly, it looked like in many places that the River is just totally out of its bank. And I wonder, is there are any flow level that is known that says, "This is pretty much the carrying capacity of the River, and we are overflowing the banks"? Because, you know, you have got the erosion concern. And I'm just wondering if we built a lake a lot bigger than what the River can really handle? Or, you know, when all five are running? I don't know if anybody has ever given any thought to that or not. I don't remember the topic coming up before, but ---

MR. MAHAN: I believe the maximum flow that we can generate with is about 18,000 cfs. That's a little bit over that. And if the Dam weren't there, I think the --- I

know the flood of record is probably over 150,000 cfs. So, to say the 18,000 cfs flow is more than the River can handle --- Well, yeah, it can come over the banks a little bit, there is no question about that. I say over the banks, it's over the banks has been established since it's now gotten to where it never sees anything over 18,000 cfs.

MR. LEAPHART: (inaudible)

MR. DELK: You know, I seem to remember one time when we had a lot of rain in the little tributarys feeding in downstream, and we might have been only running one unit, and people would call and say, "You know, you are flooding everything out," and we would only have one unit, or maybe not even a unit on. But it's so much rain piling in.

MR. LEAPHART: The spillway (inaudible)

MR. STUART: If we are talking about flooding, Lee this morning, I think, mentioned something about (inaudible) Fairfield ---

MR. DELK: Yeah. Fairfield has got some restrictions on it. It's in the licensing, right? Fairfield?

Where if there is more than 40,000 cfs coming down the Broad River there, we can't generate at Fairfield, thus releasing the water out of Monticello in the Parr reservoir because we would be contributing more to it. So, that's a restriction

that we have in the operation of Fairfield that, you know, when you get a lot of rain, and we have seen this before, you will have more than 40,000 coming down the River. So, we have got a 600 megawatt unit that, guess what? It's unavailable to us. So, you know, that's 600 gone. We have got to go replace it somewhere. And that doesn't really just happen instantaneously, we can see it coming. But, that's one restriction. The other one is, if we are releasing too much, you know, you can back water up there at the Parr reservoir. What, do they --- the train tracks, there's a --- what's it called? Station 13. And the System Controllers who actually --- they do this every day. They know all this stuff. And Lee might know it a little better. But, we can't back the water up there because we will flood the train tracks out. So, you have got to --- it's a balancing act on the River to actually maintain enough flow going down, don't back anything up, but at the same time have your elevation up at Fairfield, and then the Parr reservoir, such that you can pump and generate. And V.C. Summer has some needs on their side that we have to accomodate, also. So, there is many, many little issues like that that we have to keep straight in the operation. You know, there are many times when we will have a unit unavailable. These hydro units, you know, talked about how reliable they were earlier; but they

do still require maintenance. So, there are times when those units are unavailable to us. All right. Got one more?

MR. BULL: Can one Grid sell to another Grid like if up North it's real cold and we are warm down here ---

MR. DELK: Absolutely.

MR. BULL: I mean, it's sold across Grid?

MR. DELK: Absolutely. We have a marketing group that actually handles the buying and selling of power for our company. And, you know, if we can go buy economic power as opposed to generating ourselves, what the System Controller will do is talk to the marketer and say, "Hey, I need this much. I am going to ramp this unit up ---" The marketer will say, "Well, don't do that. I can go buy it cheaper than that." And they will actually --- there is a sophisticated tagging mechanism where, you know, we may buy power from as far away as Pennsylvania, New Jersey. You know, this time of year it's usually colder up there, so we might be selling up there. But the other use is that because we are interconnected, it might be that Southern Company is selling power up into the Pennsylvania area, and they actually will buy a contract, transmission path, across our system to wheel that power up there, to get it there. But, yeah, we buy and sell. Just like the Control Room, there is another

room that is for the Power Marketing Group; and they actually are charged with more of the economic side of getting it right on that. One more, right there?

MS. JOY DOWNS: I am Joy Downs, the Lake Murray Association. I had understood Lee to say that 200 megawatts is a guarantee, that you must have that available to VACAR, I believe. Is that not true?

MR. DELK: That's our --- it's an obligation that we have with our VACAR partners.

MS. DOWNS: Right. So, when that 200 watts, when you are guaranteeing that that is there, available at all times, and you use Saluda in some other manner, for an emergency, what replaces --- then what guarantees VACAR?

MR. DELK: We are off the hook for a short period, for ninety minutes. So, we don't have to have --- you know, you have got to have time to recover. But what we would do is, we would normally go and, like I said earlier, if we have got a coal fired unit that is unloaded, we would just get it loaded up, and then get off of the generation. But it might be that we get a turbine, which is a slower start unit. We have got a turbine down in Charleston called Haygood Station, which is another very good unit, 100 megawatts; but, it takes it about an hour or a hour and a half to get on line. So, what we might would do is, call the

guys at Haygood and say, you know, "Get her warmed up and cranked up, and let's get running." And then that would allow us to get off of the Saluda.

MS. DOWNS: You need your reserve power for ninety minutes if necessary ---

MR. DELK: Oh, yeah.

MS. DOWNS: Without violating anything that they might require.

MR. DELK: And really, I think --- you know, I would have to go look at the agreement. But, 90 is kind of a rule of thumb to just get off. Now, in the hot, smoldering summertime, when we have got every unit on our system stressed out to the max, and we are losing units, and you know, we supply our reserve, and a lot of times there is not a whole lot left to go get. You know, the way you would get relief there is, just go shut down some loads. You are not really as held to the ninety minutes there because in the peak summertime, those conditions usually only last for an hour or two, maybe three, so load is going to start dropping off. So, you are going to get your relief like that. But typically, it is a ninety minute criteria to get off. And, you know, those peak conditions, you know, they only occur once a summer. We had a peak every day, but the actual system high peak really only occurs one time in the

summertime usually, for three or four days in the summertime. That's when we sweat, you know, on our jobs.

MS. DOWNS: Thank you, Joy Downs, Lake Murray Association.

UNIDENTIFIED: I need to understand the ninety minutes versus the fifteen minutes ---

MR. DELK: Yeah. The question is, for everybody, the difference in the ninety minutes versus the fifteen minutes. The fifteen minute requirement is a NERC requirement that we get the system back in balance. So, you remember I told you about the Area --- Control Error, the ACE measurement, when it goes negative out of bounds because of a loss of generation, you have got fifteen minutes to recover. And recovery is --- there's two measures. If your ACE is positive, which means you are over-generating when you lost it, then you have only got to get your ACE back to zero, which is perfectly balanced. So, let's say you were in a situation right when the event happened, and you were under-generating --- let's say you were under-generating about 10 megawatts. In fifteen minutes, you just have to recover to that pre-disturbance level, which is negative ten on your ACE, so --- but the fifteen minutes is the recovery to get yourself back in balance. The ninety minute measure is after that event occurs --- and the way you are going to

get back in balance is you are going to use your reserve or call on somebody else's reserve to get yourself back in balance. The ninety minutes is the amount of time from that event that you have to recover your reserve. Because, if I am in an event and I lose my unit, and I use my reserves, well, guess what? I don't have them anymore. So, you are given a ninety minute leeway there to recover them so that when that next event occurs you have got your reserves back.

And we have lost two units within a ninety minute period before, two major units. And once again, that's when you really start jumping around. But, you know, two of our major units, the whole group as a whole was carrying one and a half times the largest of those. So, you just call on more reserve, is what you do in that situation. All right, thanks for your time.

[Applause]

MR. STUART: I want to thank everybody for coming. Again, I urge you to try to attend the Resource Conservation Groups. They are very informative, and some of the things that we have talked about, some other issues, you know, the stripers and trout. So, again, I encourage you to please come out.

PUBLIC MEETING ADJOURNED.

**Saluda Hydro Quarterly Public Meeting
September 22, 2005
Saluda Shoals Park
10:00 AM & 7:00 PM
Meeting Agenda**

10:00 – 10:15 **Welcome**

10:15 – 10:30 **Update on the Progress of Saluda
Relicensing**

10:30 – 11:15 **Review Resource Conservation
Groups and Current Members**

11:15 – 12:00 **Review Resource Conservation
Group Operating Procedures**

Adjourn

SALUDA HYDROELECTRIC PROJECT RELICENSING

FERC PROJECT NO. 516

Quarterly Public Meeting

September 22, 2005

10:00 A.M. Session

Presented by:

Alan Stuart, Kleinschmidt Water Resources

Produced by:

Capital Video

405 Timberpoint Court

Columbia, SC 29212

803.781.6747

PUBLIC MEETING:

MR. STUART: Can everyone hear me okay? My name is Alan Stuart; I'm with Kleinschmidt Associates. This is the first of our quarterly public meetings. We had our re-licensing JAM, Joint Agency Meeting, back in August --- or June, and I'm sorry. And we want to go ahead start these quarterly public meetings and kind of give everyone an update on the progress of the re-licensing. We have some Agendas outside, we also have some additional handouts and operating procedures for those who did not get them off the web site, or were not e-mailed. If you don't have them, you can stop by and pick one up on the way out; or, we can get you one now. As I said, we began this re-licensing, we issued the Notice of Intent on April this year. At that same time, we had also issued the initial stage. We conducted our Joint Agency Meeting on June 16th. And as of August 16th, we began receiving comments from all interested stakeholders. We received thirty-six study requests, forty-four requests for additional information, and nine requests for potential mitigation. Respondents included three Federal Agencies, three State Agencies, one County Agency, two City Agencies, one University, one Local Business, twelve NGO's, and six individuals. This is a breakdown of the Federal, State and Government Agencies that we received comments from. I think everyone --- I see a lot of familiar faces here. And that kind of gives you a breakdown of who is going to be involved in this, or

at least up to this point.

You may notice that we have not received comments from DHEC yet, but we had gotten a response from Gina Kirkland, who is in the process of providing those. These are some of the non-governmental organizations that have provided us comments; we broke them down just for information purposes into State, Federal, and Local. As you can see, there is quite a few interested parties in this proceeding. One thing that you will notice is through this process, you are going to see what we refer to as the "Alphabet Soup". As these meetings convene, we will start using acronyms to identify the various agencies. We have a sheet out front that we have prepared for everyone to try to keep you informed of what each acronym stands for. We are also going to post that on our web site. So, please visit that, it will be updated throughout this process. It will identify certain stakeholders, what the National Environmental Policy Act stands for, NEPA. A whole laundry list of things. The Resource Conservation Groups, right now we are planning to start convening those in November; we are trying to schedule around other re-licensings. What I wanted to do today is put up each Resource Conservation Group that we have and those individuals who have expressed interest or committed to being on those. As you will see, some of them are very large. I think this is the largest one, this is the Water Quality Conservation Group. If you don't

see your name on here, and you are interested, please let us know as quickly as possible. We have some sign-up sheets out front; and if you don't see it it's not because you are excluded from it.

Just let us know, it's because we haven't gotten the information that you are interested. As you see, there is a pretty diverse group of Utility Members, of Lake Home Owners, and various State and Federal Agencies. This is our Fish and Wildlife. Again, this is one of the larger ones. Lake and Land Management. Again, if you don't see your name, and you want to participate, please let us know. Recreation. Operations. Cultural Resources. At the express of some of the Homeowner Groups, it was suggested that we develop a Safety Conservation Group. It is something that I think the Lake Murray Association, I believe, has expressed interest in for many years. We thought this will be a good platform to try to get one going. If you are interested in that Resource Conservation Group, either e-mail Alison at that e-mail address, or just let her know on your way out today, and we will get those forms and get you up on those.

Back on September 9th, we issued a draft version of the Operating Procedures. Many of you noticed that it said "Final". It was an internal final, not excluding anybody from providing comments. We are accepting comments, we are advocating that you solicit us comments. You can send those to Alison; and what we will do is go through them. Evaluating one thing, we developed a protocol based

on past interaction with State, Federal and stakeholders on other re-licensing; it's a tried and proven method. I know we have gotten positive feedback from, I think, NOAA Fisheries, and the DNR; so, we are not looking to recreate the wheel. We want to kick off, we want to start with something we know that works. We know you want to, you know, be involved in the process. So, by all means please submit, you know, some comments. We would like to, you know, review the comments and incorporate those that can help this process along. And we will issue another version once we have received all comments. We are also developing a communications protocol that will be part of the operating procedures. We will also send those out for draft review and comment. So, you will have an opportunity to comment; I know there was a little disconnect there on this final versus draft. But, you know, we are soliciting your input. We have some coming attractions, as I call them. We have the Woodstork Survey coming up this Friday, tomorrow. We are also doing a Saluda Turbine Venting Testing work starting the first two weeks on October. This is SCE&G installed hub baffles (phonetic) on the units, and we need to go back and develop (inaudible) information on the air efficiency after the hub-baffles have been installed so we can optimize the use of those hub-baffles. Also, right here are some of the dates, or "the" dates, that we plan to convene the Resource Conservation Groups. We plan to post these on the web site. I think Alison has

e-mailed those individuals that expressed interest on each one of these. And we are slowly starting to get responses back. It appears that the Agencies have a problem meeting towards the end of the month due to prior commitments on the Catawba-Wateree, and I guess, Bleat and Tillary (phonetic), those other re-licensings. So, these Resource Conservation Groups are going to try to be focused in the first two weeks of the month for Saluda. We are trying to accommodate as many people as we can. So, you might want to kind of block out those two weeks as potential periods where we will be meeting for these Conservation Groups. If you have problems and can't meet, you know, please let us know and we will do whatever we can to accommodate you. But basically what we are going on now is the majority. If the majority of people can meet, then that's what we have to go with. I know it's a very tedious thing to do, but that's just what we have to do to keep this process moving forward.

MR. LEAPHART: Alan, just a quick question. How long do you anticipate those meetings lasting from --- can you start at 9:30?

MR. STUART: That's Malcolm Leaphart, asking how long we anticipate the Conservation Groups Meetings to last. Honestly, Malcolm, it depends on what Conservation Group it is, and how many issues. I foresee potentially the Water Quality and Fisheries, and Wildlife, will be meeting pretty much all day; as opposed to like

the Cultural Resource, which may only go half a day. Also, what it's going to depend on in the early stages, they will probably be very lengthy meetings because there will be a lot of material to cover; and as they progress they will probably shorten in duration. It's really hard to tell you, you know. What we are trying to do is if we anticipate it being an all day, we say from 9:00 to 4:30. But if we anticipate a shorter schedule, we will say 9:00 to Noon, or something along those lines. That kind of gives you an idea. Yes, Bob?

MR. KEENER: Bob Keener. On the meetings, has there been any consideration to maybe having the schedule changed to permit the people who are working in order to attend may --- Retirees like myself, we can basically get there any time, but to respect people who can --- who are very interested and have a lot to contribute, to have to take leave in order to attend the meetings and participate is a bit much.

MR. STUART: I understand. And as I said the other night, you know, it's a delicate balance. We also have the Agencies who are paid to do this, and it's very hard for them to commit their personal time and have this balanced. One suggestion we keep promoting is for those individuals I know that are interested is to get with you or the representative, and you convey their thought to us. I mean, we are trying to --- like I said, we are trying to meet the needs of the mass, and it's hard when one or

two individuals can't, because it's a commitment I understand. It's a delicate balance. There are times maybe we can come up with creative solutions like maybe convening an evening meeting; have the Agencies stay over, and then meet the next day if they are on, you know, say a Wildlife and Fisheries Meeting in the evening; and then have the Water Quality the next day, or something vice versa, where they can optimize their time, you know, to do this. We may be able to do it in the afternoon --- later in the afternoon. That's one option. The problem is, a lot of these are going to be very lengthy meetings. And, I mean, if we started at 6:00 we could finish at 2:00 o'clock in the morning. You know, that's an issue.

MR. MAHAN: Randy Mahan. Isn't it true that once we have the initial meetings of these Resource Groups that they can establish their own --- a different schedule, and their schedules based upon how their participants can meet these --- we just have to be sure that the Resource Agencies, again, because --- you know, if he says, "Let's do all of this in the evenings," after they put in their, you know, their eight to ten hour day, would you expect them to be there for another four or five hours in the evening? That's not fair to them. Absolutely. I agree we probably would need to find some way, maybe, the committee to consider particularly to know that the public at large is going to have to a real extent. Maybe we need to find time some way to

accommodate them on occasion. The thing about it is that also to say particularly on some of these Technical Groups, we expect people to be a part of these functions to be in attendance and not be once every six months attendee because when somebody comes in you are not up to date, and this happened before, you slow the process down. There is no easy answer, Bob, there really is no easy answer. This is the same kind of protocol we have seen in public re-licensing, and the same issues certainly were present in those. So, if there is a magic bullet that ensures everyone who wants to participate can participate when they want to participate, let us know. But there is no reality to swapping the calendar. Okay.

MR. BROOKS: I'm Tom Brooks from Newberry County, and Kim Westburg is with Saluda. I am not speaking for Kim, but just like the Resource Agencies, you know, we are here representing the Counties. If you have concerns, for representing whatever county you are in- you can call him and we can try to voice your concerns out at this meeting.

MR. STUART: We are looking for suggestions as Randy pointed out, he made a very good point. Once the Resource Conservation Groups convene after this initial meeting, you know, if it suits the majority to meet at 4:00 o'clock in the afternoon, and everyone is for it, and all the people can be there, that's great. If there is not an absolute, if the group wants to deviate

from, you know, the morning, that's within their right. We allow that flexibility in the operating plan, I believe. The point is, we just have to keep moving forward.

MR. MOORE: I'm Patrick Moore from SCCCL. And this is you're soliciting comments on the protocol, I was wondering if there was a deadline on those comments. And if you can briefly describe how your going to design it and integrate those comments, how will that be decided.

MR. STUART: Well, the deadline --- we would like to get them as quickly as possible. I would like to have them wrapped up by no later than the middle of October. If it appears that we are getting substantial comments that may change the structure of the plan, possibly what we may do is convene a meeting, to sit down and hash through the problem areas, or areas that appear to have problems. Right now, I know I have received comments from you, you know, which seem fairly easy to address. Without seeing the comments, it's kind of hard to gauge, you know, the course of action. I think ultimately the majority of comments will probably be incorporated without any problem.

MR. MOORE: Okay. It appears to me maybe we're going to have finality in the future and if the process is going to come up sometime over the next few years --- if y'all form maybe a Resource Conservation type entity, a smaller group that could

handle process concerns more efficiently, you know, to discuss all of the issues again --- issues.

MR. STUART: Well, I know you kind of conveyed that the other day and if it's a possibility, you know, I would let Randy talk on that one.

MR. MAHAN: Let us get a --- at least an initial gauge of the definite extent of these comments. It may only take one or two that really say ask for a basic re-ordering of a function we say that we can't consider that without convening a group, we are not adverse to that. Well, see, all the time we've --- it's kind of around the edges, and if it's something we can accommodate without convening another meeting.

We would like to have the opportunity to do that first. If you have really got some great fundamental differences, and there is no way that we can operate with the protocol that you have laid out here without making changes, somebody's talking now. And then maybe you will have to meet with that individual and that group and talk about it. At this time lets look at the depth and breath of these comments before we start setting up more meetings.

MR. STUART: And the other thing is it will help out mine and everybody's time if we could consolidate the comments. And then redistribute, you know, amend the documents instead of sitting down day after day trying to work through it.

MR. BELL: I'm Steve Bell with Lake Watch. Would you consider putting the comments on the website so we can all look at everybody's comments as far as the documents, so we can get a feeling for what, you know, --- including y'all. And then once we get through that, and we look at what the comments are we will be able to tell how to incorporate them; then if we have a problem as they come, or anything, maybe we can meet?

MR. STUART: I don't see where there is a problem, Steve. You know, what we plan to do is put the comments --- or at least my envision, is put the comment in, saying who the provider was; you know, whether we take it there is any problem with it, or it's going to be accepted as written, and just move forward. But I don't personally have a problem, and I don't think SCE&G does. Comments should be made available.

MR. MAHAN: That's fine.

MR. STUART: Yes, ma'am.

MS. (UNIDENTIFIED): I have a question about the state agencies being available to come to meetings only during working hours 9:00 to 5:00. Because many of these state agencies have assignments that have to be done in other hours. And I would presume the State is going to pay them the same whether it's at 3:00 in the afternoon or 8:00 at night. So, I think that the State Agencies have a little more flexibility . Because I am fairly concerned if you do get the general public into this process.

MR. STUART: I understand your concern- I can't speak for the State Agencies; but I'm sure --- I see a couple around here who would probably be willing to provide you a comment on that one. Ron?

MR. AHLE: Or not.

MR. STUART: Or, not?

MR. AHLE: I can speak for myself, but I can't speak for all of my co-workers. I think we would prefer that it be done during normal working hours. That would be a preference. But, if there were situations where it needed to be done later, I think that we could have some flexibility.

MR. STUART: I mean, I'm not sure how the pay structures works within the State and Federal Government, but you know, I don't know if it's an overtime issue. You know, I don't know. I can't answer that.

MR. MAHAN: I not paid by the State Agencies to argue their case for them. But, a lot of these same people are also involved currently in the Catawba-Wateree. That's thirteen hydro dams. Okay? So, you've got thirteen projects. Then we can --- something up here for counties, these folks could basically quit their day jobs and just work second shift, and still not be able to attend all of the meetings. We are trying to do what we can to try to remedy that. You are absolutely right. And a lot of them do --- a lot of the people in meetings can --- and they don't get

paid anything extra for that. So, we're not going to presume as Licensee to tell the Agency people that they have got to come in the evenings because one, they are not going to be able to do it, and if they don't then the comments that we are going to get from those Agencies on some very important issues are not going to have the benefit, the kind of information and the structure that they need. So, yes, we are trying to put priority just to accommodate those Agencies who have Statutory Regulatory authority, and particularly those who have authority under the Federal Power Act to demand certain conditions. So, yes, we accommodate them as much as we can. At the same time, I think you will probably find when you get to the Resource Committees, they may be just as well to have an occasional meeting. Again, I am not going to speak for them, but we are not going to ask them to, again, give up their day jobs and take night jobs just for our benefit.

MR. STUART: Something else to consider, these Resource Conservation Groups, at least in the initial stages, are going to meet quite frequently. Then they may not meet, if they are off doing studies or gathering information, they may not meet for three, four months. It just depends on each group. This is not going to be you meet, you know, Monday, Wednesday, Friday from now for the next five years. It's not going to progress like that. It will be very labor intensive in the early stages, and then if the need arises, the groups will convene when the information is

available from developing the Technical Working Committee, that information will go to the Resource Conservation Group; then they will convene a meeting to review it. So, you know, I want to say it's going to be a regular thing; but it will be regular as much as is needed. Yes, Malcolm?

MR. LEAPHART: Can you give us a guess as to how many times you think we might meet in the next year or so?

MR. STUART: Did you have anything specific on your mind?

MR. LEAPHART: What I am getting at, I'm looking at six days of annual leave in November. Am I going to have to do this five times in a year, or thirty times in a year? What would be your guess as to all of --- in all of the re-licensing?

MR. STUART: Again, that's a very difficult question to answer. First of all, it depends on how many Conservation Groups you are on. Secondly, as I said, the Fish and Wildlife, and Water Qualities may meet ten times in the next three months. Whereas, the Cultural Resource may meet one time in the next six months. It all depends on the number of issues that the Conservation Groups have to address. To give you --- and don't hold me to this number, I'll try to give you a high end with the Water Quality, I will say it will probably convene probably ten times in the next ten months at a minimum. At a minimum. As, on the low end of the spectrum, the Cultural Resource, I anticipate them meeting probably maybe three times in the next twelve months.

MR. AHLE: I just wanted to a comment to Malcolm. That is, that as we progress in these meetings, that these meetings perhaps like other ones I have been involved with, they step up as it gets towards the end of the process, instead of backing off. Like just for example the Catawba, we had a meeting on Monday, and we're having a meeting on next Monday, and next Tuesday. So, three meetings in like --- well, seven working days. And that's with the Compliance group. That's all I can tell you.

MS. HILL: Generally at the beginning of the process, there will be a lot of meetings, you know, as stated, as David is stating now. Once they begin their studies is it reasonable kind of back off while reviewing the studies after they gather that information, and compile that, then we will start meeting again, review that data, and then towards the end of the process there will be a lot more meetings for them to kind of get ready for their --- to get their application together. So, it kind of goes up, down, and back up.

MR. MAHAN: That's exactly right. It's very simple.

MR. STUART: Yes, please.

MR. (UNIDENTIFIED): As we pointed out at a meeting in Irmo Monday night, they're a number of the Associations that have representatives on the Resource Group. And I would hope that people who can't get on them would consider them as their, if you will, elected representatives, and make their desires known.

Like the Lake Murray Association is certainly trying to publicize that concept.

MR. STUART: Well, I understand exactly where you are coming from and that is what we tried to advocate. What we anticipate doing is putting each Resource Conservation Group and its members on the web site; everyone can review who is on there.

Please, if you can't be there all the time, first of all keep up through the web site; all the Minutes and notes, and everything will be on there. Secondly, find someone you feel comfortable with in expressing your views, even if you just have to send them by e-mail saying, "Here, I have these concerns." The individual at the meeting will say, "I have a few comments from John Q. Public." And his comments and concerns will be brought to the table for discussion. This is not a seamless process; there has to be some flexibility. There are deadlines that have to be made. I mean, we could do this for ten years if the FERC would allow it. Unfortunately, they only allow us five. And two of those are taken up with them reviewing the Final Application. So, you do the math and see the magnitude of what's involved. It's a very labor intensive process. We are looking for suggestions if, you know --

- What we are attempting to do are tried and proven methods in other re-licensings; but what we found to be the most successful, I don't know if it's the perfect world, but it works for the

majority of people. Like I said, Randy pointed out, Catawba-Wateree, those projects are over --- I can't tell you exactly, probably two dozen counties or something in that general neighborhood. So, their process is kind of geared it along the same lines of what we are trying to do. So, they are making it work, and I don't see where we can't make it work either. Yes, Patrick?

MR. MOORE: (Inaudible) I am a big believer in what goes in to the study equals what comes out of the study, so I was hoping we would talk a little about what will be done in the RCG's and the structure of the TWC and practical knowledge vs. working knowledge.

MR. STUART: The primary purpose of the Resource Conservation Groups are to sit down and develop those issues which are truly project related, identify how we can address those --- gather that information whether it be through a study, existing data, and then send those that need a study go through a Technical Working Committee who has the biological, scientific, engineering, whatever the discipline is; they develop a study scope, they will conduct a study. In the interim the Resource Conservation Groups are still kept abreast of what's going on, the progress they are making; they get a chance to review the technical study plan, you know, provide whatever comment as long as they have, you know,

some scientific knowledge of the process, or what's going to be done. Then the Technical Working Committee will, you know, go off and do the study or, you know, the DNR, consultant, or whoever, you know, ends up doing the study. But it will be under the direction of the Technical Working Committee.

MR. MOORE: (inaudible)

MR. STUART: Technical Working Committee, one of the prerequisites we did have in the plan is to have, you know, biological, scientific or engineering knowledge applicable to that Technical Working Committee.

MR. MOORE: (inaudible)

MR. STUART: We prefer people. If there is, you know --- for instance, I'm going to pick on Bill Marshall somewhere --- he's in here somewhere. There he is. Bill, may not have any practical --- any knowledge as a recreation person. I'm just using him as an example. However, he may be very experienced on rafting below Saluda Hydro. He has, you know, that practical knowledge that you are talking about, which he probably will be very beneficial in a Technical Working Committee. Somebody that lives on the lake, that one is a little --- it's not quite as easy to address as the one I used with Bill. That's why we want their knowledge on the Resource Conservation Group; it's to help steer the Technical Working Committee in the right direction. Randy.

MR. MAHAN: I can see there are a number of issues that don't necessarily require a degree, a science degree, Ph.D., or something to address the issue. Something like recreation, we are not going to necessarily require someone who wants to participate in a recreation group have a degree. There aren't that people, but I believe have, quote, "degrees", in public recreation and recreation planning, and so forth. But now, if we are going to commission a study, and we decided we needed to have a boating view; so, boating --- oh, capacity study. I think at that point the folks who understand statistics and methodologies for doing studies, produce good information, are the ones who ought to be on the Technical Committee. I don't know that I necessarily would have an objection if they decided they wanted to have one, quote, "practical", we'll call it a lay expert on there who could maybe take a little bit of the edge off of academia and put a little bit of reality into it. But for the most part what we are trying to do is to have technical issues, issues that are driven by science, be determined as a working level; or that the information be gathered and evaluated by those who have the knowledge and experience in the science. Give the benefit of that to the larger groups; and they, of course, make the policy decisions based upon --- will make policy recommendations based upon the results, the working

efforts of the Technical Committee. There are going to be some groups you really just don't need. Say, you know, degree'd science degree'd people involved in there to address the issues. Safety may be one of those things on the lake. We've got a lot of folks who live around the lake who understand about the safety issues involved with the lake. We've got folks who recreate downstream. If Charlene were here, she is certainly qualified as an expert, whether you folks wanted to accept it or not, she's going to demand it, you know, Charlene. But she is absolutely somebody who ought to be involved in this; whether or not she has a degree in it or not has nothing to do with it. She is somebody that you would want to have involved, or somebody maybe from River Runner, or one of the commercial --- you know, maybe they need to be involved in those issues a little bit more. But, I know where you are going with that. Somebody who has a lot of experience, has practical knowledge, actually getting out and doing things, should not necessarily be disqualified from participating on one of these.

MR. STUART: Jim (phonetic).

MR. (UNIDENTIFIED): How about (inaudible) do we have for technical meetings?

MR. STUART: You are free to attend the Technical Working Committee meetings as an observer all you want. You know,

I don't ---

MR. (UNIDENTIFIED): I think that one thing (inaudible) is having people are interested but may not then want to get, you know, cause the situation to slow down, or progress, whatever, you know, to progress; that you can be an observer, but maybe can get a chance to raise their hand and ask a question once in awhile, you know.

MR. STUART: Well, and that's part of the reason we developed these Technical Working Committees to have the knowledge; because, every time you don't understand, that's the first thing that happens; you start asking questions and that bogs down the process of developing the study scope. Your questions come up during the Resource Conservation Groups when you are trying to narrow down and define, "What do we actually need to address this?" Now, if you don't understand the methodology, there will be a study plan prepared. I am sure you could send in a comment and say, "I don't understand what this is going to accomplish." One thing I did notice in the number of the comments, and I am going to use this one as a for instance, was the use of the word "study". It was used - at least in my mind and my experience - very loosely. And one of my examples is, I don't recall who it was, but somebody provided a comment that said, "We need to do a study to determine the best way SCE&G can distribute

operational information." To me, in my mind, that's not a study, that's something that the Operations group sits down and says, "Okay, what are our options here?" You know, "Let's put everything out on the table and pick what we think will work." It doesn't necessarily mean it's a, quote, "study". And, you know, we'd include each of them as a study because that's the way they were listed. But there were a lot of study requests that were along those lines. Doesn't necessarily mean we are not going to address that information.

MR. (UNIDENTIFIED): You might consider allowing an observer, a specific time during that process to ask any questions in five minutes, you know, or something like that. But, anyway, it's a good idea to have observers there even if they can't participate, but --- there's a way to work through that.

MR. STUART: Yeah, participating is just that. As to what you put into it, as long as it doesn't bog down the Technical Working Committees. We are not excluding anybody from them. As Randy said, "If you have, you know, practical knowledge or real time knowledge, like if you are out there on the River, you are an expert rafter, or kayak or something like that, but you don't have a recreational degree, obviously your influence is very vital in a Technical Working Committee geared for doing a rafting study, for instance. Or, whatever the Technical Working Committee is doing.

MR. MAHAN: I might even suggest that people who are on the Technical Commission with on the issue groups, who really want to understand it, they know that they don't have the scientific knowledge and experience to really get in on some of the technical issues, but if they want to be educated I think it's a good idea for them to sit in on them. I have got a degree in English, but trust me, there is nothing in my educational background that qualifies me to do much of what the heck I'm doing now. But, I have been exposed to it for the past thirty years. And you do pick up some facts. So, there is value for the people who ultimately are going to make those kind of decisions to help define the issues and help to come resolution. To understand as much as they can even if they are not going to actually be able to help the design and study, and help them to evaluate scientifically what the results are going to be. So, I would encourage folks to come as observers. I think that's the certainly an advantage.

MR. (UNIDENTIFIED): If you have a lot of knowledge you can benefit the groups; you might not want to be right in the middle of it but sit back and there's something they might be able to show you.

MR. MAHAN: I'm not likely to be on any technical committees, unless we have one for English majors.

MR. STUART: Yes, Lee.

MR. BARBER: You have a process established for individuals to submit their credentials the various committees?

MS. (UNIDENTIFIED): That has not happened.

MR. STUART: Well, that is something --- that's a very good comment. We certainly can, you know, solicit that information if you feel --- or, at least a process for review. You know, if you feel technically qualified, whether it be through real life application, or academics, if you feel that you are being excluded from a Technical Working Committee and feel you should, I think that's a very good idea. Certainly can implement that as part of the procedures. Yes, Malcolm.

MR. LEAPHART: Will the minutes for that Technical Working Committee be published also?

MR. STUART: Absolutely. At that time, what you may want to do, Steve, you know, what you are talking about, if you are reading the minutes from a Technical Working Committee, drop one of those people a line. What I hope to do is have a, you know, not a figure head because that's not a good term, but, a point man or person in the Technical Working Committee. And say, "Okay, I have this question. What does this word mean? Or, what does this do?" You know, if there is a certain question you have, I hope they can, you know --- We want this to be an educational process for

everyone. Unless I'm just really going to miss the boat here, there will be so many practicing biologists that come out of this process, if you stay up to speed you will be amazed at the scientific knowledge you will get out of this.

MR. (UNIDENTIFIED): About the minutes --- when you post that stuff on the web site, you know,---- could you do your best to get that up there as soon as possible.

MR. STUART: Well, the Technical Working Committees, that's why we are trying to keep them small so you can get this information distributed as quickly as possible. That's the best -- goes back to having questions all throughout the thing. When you have to go through and explain a battery of questions to your people that aren't knowledgeable in that field, or that very small niche, that's when it bogs down the process.

MR. MAHAN: We'll try to be sure we get the minutes of each meeting on the site as quickly as we reasonably can because old information isn't necessarily as helpful as new information. So, we understand your take on that. That means, we can do like, you know, the Federal Courts and have a transcript by the end of the day.

That ain't going to happen, but we certainly hope to have the minutes available so that they are still fresh and there is plenty of time for you to ask your questions before the next Technical

Committee Meeting may meet, or something of that sort.

MR. STUART: Yes, Bill.

MR. MARSHALL: Bill Marshall, the Department of Natural Resources. Looking in your Operations Procedures and Section Number 6, the procedures for making recommendations and --- I suppose those are procedures for making final recommendations from a resource conservation group, or with guide for the interim. And what particularly, the question I would have relates to some of the previous discussions; such as Item Number 4 under Section 6, says: Members are expected to provide scientific or data based support for their proposed recommendations. Obviously, we all would desire to have a lot of information to support our views. But what you were saying earlier supports that just experience, expertise and knowledge goes a long way. You don't necessarily have to have a bunch of data to make a recommendation. Because part of this process is to go get educated, experience that says we need additional information. So, if we are going to go (inaudible). We don't have to have information that says we need to get information.

MR. STUART: That's correct. Yeah, that's correct.

MR. MARSHALL: For example, we know you have issues among the public about safety on the Lower Saluda. If we don't have a lot of data that says how many people are using the River, and how

many near drowning we might have out there, or anything like that.

And so, you can get in a situation where we are assuming today or whether there is a safety problem on the Lower Saluda. You might say, "Well, we've got a little bit of data", and somebody can argue, "well that's not enough data, it's not an issue." But that's what I want to make sure of not getting into. And I don't think I'm hearing that at all. But just wanted to throw that out to you.

MR. STUART: Yes. I don't necessarily think, no --- I agree with you, that's not. At the same time we also don't want to send SCE&G down a rabbit hole chasing data just for the sake of chasing data. There's a fine balance there.

MR. MARSHALL: Sure. Okay. There has to be a reasonable rational argument for going after a particular path of study.

MR. (UNIDENTIFIED): Going back for a second. On the Technical Committees, who assigns the people to the Technical Committee? Who is responsible for the assignment of those individuals?

MR. STUART: Ultimately it's going to be through the Resource Conservation Group itself.

MR. (UNIDENTIFIED): Does approval ---

MR. STUART: I wouldn't say assign, that might be a little strict of a word. But, I think those individuals will step

up to the forefront who are the best, most knowledgeable in that area will form the Technical Working Committee. It's like fish entrainment, for instance. Let's pick that one. I don't know if Ron is the right person, or it might be Hal Beard. I mean, you know, I know quite about fish entrainment; I'm sure I will be up there, you know, expressing the lead. And as the group gets smaller, you will recognize that I know a lot about it, and Ron knows about it; and you will say, "Okay, you guys go off and do that. That sounds good to me." It's going to be one of those processes where you have to just take each issue one by one to get to that goal.

STEVE BELL: If the stakeholder wants to bring in an expert or, you know, someone who has that expertise and offer them as a technical, working with the Technical Committee, we can also do that.

MR. STUART: Positively, You know, we don't have all the experts, you know. If you know of someone that is willing to contribute to this ---

MR. (UNIDENTIFIED): According to the Agency, there is an opportunity to bring in experts from the NGO's or whatever (inaudible)---

MR. STUART: Yes, if they have that knowledge. Now, when you are talking about an expert, they should have very --- you

know, they should have a package of credentials that demonstrate them as an expert. And that goes more along the lines of, not the practicality of it, but the scientific, the engineering or the biological knowledge base to be called an expert.

MR. MAHAN: Steve, clearly we are going to have our quote experts to gather information, analyze information. We are not the holders and the gatherers of all truth. Certainly if somebody else has an expert, somebody with qualifications that would assist the process, yes, we want to hear from them.

MR. STUART: Based on some of the work we have done in the past, specifically with water quality, I know Jim Ruane, whose name you will hear quite a bit about water quality, he is very well respected. He has worked on the Catawba-Wateree Relicensing; he has done a W2 Model on Lake Murray; he has worked with Hank Keller from the Department of Natural Resources; he comes with very high credentials, and very reputable knowledge of Limnology (phonetic). One of my goals is to have him give a presentation on the W2 Model that he prepared. This was done back when we were revising the DO Standard. And it's a very valuable tool, and it provides a great deal of information that I don't think a lot of people are aware of. Those are the kind of things I hope those groups start forming. You know, get this knowledge out. You know,

I know we quoted it in the ICD, but writing about it does not do as much justice as him getting up there explaining the practicality of it and what it actually means, and can do it as a useful tool. Yes, ma'am.

MS. HILL: I'm Amanda Hill with the U.S. Fish Wildlife Service. In the document it refers several times to a facilitator in each of the meetings. Is SCE&G going to hire a professional facilitator for this? Or is Kleinschmidt going to do this?

MR. STUART: I think at this point, Kleinschmidt is going to do it. They also --- there is John Hall who is a very good facilitator that works at SCE&G, he does it a side bar kind of --- you know, it's a hobby of his. One of the most, I guess ---

UNIDENTIFIED: Which hobby?

MR. STUART: Well, it's his hobby, but, you know, he may do it on a professional level. I'm sorry?

UNIDENTIFIED: Kleinschmidt is going to do it?

MR. STUART: Yes. We'll primarily be on it, I think. We will also probably have a resource, you know, technical members like Shane will be on the Wildlife, Fish and Wildlife, you know. He's a very good Wildlife biologist, knows a lot. He's been working with the woodstork. So there will be a fine mesh of everyone on there. Yes, ma'am?

MS. (UNIDENTIFIED): So, are you going to solicit

qualifications? Because I guarantee there are a lot of people here (inaudible) might not suggest to the public, the fact is they need to (inaudible) of Lake Murray, we have got to have people with credentials that would appreciate satisfying.

MR. STUART: We have opened these Resource Conservation Groups to anybody that wants to be on it. Again, if someone feels they are qualified to be on one of these Technical Working Committees, I advocate them to offer their credentials to the group and see where they fit in; without being --- having a specific issue to address, I can't --- you know, I can't do it. Bob Keener, he may be the world's authority on fish entrainment for all I know. I don't know what --- you know, I don't know everybody's past, I don't know what they're involved in. If they want to get involved and have that ability, by all means.

MS. (UNIDENTIFIED): Somehow I think the word should go out that so the people should come forward and justify their credentials.

MR. STUART: As I have always advocated in the past, the public is the best avenue for dissemination of information.

MS. (UNIDENTIFIED): But your website could be one too.

MR. STUART: I don't disagree. You know, as we get into these Resource Conservation Groups, I think those will very much come to light. Other questions? Yes, Bill?

MR. MARSHALL: Bill Marshall for the Department of Natural Resources. In terms of getting membership to the Committees, it's pretty open up until they start, and even after they start, I guess. It's wide open enough to do it, because if anybody can get on ---

MR. STUART: On the Resource Conservation Group?

MR. MARSHALL: Yes.

MR. STUART: Yes, the Resource Conservation Group is the mother ship of the issue, Fish and Wildlife, for instance. Yes, there are protocols in there for those individuals that want to get in after the process has been started. We want people to get in early if possible; but it's openly up to them to get up to speed if they come in three months into the process.

MR. MARSHALL: Well, to do it, it's essentially a matter of contacting Alison. Right?

MR. STUART: Exactly. If you want to be on this Conservation Group, we have advocated that from the get-go throughout this whole process.

MR. MAHAN: I seriously think that the groups start out pretty big and pretty vigorous, and then there is a rather high rate of attrition. Some of that is they decide they don't want to spend that much time. And some of it is they recognize that there are enough people in that group already concerning their issue,

really dogging that issue, that they decide, "I can withdraw because I'm comfortable that my issue is going to be raised." We didn't want to start out by saying, "You can only have fifteen people on this group," and then have the problem of deciding which of these fifty people who wanted to are going to be those fifteen. And that could be very difficult. We start out broad, and again I think the attrition rate is going to be pretty high and pretty quick basically because --- I think more so because they have seen that the other people who are really going to be forming those issues, and maybe even people who understand the issues better than they do. So, I may be wrong. I would wonderful, I guess, if we could have twenty-five or thirty people on each of these because there is so much interest and they have got so much to add to the process. But, what we are doing, we are talking a couple of years; a lot of commitment, people who have a lot of enthusiasm up front that really kind of weans a little bit as we get down the road.

MR. STUART: You have to have staying power during this process. Other questions?

(No response)

MR. STUART: That's all I have today. Please get us comments that you have on the operation procedures as quickly as possible. We want to go ahead and wrap those up. So, you will be

getting copies of the communications protocol that I referenced. We are obviously soliciting comments on those. Those are not final. Ma'am?

MS. (UNIDENTIFIED): Are we going to get comments --- I believe it's the agencies specific--- Are we going to get general comments back from you on our ICD comments?

MR. Stuart: We hope to get those done in the Resource Conservation Groups. But if you want official comments, we probably could prepare some. I know, you know, there were some studies we thought may be a little --- there was additional information that would cover those study requests. But we can either raise those at the Resource Conservation --- or Conservation Group level, or an official submittal.

MS. UNIDENTIFIED): If we could get letter back, if there was anything that we should do, request that one of the Fish and Wildlife studies(inaudible - a lot of banging noises) and then (inaudible - loud banging noises). And maybe you would have that information (inaudible) and if you could send us back something explaining that, that would be (inaudible).

MR. MAHAN: We can do that, Amanda. Understanding that the Resource Committees in a sense, I guess, could end up overruling what our initial reaction to your request is.

We may decide, "Well, we have already got enough data on the

book," or, whether we can get together and satisfy that. The Resource Committee may decide, "No, there is additional work that we think needs to be done; and, therefore, you are going to do it." So, we certainly will respond back to you; we're not going to be the final arbiters of that until we have the benefit of the Resource Committee input to it.

(At this point the meeting became very disorganized)

MS. (UNIDENTIFIED): It's just there have been other relicensings where the applicant refused to do the study, giving us no reason why.

MR. STUART: I really think ---

MS. (UNIDENTIFIED): An applicant just refused ---
(inaudible) --- to her question.

(Several people speaking simultaneously)

MR. STUART: You might be a little premature and --- No, at this point I don't think we have taken a stance or SCE&G has taken a stance on this ---

MR. MAHAN: (inaudible) not going to be, you know, (inaudible) our initial reaction. And that's basically it, because we don't want to (inaudible) the answer to all these requests - (inaudible).

MR. STUART: I think they would like a chance to work things out, you know, at that level before just taking a position.

We are not here to take positions, I don't believe.

MR. MAHAN: (inaudible)

MS. (UNIDENTIFIED): (inaudible)

MR. MAHAN: (inaudible) response (inaudible) a reason of what's going on, and then when we see you commit to the (inaudible) Committee meetings, you will understand.

MS. (UNIDENTIFIED): (inaudible) would like to get some type of response (inaudible).

MR. STUART: Other questions?

UNIDENTIFIED: (inaudible) (a lot of people talking simultaneously out of order, laughing)

MR. MAHAN: --- agency comment. If the agency would have to have some kind of ---But, again, it may be ---My letter is going to be --- I don't want to write while we're here, but we have received your comments, we appreciate your comments, appreciate you --- is going to be determined by the Resource Conservation, may be something like that. But I would hope ---

MS. (UNIDENTIFIED): (inaudible)

MR. MAHAN: Yeah, we understand you need to (inaudible). We'll give you something to do (inaudible). How about that? And we can do the same thing for you, Bill. And other agencies. But, how many comments did we get ---

MR. STUART: An awful lot of comments.

MR. MAHAN: So, we would rather not have to try to address each and every one of them at this point because we are going to be addressing them in the Resource Conservation Groups. But we can certainly --- I don't know, did we acknowledge receiving comments?

(UNIDENTIFIED): We sent letters out (inaudible).

MR. MAHAN: But we didn't say perhaps who read --- (inaudible) and that would be considered after the Resource Conservation Groups.

MR. STUART: Right. Any other questions or comments?

(No response)

MR. STUART: We'll be convening these quarterly public meetings to give updates on the progress for those people that are interested in the process itself but do not want to get into the minutia of the Resource Conservation Groups, or Technical Working Committees. If you know of people who are interested, please, you know, ask them to come out, that hopefully these will very informative. What I would like to do in the future, once the Resource Conservation Groups are formed, is to give updates at these quarterly public meetings on what they have done over the last couple, three months, just to keep everybody informed. And that's pretty much all I have for today.

MR. MAHAN: We have another meeting this evening; if you didn't get enough this morning, feel free to return.

MR. STUART: I want to thank everybody for coming out. If you have questions, please let us know.

END OF PUBLIC MEETING.

SALUDA HYDROELECTRIC PROJECT RELICENSING

FERC PROJECT NO. 516

Quarterly Public Meeting

September 22, 2005

7:00 P.M. Session

Presented by:

Alan Stuart, Kleinschmidt Water Resources

Produced by

Capital Video

406 Timberpoint Court

Columbia, SC 29212

803.781.6747

PUBLIC MEETING:

MR. STUART: My name is Alan Stuart, I am with Kleinschmidt Associates. I would like to welcome everybody to our evening meeting. To kind of give you a recap, we had a morning session at 10:00, and we had about thirty-five individuals show up from various Home Owner Groups, State and Federal Agencies. We had a good turn out this morning. So, what I would like to do tonight is give you kind of an update on where we stand in the progress of the Saluda Relicensing and go over a number of items with respect to the Conservation Groups that we formed, and just how we are planning to proceed, you know, from this point. We issued the Notice of Intent on April 29th of this year; and we also at that same time also issued the Initial Stage document, the document contained a number of environmental --- a bunch of environmental information on operations of the project, fisheries, water quality, land management, just a myriad of items. We had a comment period, a sixty day comment period, on that. In that interim time on June 16th we convened at a Joint Agency and Public Meeting as required by the Federal Regulations. Agency comments to the Initial Stage were received on August 16th. We received thirty-six study requests; forty-four requests for additional information; nine requests for potential mitigation. The respondents included three Federal Agencies, three State Agencies, one County Agency, two City Agencies, one University, one Local Business, and twelve Non-Governmental Organizations, and six Individuals.

Here is a break down of the State, Federal and Governmental Agencies who provided comments. You can see it is quite diverse in the interest of the relicensing of this project. Here are the Non-Governmental Agencies who provided comments. We broke them down by National, State, and Local Groups. As you can see that is a fairly diverse group of Non-Governmental Agencies who provided comments. As many of you know who have been involved from the start of this, we formed some Resource Conservation Groups. The Resource Conservation Groups cover water quality, fish and wild life, land management, recreation, all those items that are required to be addressed under the National Environmental Policy Act. What I would like to do is go through and give everyone an idea of the members that we have signed up to date. This is not a final list; if anyone is here who is not on the list and would like to be a participant on those Resource Conservation Groups, please get with Alison Guth and she will get you signed up. This by far is our largest Resource Conservation Group. These Resource Conservation Groups are going to get the issues and comments that were received on the Initial Stage document; sit down and develop study scopes for those items that need field studies or additional information. As you can see, this is quite an extensive list of individuals. It includes members of the Utility, Consultants, Department of National Resources, Fish and Wild Life Service, as well as Non-Governmental Organizations. If you see that your name is not on this and you had signed up previously, please let us know.

No one is excluded from this, so it is just obviously an error. I think we pretty much got everyone, though. Here is our Fish and Wild Life. You will see a number of individuals who are participants on pretty much all of the Resource Conservation Groups. Dick Christie, I know, from the Department of Natural Resources is going to be heavily involved, and I think will primarily attend most, if not all, of the Resource Conservation Groups if he can work it into his busy schedule. Lake and Land Management Recreation, Operations, Cultural Resources. These two Special Interest, we have just recently established a Safety Resource Conservation Group. What we plan on doing with this one is possibly breaking it down into safety related committees, sub-committees; one to deal with the Lake aspect and one to deal with the Lower Saluda River aspect. That was one of the recommendations we had this morning. That way we think it will --- you know, some people who have interest on the Lake may not necessarily have interest on the Lower Saluda; and in the interest of people's time, which is very valuable, we decided to potentially look at that as an option. Again, if you are interested in signing up for that Committee, get with Alison or e-mail her at that address, and express your interest, and she will certainly get you included on the mailing list. We developed a set of Operating Protocol, we have those out front; if you did not pick one up on your way in, you certainly should get one on your way out if you are going to be part of the Resource Conservation Group. We developed these protocol as a draft; they are stamped "Final", but

that was for an internal source, not for general comments. We do want to solicit comments from the public. We submitted the draft version on September 9th. As I said, we are currently receiving comments on those from all stakeholders. So if you have comments, please provide them to us. I would like to have the comments by the middle of October, October 15th, because we begin the Resource Conservation Groups in full swing; in just a minute you will see it's the 1st of November. Also, as part of this Operating Protocol, we are going to be developing communications procedures. And those are being drafted now, and should be ready for review by October 7th. Here are some of the upcoming attractions, as I call them, with respect to relicensing. We have a woodstork survey, which we have been doing for the first of the year. That will be conducted tomorrow, this month's survey. Also, we are doing some Turbine Testing. SCE&G installed what they call hub baffles on the units at Saluda Hydro, which actually increased the efficiency of the air intake to inject oxygen into the discharge. They had done some work back in the '90s, late '90s, and since the hub baffles are installed they need to update that information and determine what's the best operating procedures to maximize the use of those hub baffles. That will be going on the first week, two weeks of October. The Resource Conservation Groups, these are the ones that I referenced earlier. These dates are pending meeting dates. Right now the meeting locations will be at the Lake Murray Training Center. If you are interested, you need to please let us know if you are going to

be a part of this. All these Resource Conservation Group Meetings are open for public. If you are not on the Conservation Group itself, you are free to attend as an observer. But just let us know because we need to put you on a list to get through security, this is a secured area. All these meeting dates will be posted on our web site; that address for those who have not been in this process is www.saludahydrorelicense.com. If you are ever interested in learning what's going on in these Resource Conservation Groups, just let one of us know, Alison or myself, and we will certainly get you access to these meetings. All the Meeting Minutes from the Resource Conservation Groups and the Technical Working Committees will be available for your review and provided as information purposes if you want to keep up with the goings on. Right now, we had about a forty-five minute question and answer session, we had a much larger group; I'm not sure how many people have questions, but we will certainly answer any that you may have. Yes, sir, could you please state your name for the record so everyone can --- and who you represent.

MR. STONECYPHER: I'm Tom Stonecypher, with the Lower Saluda River Scenic River Advisory Council. And I just wondered what is the intent of the Operations Resource Group?

MR. STUART: The Operations Resource Group would deal with the operation of the plant in terms of generating, how it is operated, getting understanding the use of the project, what it is used for, it's value to SCE&G.

MR. MAHAN: One thing, it will be kind of obvious, there is going to be a lot of overlap in some of these. You know, we are talking about a safety group, the operations of the plant obviously impacts safety. We will do the best we can to kind of segregate these things; but we are not going to do so to the extent that it can't be shared information between the two and take advantage of the work of both the Technical and Working Groups, and take advantage of the work of the Technical Committee and Resource Groups. But there is going to be some overlap. Now, there is no way we can deal with issues around the Lake with a bright line in between the issues. So, I know that the Advisory Committee is very interested in a lot of things had to do with the Lower Saluda River and safety, as well as water quality and other issues. So, you may be on more than one of these Committees. Don't know of any better way to do it.

MR. STUART: Yes, ma'am.

MS. WENDLING: On the days you have day meetings did you have any opportunity to have these meetings at night for people who are working?

MR. STUART: We have had that similar issue come up. Right now the number of individuals who are --- have signed up for the Resource Conservation Groups prefer the day time. And, I know there are a number who can't attend. It is very difficult. One of the suggestions we have is identify the members on that Resource Conservation Group, if you have comments or concerns relay them to

that person and let them be your spokesperson if you can't attend. We are coming up with creative solutions to this, but right now predominantly they are going to meet during the day. I understand, it is a time consuming process, and it's a delicate balance. I know what you are going through.

MR. MAHAN: May I add something else to that? We absolutely must have participation by the local, state & Federal Agencies, particularly those who have responsibilities under the Federal Power Act, some authority under the Federal Power Act. These Agency personnel, they are involved in more than one Relicensing. If they are on the Catawba-Wateree, they are attending meetings, meetings, meetings and meetings, and we can't really ask them after they have put in their eight to ten full hour days to then attend all these meetings in the evening. At the same time each of the Resource Conservation Committees, once they are formed and they have their initial meeting, if they determine, have agreement, they can have one or more, or a series of evening meetings. That's fine. We just didn't want to come out, you know, knowing what the Agency people have to do. And we just, knowing they are involved in meetings, and just come out and try, and set it up, knowing that we are not going to get the kind of participation we need. We can't do without Agency comment, Agency input. Theoretically, in terms of meeting the legal requirements, if nobody from the public participated we could still get the license; but, if you don't have the participation of these Agencies, you have

got a problem. So, let's try a little bit, and apologize.

It's the same issue that every relicensing has. And there are some we feel don't offer the opportunity for a committee meeting. But, the Resource Conservation Group, if they don't have meetings or two or three, we certainly will adjust that.

MR. STUART: That's one of the reasons we are advocating the use of that web site, it's to keep everybody informed, you know. As I have said to a couple of groups before, this is almost like a second job. You know, it really is, it's not a hobby; it's something you need to stay involved with, and to get involved early, and stay involved whether --- you know, make sure you are staying to speed with the Meeting Minutes and everything that's going on, be in contact. You know, this is an open process and if there are questions you have, you know, there are ways to get your questions and your concerns aired during this process. Yes?

MS. (UNIDENTIFIED): You mentioned that there will be overlap between some of the committees. I guess one of my concerns is, what if there is something that kind of falls between the cracks? And one of the problems I see is communication, you know, between SCE&G and all the user groups, and how about make that be addressed in any of these committees, or is there a way to ensure that the tasks of the group will be available that be part of the right plans or an operation plan, or safety?

MR. STUART: Well, we are assuming that you say communications, that's for those individuals who are not part of the Resource Conservation Group?

MS. (UNIDENTIFIED): No, I just meant generally -

MR. STUART: Could you give me an example

MS. (UNIDENTIFIED): Well, I think maybe like with the water release in September, people said we weren't given any information, communications were really poor. How will this be provided for in the future? Will there be a committee that might address that? You know, future communications----

MR. STUART: That would be one of those items that would fall under Operations. I know there were a couple of comments that were received by, I think, one River and Rafting Companies. Could, you know, investigate ways to better inform the public on releases and other things. I know SCE&G is looking at doing real time data on a web site, some other things. One of the problems they have in terms of Operations, the Plant is used as reserve capacity. And what that means is in the event that they have a project somewhere else go off-line; or, if there is a demand on the system throughout the Southeast, that Saluda is the first thing they go to. That's their sole, you know, use of Saluda at this point is for reserve capacity. So, it's very hard to determine on a week to week basis what the schedule is. It's like if they have a very difficult --- it's almost impossible, just like looking into a crystal ball.

MS. (UNIDENTIFIED): I understand that but the public doesn't always understand that. I don't know if there is a better way for you to inform people or educate people.

MR. MAHAN: We are certainly sensitive to that; more so, sensitive after the debacle early in September. And I quickly acknowledge it. About the meeting, here. And I do think the Operations Committee would be one that is going to deal with that issue primarily. Now, they are going to be official Minutes with all of these meetings on the website. So, if you are in committees and you assume that it was going to address an issue and it's not being addressed the way you thought it was, you certainly could look at these other committees, and you can join another committee. We have a protocol in place for people who want to come in kind of late to join a committee. We don't say you can't do that, you need to be able to do that. But, I know exactly what you are saying. You may think this Safety one, this is going to be the thing I wanted and an issue that is not addressed because it's addressed in another committee, and you want to be able to learn what's going on, and maybe you can jump over to that committee. You make the decision.

MR. STUART: One thing, to expand on what Randy brought up about coming into a committee, or Conservation Group, that has already begun, we do put the burden back on you to get up to speed. We don't stop the Conservation Groups and say, "Okay, we have a new member," and we start the ball rolling again. We don't --- it's just not enough

time. Basically, a three-year process that we have to get the information and get the Application for a new license developed and submitted to the FERC. That's the Federal law. We can't change that. We have to meet that deadline. So, if you do find yourself going down a path and say, "Okay, I want to get onto another group," you know, be prepared do a little homework before you come to the meeting. For those that aren't aware, all the comments that we receive from the Agencies and NGO's are posted on the web site. You can go there, they are in PDF format, you are free to download those and look at them. So, we encourage you to do that. You will see that a lot of the information or questions you have, a lot of them are contained in those comments. A lot of people have the same feelings, you know, as you do. Other questions?

MR. MAHAN: Come on, we've got some questions ---

MR. STUART: Yeah, we had forty-five minutes, a hour of questions earlier today.

MR. MAHAN: We're not going to make you hush-up.

MR. CARBONE: A question. All these public comments --- I'm sorry, my name is Greg Carbone. All those public comments go to one or more of those resource groups?

MR. STUART: Actually what we are doing are taking those comments and developing lists for those Resource Conservation Groups; like for water there was a number of comments or information requests on water quality. All of those will be developed and, you know, placed

in a package and delivered, you know, for the Resource Conservation Group to identify and address.

MR. CARBONE: So, that way they can just --- no comments will be possibly the same.

MR. STUART: No.

MR. MAHAN: All the comments are posted ---

MR. STUART: Oh, yeah, every comment would be received.

MR. CARBONE: And then some research would be done.

MR. STUART: Yes.

MR. MAHAN: And if they don't, come (inaudible) here and tell us we missed one.

MR. STUART: Exactly. If there is something that you feel, you know, you identify that is not being addressed, it's not because we don't want to address it. We have to address everything. Anyone else? Questions? To give you a little bit further, we are going to hold these quarterly meetings, or we will have these meetings ever quarter. What I would like to do is give updates for the Resource Conservation Groups as we go through this on what they have accomplished over the last three months to just kind of give people a snapshot who want to, you know, view this from afar and see what's going on. That's kind of our plan. We are just in the berthing stages of getting these Resource Conservation Groups, so we haven't developed a great deal of information yet. But as these go on I suspect the entire two hours between questions and answers, and just the volume of

information, will pretty much take up the entire meeting. Yes?

MS. (UNIDENTIFIED): I am sorry I didn't identify myself, I am Kirsten Lackstrom with the Department of Geology. I guess what the Technical Working Committee, I know you are putting experts on that. But, I guess, one of my concerns is that what you call experts should --- will there be maybe someone else on these Conservation Groups, on the committees? You know, which expert decide and what are the experts?

MR. STUART: Well, ---

MS. (UNIDENTIFIED): Which expert will decide what needs to be done, or will that be done more collaboratively in the resource group.

MR. STUART: Okay. One point of --- this is a cooperative approach. It's not --- I wouldn't call it a collaborative. But, the other thing is we're not soliciting experts on the Technical Working Committee. We had this similar question come up. What we are looking for are those people that have, you know, biological engineering or scientific knowledge that can address the issue that is filtered down from the Resource Conservation Group. For instance, I am going to use fish entrainment. You know, there are people at the Department of Natural Resources who are very knowledgeable in fish entrainment. I'm very knowledgeable in it. If somebody from USC is knowledgeable in fish entrainment and is part of that Resource Conservation Group, and they have something positive they can add to developing a study scope,

or a best way to gather that information, they are certainly going to be allowed to participate on the Technical Working Committee. You, as a lay person who knows absolutely nothing about fish entrainment, will likely not be a participant because there will be more questions, you know, during the developing of the study scope. However, you could participate on these Fish and Wildlife Resource Conservation Group.

MR. MAHAN: And if you can come and attend as an observer, but you want to get up to speed. And there are some issues that don't necessarily require a degree, just a level of education, and so forth. Let's take down stream safety issues; boating, kayaking. I don't know, maybe they give out a degree in kayaking, I don't think so. But I can tell you, we've got experts in the area, we are talking about down stream boating safety, we certainly are going to need. It's kind of like a standard the law uses, to determine if somebody who is an expert. It can be by education, it can be by experience. And so, we want to try to make those right decisions to get the people on that help. The reason we want to try to get people who are familiar with the topic in a way that you don't have to educate them at base level; it simply will make this process go a little faster. If the Technical Working Group has to stop every fifteen minutes and answer basic questions, and everybody except for one or two understands, it can slow the process down to a risk we are not going to get that work done in time. Again, we don't want to exclude people from sitting in and listening, but as far as having to

stop and educate somebody on some of these technical issues, we would prefer to have people who are conversant in it and can add something directly. And it's not to say that common experience is not valuable, and it may be able to maybe size down some of those things, shoreline management, I don't know. That may be something that we certainly may need someone who lives around, participates in Homeowner's Association, someone that doesn't have to necessarily have a degree in Shoreline Management. Which I don't believe there is. So, we would like to have the Technical Working Groups that will work as a scientific, as a research, as a technical group. But we don't necessarily mean we are going to exclude someone if we believe based upon their experience and so forth, they can add something to the process.

MR. STUART: Also, these Technical Working Committees are going to be geared primarily to develop actual field type studies that are necessary. We are advocating the use of existing information as much as possible; but if there is a study that actually requires "go out and develop a study plan", they will conduct a study, bring back the information, synthesize it, and go through that. That's the primary role of the Technical Working Committee. They will develop their study plan, obviously distribute them to the Resource Conservation Group, or --- I wouldn't necessarily use the word "evaluation", but just to keep them informed of what's going on. Once the Resource Conservation Group has developed their own Technical

Working Committee out of that group. And pretty much those individuals will come to step forward and say, you know, "I know quite a bit about fishing entrainment." If we have to go address fish entrainment through some type of field effort, I think the general dynamics of the group will allow people to do that. But we are not excluding anybody as long as you can be a viable participant on that Technical Working Committee. Yes, ma'am?

MS. WENDLING: I'm Pat Wendling again. I have been on a committee in the School District to pick textbooks. And we went through a process because they said they had to go through a process and they had to have the parents involved. At the end of the time when we offered our recommendations and they were negated because they said, "We have to use this book because this is the book they will pay for." My question to you is, if we go through all of this process and all these people give comments, and spend time, do those comments actually end up in (inaudible). Is your goal to accept what they said and put them into this Relicensing or is this a waste of time and effort of everyone?

MR. STUART: The ultimate goal is to develop --- flush out all the issues and try to develop a settlement agreement that best balances the operation, the environmental, and the recreational aspects of the project.

MS. WENDLING: Who has the final decision. Do the people that put all of this input in?

MR. STUART: If you look, there is a hand out that is available, if you look there was a schematic of how these Resource Conservation Groups and the general relicensing --- I think Bill is holding one up. All of those Resource Conservation Groups will submit their recommendations to that core group up there which represents stakeholders, the State and Federal Agencies, SCE&G Personnel, that's where the development of a settlement agreement, we hope, is going to occur. There is a balancing that will need to be done. You know, there is economic considerations. Just as there is environmental consideration. That's what will be the goal, or the mission, I guess, is the word, of that core group that you see. That will in turn go up to SCE&G's management for their approval, it is SCE&G's project. But hopefully by then to my knowledge there are those people from SCE&G that have a good understanding of how SCE&G works, and hopefully will go for a stamp of approval.

MR. MAHAN: Our objective is to try to achieve consensus on these issues. That's why we bring up the issue of settlement agreement. Can't have a settlement agreement if you don't have at least some level of consensus. You may have people on your committee who disagree with the terms of settlement, the issues. Ultimately this is SCE&G's project, and our application, and to be responsible for what goes into it. And so, we will prepare the application, hopefully it's just roll it up and copies of all these agreements that we have on all the issues, and there is nothing left out there for the FERC to

really make the decision on that and likely there are going to be people who participate in the process and even where there is an agreement, or an issue, they still are going to want to provide their comments directly to the FERC after we file the application because you certainly are going to have that opportunity. Even if you participated every step of the way we don't say you give up your right to file comments to the FERC on our application if you participated. Not at all. Not at all. We want you people to participate so that we don't have a lot of disagreement and we can provide an application that shows that the issues, while you maybe haven't made everybody happy, we have at least found a point in-between that everybody can live with it. Some of these issues, that's the way they are going to be resolved; you are not going to be happy, we are not going to be happy; we both will be kind of equally irritated, unhappy, but we can live with it. So, we are going to see about that. But once again, once we file out our position and it goes out on public notice again and we had an opportunity to go

We know we can't make everybody happy, I'm not foolish enough to think we can. But we are going to listen to everybody, and we are going to address issues to the best of our ability.

MR. STUART: Thank you. Other questions? These are good questions, please ask. I gave a presentation to the Homeowner --- one of the Homeowner Groups, and that was one of the things I brought to the forefront is if you are unsure, please ask questions. I don't have

anything further. As I said, we will be convening another one of these in about three months. Hopefully by then, we will be in the thick of the Conservation Groups, and there will quite a bit of information, I think, that will be coming out of those.

MR. MAHAN: Please do look at these protocols again for the meetings and the conduct for the meetings and the groups. And if you have comments, suggestions for improvement, don't be bashful, and let us have those. What we did is we picked ones from other relicensings that seem to have worked well in terms of getting from Point "A" to Point "B". But if you have a better idea, we know there is more than one way to skin a cat. And we certainly want a process that everybody feels like they have participated in, and we can get approval (inaudible) among other things. On the time schedule that we have to meet.

MR. STUART: One other thing, I know on the sign in sheet we had a little box, or a section, where it said "Area of Interest". You will probably be added to a list if your name appears on that; if you don't want the information and you want to get it on your own, that's up to you. Just let Alison know to take you off of the minutia, e-mailing list; and you will be free to get the information through the web site.

MR. MAHAN: There is a folder --- we may have already handed all these out. We have got a survey that the Lake Murray Association would like to get participation in terms of helping them provide their

position, and help beat us over the head in a certain position. Please cooperate with Lake Murray Association.

(UNIDENTIFIED): I think it's Lake Use Survey.

Mr. RUPLE: Yeah. It's a useful survey; everybody, including SCE&G, they need a good input.

MR. STUART: If you need to get a copy, please pick one up. Anyone have any questions, please do not hesitate to contact myself, or you can get me through the web site. That's all I have. It's a five year process, so be ready.

END OF PUBLIC MEETING.