

**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
SAFETY RCG MEETING**

**SCE&G Carolina Research Park Facility  
April 9, 2008**

final acg 8/11/08

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**ATTENDEES:**

Alison Guth, Kleinschmidt Associates	Dave Anderson, Kleinschmidt Associates
Randy Mahan, SCANA Services, Inc.	David Price, LMPS
Bill Argentieri, SCE&G	Mike Waddell, TU
Jay Schabacher, LMA	Bill Marshall, LSSRAC, SCDNR
Alan Stuart, Kleinschmidt Associates	Dick Christie, DNR
Joy Downs, LMA	Jim Devereaux, SCE&G
Jim Cumberland, CCL	Suzanne Rhodes, SCWF
Karen Kustafik, City of Cola Parks & Rec	Bret Hoffman, Kleinschmidt Associates

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**MEETING NOTES:**

*These notes serve as summary of the major points presented during the meeting and are not intended to be a transcript or analysis of the meeting.*

Bill opened the meeting and introduced Jim Devereaux who would be presenting at the meeting (presentation available at <http://www.saludahydrolicense.com/documents/SafetyRCG4-9-08.pdf>). Bill explained that Jim D has been working on the siren system and seeking advice from Karen Kustafik for the locations of the proposed sirens. It was noted that the purpose of the presentation would be to describe the existing and future warning system.

Jim D. began the presentation and explained the background behind the warning system. He noted that in order to warn against rising water levels, there was a warning system that consisted of sirens, strobe lights, and a combination of the two. Jim D. also explained that the output level of the sirens was 12 decibels over ambient sound (routine background noise, including minimum flows) and sound levels were adjusted by direct measurement at each siren location. For the new siren locations, Jim D. explained that they had to take the neighbors into consideration. Furthermore, it was noted that the location of the sirens was also chosen in order to maximize sound travel around river bends. Jim D. continued to explain that they also take into account the islands on the river in order that sirens can be heard on the back side of the islands.

Jim D. began to describe the new strobe and siren locations. He noted that there was a new strobe location at the confluence of the spillway channel and there will be a new siren near Saluda Hydro. In the upper portion of the river, Jim D. explained, there would be existing or proposed sirens/and or strobes about every .5 river mile. Upon viewing the proposed siren locations, Mike Waddell

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suggested a possible transfer of the new strobe C to above the island near Saluda Shoals Park, so that there was coverage on both sides of the island.

Jim D. continued to discuss the different portions of the LSR, and noted that between Saluda Shoals Park and I-20 there was a slow wide stretch of river that did not receive much use. Jim D. explained that there were not a lot of places to take out in that area and it was not a wade fishing area, therefore, there were no plans for sirens or strobes along that particular stretch of river. Also, due to the fact that it is a straight section of river, there was very little area that is not covered by the upper and lower sirens. Upon viewing the mapped proposed siren locations, Mike Waddell suggested that a strobe should be put in place of siren #7. It was pointed out that there is a lot of canopy coverage in this area and Jim D. noted that there are a lot of people who also camp there. Karen K. explained that they had discussed this area, and pointed out that when the greenway is put in place there will be much activity in the area. She noted that if people are at the bottom of Oh Brother Rapids, then they may not be able to hear the siren at Ocean Blvd. Bill noted that with the installation of the siren they will work with the neighbors. The group agreed that Siren # 7 did need to be in place. The group also discussed siren #9 and the possible need for it. It was noted that some sirens have over a mile spread, so once siren #7 and #8 were installed, the need for siren # 9 would be determined.

After discussion on the location of the sirens, the group discussed the activation sequence. Jim D explained that sirens 1-3 and strobes A and B were activation with generation of about 800 to 900 cfs. Jim D. further explained that sirens 4 and 5 and strobes C and D are activated by pressure transducer 1 and a time delay. Sirens 6 through 8, Jim pointed out, and strobes E and F are activated by time delay off of pressure transducer 1. For siren 9, Jim explained that was also activated off of a time delay program. It was noted that zone (areas that define “zones can be viewed in the presentation <http://www.saludahydrorelicense.com/documents/SafetyRCG4-9-08.pdf> ) 5 was activated by pressure transducer 2 and activated 3 sirens.

Upon viewing the siren locations, Bill Marshall pointed out that siren # 2 may not be needed if there was a siren at the plant, one at hope ferry, and another downstream. Jim explained that the reasoning behind that siren was that it was in front of an island where there was a lot of activity. He further noted that his concern would be that they would not be able to hear the siren at the USGS gage. Jim D. explained that they would be working with the neighbors on the sound levels of that siren. Bill M. explained that he was looking for options in order not to impact the bank of the river. Karen pointed out that Charlene Coleman had asked her to note that while a warning system on the river was a good thing, it was also important preserve wilderness characteristic of the river. Jim D. replied that as long as it can be shown that there is effective coverage in the river, eliminating a siren will not be a problem. Mike W. noted that he believed that strobe C and siren 3 and 4 needed to be activated by generation at the plant. Bill noted that SCE&G would look into that. Jim Cumberland noted that he had been giving a lot of thought to when the sirens should be activated and noted that he liked the idea of time delayed activation as opposed to the sirens being activated all at once.

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After the group concluded discussion of the siren and strobe system, they began to discuss other facets of the safety system. Alan Stuart explained that there was a call-down system, as well as discussion on a public education system. It was noted that NGO websites would be a good location for information on the call down system. Bill further pointed out that a public notice would be sent out when the call-down system was officially up and running.

The group concluded discussions and noted that they were pleased with the proposal. Group adjourned.

**Below is a summary of the recommendations made by RCG members:**

- The recommendation was made to transfer the new strobe C to above the island near Saluda Shoals Park so that there is coverage on both sides of that island - Mike Waddell
- Mike Waddell suggested a strobe should go in place of siren #7, however the group agreed that due to canopy cover a siren should be put in place instead.
- The group noted that siren #9 may not be needed and the need should be determined after the installation of sirens 7 and 8.
- Bill Marshall noted that siren #2 may not be needed.
- Mike Waddell recommended adding siren # 3 and # 4 and strobe C into Zone one.

Subsequent to the meeting, Bill Marshall noted the following: “On the last page of the minutes, the recommendations of meeting participants are summarized. While at the meeting, I suggested that siren 2 may not be needed for the same reasons that siren 9 may not be needed. That is, in my experience of living near the river in West Columbia, from my house I can easily hear the siren at Riverbanks Zoo, which I measured on a topo map to be one-mile distance from my house. When SCE&G increases siren coverage along the river, I think a two-mile spread between sirens might be adequate to provide the desired audible coverage on the river if the sound is projected both upstream and downstream at the same volume that is being used at the Zoo. As was mentioned at the meeting, SCE&G should consider implementing the proposed additions to the warning system with an initial wide-spaced placement of the sirens to be followed some testing of the audible coverage and then fill-in with additional sirens (such as number 2 and 9) as proves necessary.”

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**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
NAVIGATIONAL AID TWC**

***Panera Bread  
September 13, 2007***

Final JMS 10-29-07

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***ATTENDEES:***

Bill Argentieri, SCE&G  
Alan Stuart, Kleinschmidt Associates  
Dave Anderson, Kleinschmidt Associates  
Suzanne Rhodes, SCWF  
Bill Mathias, LMPS  
Jeni Hand, Kleinschmidt Associates

George Duke, LMHA  
Joy Downs, LMA  
Ken Fox, LMA  
Steve Bell, Lakewatch  
Tommy Boozer, SCE&G

***DATE:*** September 13, 2007

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**DATE OF NEXT MEETING:** TBA

**HOMEWORK ITEMS:**

- Include a description of the shoal marker plan (criteria for a hazardous area and contact information for reporting misplaced buoys) in the Safety Plan.  
*Safety Technical Working Committee*

**DISCUSSION**

*These notes serve to be a summary of the major points presented during the meeting and are not intended to be a transcript or analysis of the meeting.*

Alan Stuart welcomed committee members and noted the focus of today's meeting will be to determine the purpose of the Navigational Aids Technical Working Committee (TWC). Alan explained it was important that any known issues regarding navigational aids or hazards on Lake Murray be discussed during this meeting.

Steve Bell noted the group needed to address the issue of unmarked hazards when lake levels drop below the 354' elevation. Alan explained to the group that DNR informed the Safety RCG that markers on Lake Murray are accurate from 350 to 358. Steve noted that the group should determine if any unmarked hazards exists within the below the 354' elevation l. Alan explained to the group



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the buoy system is designed to warn boaters of potential hazards in the area. He further explained that the buoys do not mark the exact spot directly above the hazard, but the immediate area. Steve B. noted that he believed that the lake was not marked accurately for levels below the 354' elevation. He also noted that the information provided by Col. Taylor was not consistent with discussions with Skeet Mills (DNR) and surveys by a fishing guide. But this may be a moot issue since SCE&G plans to target a lake level around elevation 354' taking into account weather conditions and operational needs. Alan noted that most likely, there will always be hazardous areas on the lake that are unmarked simply because buoys could become damaged and/or break loose any time at any lake level. Tommy Boozer noted that if there are problems with the buoys on Lake Murray, SCDNR and/or SCE&G will come out and evaluate it. Bill Argentieri noted that Col. Alvin Taylor from SCDNR had provided information about the shoal marker program to the Safety Resource Group on July 31, 2007. Bill A. referenced the notes and pointed out that according to Col. Taylor it would be almost impossible to mark every hazard on the lake, and that it is the boaters responsibility to operate the boat in a safe manner and to be familiar with the waters that they are boating in.

There was some discussion about who the public should contact about repairing damaged and/or missing shoal markers. Randy Mahan noted that contact information for reporting damaged or lost buoys should be given out to the public so they are able to report hazardous areas to SCDNR and/or SCE&G. Bill A. suggested, and the group agreed, that a form should be posted to the SCE&G website for the public to report missing and/or displaced markers on Lake Murray. The group also agreed that a magnet containing contact information for reporting misplaced buoys would be a good way to inform the public about the shoal marker program.

Steve B. noted that if lake levels are kept higher year-round, then hazardous areas should not be a problem for Lake Murray. Alan noted that regardless of lake levels, contact information should be given to the public to report unmarked shoal areas and missing/displaced buoys. Joy Downs noted that Lake Murray Association feels that the lake is safer with less lake level fluctuations. Joy Downs wanted to know why Skeet Mills, the DNR officer who maintains the buoys, did not provide information to the committee. It was noted that SCE&G requested that SCDNR made the decision of who to send to the meeting. Col. Taylor has been involved with the SCDNR navigational aids program for almost 20 years and knows how the program is managed. Steve B. recommended that the lake should be marked for the average yearly fluctuation, i.e. 358' to 354' and if the lake dropped below that for scheduled draw down, the public could be informed via the media and other channels. Alan noted that it would be difficult to correlate shoal markers with lake levels because we don't know what the lake levels will be from one day to the next. Randy suggested that if SCE&G has an intentional drawdown below 354, SCE&G could notify the public about potential hazards on the lake, but if lake levels are below 354 because of drought, then SCE&G has no reason to notify the public. Steve B. requested that safety issues related to lake fluctuation be reported to

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the Operations RCG. Bill A. noted, and the group agreed, that the shoal marker program should be included in the Safety Plan. The write up should include a description of the shoal marker program, criteria of a hazardous area, and a procedure to report hazardous areas to the SCDNR and SCE&G.

The meeting was brought to a close and it was noted, that agreement had not been reached on the unmarked hazards issue and further discussion would be needed at a future Hazardous Areas TWC.

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**ATTENDEES:**

Alison Guth, Kleinschmidt Associates	Dave Anderson, Kleinschmidt Associates
Bill Argentieri, SCE&G	Randy Mahan, SCANA Services, Inc.
Tommy Boozer, SCE&G	Steve Bell, Lake Watch
Kenneth Fox, LMA	Alan Stuart, Kleinschmidt Associates
Joy Downs, LMA	Glenn Ward, SCDNR
David Price, LMPS	Col. Alvin Taylor, SCDNR
Bret Hoffman, Kleinschmidt Associates	Bill Mathias, LMA & LMPS
Bill Marshall, SCDNR, LSSRAC	Mike Waddell, TU
Lyle Brite, LMC Public Safety	Jim Cumberland, CCL
Suzanne Rhodes, SCWF	Dave Landis, LMA
Lee Barber, LMA	

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**MEETING NOTES:**

Dave Anderson opened the meeting and explained that the purpose of this meeting is to discuss the current SCDNR shoal marker program on Lake Murray. To aid in the discussion, Dave introduced Col. Alvin Taylor from SCDNR, who is the head of law enforcement. Dave noted the point of the day's meeting was not to discuss responsibility from a legal perspective, but to provide general information about the shoal marker program. Discussions began with Col. Taylor providing the group with a general introduction on the shoal marker program.

Col. Taylor explained that he had maintained the shoal marker program for the first 20 years of its existence. He noted that the program began as an outreach program to provide for safer boating. Col. Taylor explained the entire program is funded through federal boating dollars and the buoys on Lake Murray account for approximately 50 percent of buoys in the state. He pointed out that during the past few years they have had some issues due to the maintenance drawdowns; however, he also noted the program was doing what it was designed to do, which is provide for a safer boating environment. He explained that at one time the legislators requested DNR mark Lake Marion. However, since there are far too many hazards on Lake Marion to mark, they felt they would be giving boaters a false sense of security by placing buoys. Similarly with Lake Murray, Col. Taylor explained that since it is impossible to mark every hazard on a lake, they want to make it a point that the operator has the responsibility to operate the boat in a safe manner and to be familiar with the waters that they are boating in. Col. Taylor further explained that the shoal marker program was not something that DNR was mandated to do, or continue to do, however, they desire to create a safer environment. He expressed it is their intention to create a safer boating environment, whether

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it is through the enforcement of their boating laws, education classes, or the “Aids to Navigation” program.

After Col. Taylor’s initial discussion, the floor was then opened for questions. Steve Bell asked how the department prioritized where buoys are placed and under what circumstances is a buoy not placed on a hazard. Col. Taylor explained if there is an accident due to a unmarked shoal, they typically prioritize those. It was explained that when there is a request for a buoy, it will go on the docket in the order that it is received. Col. Taylor noted that if an individual is interested in establishing a no wake zone, then they must write a letter that includes directions and addresses, and it will be investigated.

Col. Taylor explained they typically look at the average pool levels and determine, using a topography map, what hazards are present at those levels. He noted that there is now close to 300 buoys on the Lake. He noted the average lake level is reviewed on a regular basis, going by the average drawdown. Joy Downs asked what the current average drawdown was, as well as how often they discussed this with SCE&G. Col. Taylor explained that they have constant contact with SCE&G, and on a typical basis they move and adjust buoys every 3 to 4 years, and sometimes even more often. He added that if there is an unusual drawdown they may have to place more buoys, such as the 2004 drawdown where they placed an additional 150 buoys. However, he noted that they were concerned about boaters having a false sense of security.

In reference to the type of hazard markers used, Lee Barber asked why pilings were no longer used on Lake Murray. Col. Taylor replied that hazards were originally marked with pilings; however, they had an individual hit a piling and sue the state and SCE&G. He added they have had a number of accidents across the state with pilings and they decided the piling itself posed a greater hazard than the shoal.

When asked the difference between the terms “aids to navigation” and “hazard markers,” Col. Taylor noted they were the same thing. He explained that aids to navigation included hazard markers, as well as speed limits, no wake zones, etc.

Bill Mathias asked if individuals were allowed to place a buoy or a no wake marker themselves. Col. Taylor pointed out that if an individual places a buoy in the Lake, such as a mooring buoy, they would be required to get a permit through SCE&G. However, Col. Taylor noted that if a unauthorized no wake buoy was placed, then DNR would remove it. He further explained that an official regulatory marker was identified by an orange circle. He also added that a DNR officer will not write a ticket for not abiding by an unauthorized marker.

One individual asked about buoys that break off or are damaged, and how soon it is until they are found and replaced. Col. Taylor replied they often get a call from a property owner who has had a buoy wash up onto their shoreline. He noted they also have an officer who regularly patrols the

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reservoir. He also explained they do try to do regular maintenance runs several times a month in the summer, and a little less in the winter.

Steve B. explained that one of the issues that has been brought up on Lake Murray are concerns regarding lake level drop and buoy locations. He noted when the water levels are lower, there are buoys that are sitting on dry ground and there are some areas that were safe when the level is up that are then a problem. He added that they are trying to determine how big of a problem this is and if the drawdown range is covered during the winter. Col. Taylor replied that the past few years have been unusual, and cannot be looked at to discuss average. He noted that during times of extreme drawdown, he believes that the boater needs to assume some responsibility and use common sense and caution. He noted that if the boaters do not assume some responsibility, then they would constantly be moving 300 buoys. He explained that during an average year, they will mark anything that is 10ft below the average drawdown level. For example, the Colonel explained that if the high pool level was 358', and the winter pool level was 352', then the average pool level would be 355'. All hazards are then marked 10 ft. below the average pool level, which would be any hazards above 345'. He pointed out that with this method of marking, they are trying to take into consideration covering the greater number of lake drops below the average.

Steve B. noted that during drawdowns, there are some shallow areas that have never been marked. Additionally, he asked the Colonel if he agreed there were a lot of unmarked areas when the water drops down. Col. Taylor replied there were going to be some areas that are not going to be marked at an extremely low drawdown. Col. Taylor explained that this is why the boater has to take responsibility during low drawdowns and use caution. He added that if it is an average drawdown, and there are areas on the Lake that are not marked, then DNR needs to look at marking those. If it is an unusual drawdown, Col. Taylor restated there are going to be some areas that are unmarked. Steve B. then asked if there was a way to define those areas. Col. Taylor replied that it was difficult to define those areas, and they depend a lot on the officers and the boating public. Alan Stuart asked if a boater came across an unmarked shoal, if it was best to GPS the coordinates if possible. The Colonel noted that that was the best way.

Steve B. asked if a solution to hazards on the Lake was to change the lake level policies to where the lake was not drawn down as often. He added that if the lake level policy was changed, DNR may be able to eliminate a lot of the buoys and in turn lower its cost.. Col. Taylor replied that the concerns came into play when the lake is drawn down extremely low, however DNR is not in the business of telling SCE&G how to operate the Lake. Col. Taylor further explained to the group the intention of a buoy is to alert of a hazard in the area and to steer wide of the buoy. He noted the buoys do not always watch directly over the hazard they are marking.

Bill Mathias made the statement that shoal markers catered better to power boats than sailboats. Col. Taylor replied this statement was probably a fair statement, but noted that the sailboating community seemed to be more keen to the hazards around the lake, in general. Lee Barber pointed out that ultimately it was the boaters responsibility to boat in a safe manner. Also, he added that

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even if it were possible to mark every hazard, something could happen to a marker. Given that, Lee B. noted that he felt it was important that boaters be educated about the Lake, possibly a requirement. Col. Taylor described the safe boating classes that DNR offers. He explained that there has been some interest by legislators to support licensing for boaters or mandatory education for boaters.

Lee B. also pointed out that the RCG desired to revitalize the regular meetings between SCE&G, DNR, Law Enforcement and stakeholders to discuss what is happening with respect to safety issues on the Lake. Col. Taylor replied that DNR would be interested in attending regular safety meetings beyond relicensing. It was added that the Coast Guard Auxiliary and the Power Squadron should be included as well.

Bill Marshall asked if there were any reservoirs in the state where DNR does not mark the hazards. Col. Taylor replied the only lakes that SCDNR does not mark are the Corps lakes. Col. Taylor also added they do mark some hazards on other waterways, as well. Col. Taylor explained most of the hazard markers in the state were located on Lake Murray because it was one of the largest lakes that they mark.

Joy D. inquired as to whether or not there were any records that show if a boating accident was due to hitting a shoal. Col. Taylor replied the only way they would be able to tell if an accident was due to a shoal was to read the actual report. He explained that boating accidents and fatalities were at record lows statewide. He described they have had years in the past with as many as 64 or 65 fatalities statewide, however last year there were only 14 fatalities, even with increasing boat registrations. Col. Taylor also explained that most of the boating fatalities were due to capsizing or individuals falling overboard without a PFD. Glenn Ward added that most of the fatalities would not have taken place if the individual involved were wearing a PFD. Dave A. asked if there were GPS coordinates associated with accident records. Col. Taylor replied they have begun recording that information in recent years.

Joy D. also asked if there was an agreement, written or gentlemen's, between SCE&G and SCDNR concerning hazard marking on the lake. Col. Taylor replied it was more of a gentlemen's agreement. Tommy Boozer explained there was some documentation many years ago when the initial hazard markers were put into place. Suzanne Rhodes asked about the funding for the program. The Colonel explained the funds have increased in recent years and he believed the funds were stable. He also noted that the funding was based on fuel tax dollars.

Steve B. asked if SCE&G gives input into buoy placement around the lake and if DNR initially came to SCE&G to ask permission to place buoys around the lake. Randy Mahan replied the program has been in place for many years, however DNR clearly has SCE&G's permission and encouragement to place buoys around the Lake. Col Taylor noted that he believed initially there was a feeling between the two entities that there were some shallow areas around the lake that should be marked.

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Alan S. pointed out that Col. Taylor explained the shoal marker program was designed for the normal conditions of the reservoir, from 352' to 358'. Alan S. further asked the Colonel if he thought the hazard marker program was working, and if there were any areas that the group could help with in order to make the program better. Col. Taylor explained that outside of abnormal drawdowns, he believes it has been a successful program. He reiterated that the more information they receive, the more they can act on it and would welcome input from the group.

Col. Taylor explained to the group that most DNR agencies do not have an Aids to Navigation program. He pointed out that the SCDNR does not mark Santee Cooper lakes because they know it would be impossible due to the tremendous amount of hazards, and they believe they would then be creating a greater safety issue.

It was asked whether or not the FERC requires SCE&G to place shoal markers in Lake Murray. Randy M. replied it is not something that the FERC requires of its licensees. He explained SCE&G is responsible for safety for the Project works, dam, spillway areas, and such. It was noted the FERC would like the licensee to have a general concern for safety.

Steve B. asked if the average fluctuations i.e., between 358' and 352' were reduced, if the safety hazards would be reduced also. Col. Taylor explained that common sense tells you that the less the fluctuation the less hazards. Col Taylor indicated, they were concerned about knowing what the normal levels were going to be so they could have those areas marked. He explained there were always going to be drought situations or other situations that would cause the average lake levels to change.

Lee B. noted that if there were no records that equated injuries to shoals, then how did the group know whether or not shoal markers were needed. Col. Taylor replied he believed the shoal markers were needed for the uneducated boaters. He explained that educated boaters would not need as many markers on the Lake. Similarly, Randy M. asked if there were more accidents on the Santee Cooper lake system. The Colonel replied that if one talks with a boater that boats regularly on the Santee Cooper system, they are far more careful and far more concerned about hazards under the water. Randy M. added that a boater can get an idea that everything is marked and they are free to boat without caution, as opposed to Moultrie and Marion where nothing is marked and boaters are generally more careful. He also explained there needs to be a good median between the two extremes and he is also concerned about giving people the false impression that everything is going to be marked at all times.

The group continued to discuss hazards on the Lake. One individual suggested developing an official chart of the Lake. Dave A. replied that other than the Great Lakes, he does not believe an official, NOAA sanctioned chart has ever been developed for an inland lake. Tommy B. explained there were a number of maps that had the buoy locations on them.

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Steve B. noted he does not believe that every buoy placed out there is marked at the 345' contour. Col. Taylor agreed and noted that some things are hazards at higher levels; if it is a hazard at 358' then it will be marked at 358'. He continued to note that they are not all marked at the same contour, DNR simply wanted to make sure they were marked at 345'. The group continued to discuss this issue and it was noted that as the lake was drawn down, the buoys may float away from the shoal at most 13 ft at 345'. However, Col. Taylor agreed the intent of the shoal marker program is to alert boaters to use caution and steer clear of an area, not to give them an exact defined location of a shoal.

The meeting was brought to a close and it was noted the group would likely meet again after the safety program document is nearing completion. Col. Taylor noted the contact numbers for DNR were (843) 953-9378 for buoy issues and 1-800-922-5431 for the dispatcher. The group closed the meeting and thanked Col. Taylor and Glenn Ward for attending.



Additional Comments Provided After the Meeting:

Additional comments by Steve Bell-Lake Murray Watch – Provided 8/22/07  
July 31 Safety Resource Group meeting.

The safety issue regarding lake fluctuations is- during a normal year when the lake fluctuates between 358' to 352', there are many unmarked hazards that appear when the level drops below the 354' contour.

The information provided by Col. Taylor will be very helpful in addressing the issue above.

I would like to respond to several comments made during the meeting.

1-According to the meeting summary, Col. Taylor indicated that DNR was not in the business of telling SCE&G how to operate the lake.

*Response- The re-licensing process opens the door for stakeholders including DNR to make reasonable request for changes in how SCE&G operates the project.*

2- According to the notes, Randy Mahan stated, that they are responsible for safety for the Project works, dam, spillway areas, and such. It was noted that the FERC would like the licensee to have a general concern for safety.

*Response- FERC's Chief Compliance Officer stated in an official letter to SCE&G regarding unmarked hazards that SCE&G is ultimately responsible for safety at its project. In addition, Art. 12 of SCE&G's license states that SCE&G's responsibility for safety includes the storage and discharge of waters.*

3- Personal responsibility was brought up by several people.

*Response- Personal responsibility is a given and there is plenty of room for improvement. But we cannot ignore the fact that we are in a relicensing process which provides opportunity for improving safety via modifying operations and lake management. Operations is causing the problem. It might be that operations can solve the problem. Let's find out.*

In closing I would like to suggest that a Technical Working Committee be formed to review the information and begin addressing the above issue.

Thanks,

Steve Bell  
Lake Murray Watch  
803-730-8121

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SALUDA HYDRO PROJECT RELICENSING  
SAFETY RESOURCE GROUP**

**SCE&G Training Center  
April 18, 2007**

Final acg 5-24-07

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**ATTENDEES:**

Alison Guth, Kleinschmidt Associates	Dave Anderson, Kleinschmidt Associates
Bill Argentieri, SCE&G	Randy Mahan, SCANA Services, Inc.
Tommy Boozer, SCE&G	Stephen Curry, Columbia Fire Dept.
Steve Bell, Lake Watch	Karen Kustafik, COC Parks
Jay Schabacher, LMA	Kenneth Fox, LMA
Tony Bebber, SCPRT	Joy Downs, LMA
David Price, LMPS	Malcolm Leaphart, TU
Bret Hoffman, Kleinschmidt Associates	Bill Mathias, LMA & LMPS
Bill Marshall, SCDNR, LSSRAC	Charlene Coleman, American Whitewater
Patrick Moore, SCCCL, Am. Rivers	Mike Waddell, TU
Jenn ORourke, SCWF	
Norm Nicholson, Lexington Co. Sheriffs Dept.	
Marty Phillips, Kleinschmidt Associates (via conference call)	

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**HOMEWORK ITEMS:**

- Draft a letter to DNR requesting clarification on several issues regarding shoal markers on Lake Murray - Dave Anderson
- Discuss settlement agreement options with DNR regarding the shoal marker issue – SCE&G
- Update the Issue Recommendation on Warning System for the LSR – Dave Anderson
- Update Issue Matrix – Dave Anderson
- Revise Safety and Outreach Programs document – Marty Phillips

**DATE OF NEXT MEETING:**      **3<sup>rd</sup> Quarter 2007 – Meeting Date TBA**

**MEETING NOTES:**

Dave opened the meeting and the group briefly reviewed the agenda items that were to be discussed during the course of the meeting. Dave noted that they would start off by discussing the issues regarding shoal markers on Lake Murray.

Dave noted the main concern that has been expressed by the group regarding shoal markers on Lake Murray is there is a problem in marking hazards due to lake fluctuations. Dave explained that he had researched the FERC e-library and found two documents that may provide some insight on how

**MEETING NOTES**

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other licensees have dealt with this issue. One document was from the Coosa and Warrior relicensing and one document was from the settlement agreement at the Yadkin Project. At Yadkin, Progress Energy has proposed to work with NCWRC (North Carolina Wildlife Resources Commission) in provided funding for buoy installation and maintenance. Dave explained the Coosa/Warrior document addresses 7 different reservoirs; however, it may provide the group with ideas on how to address this issue. Dave asked the group if there were any other ideas on how to resolve the shoal marker issue. Steve Bell noted that he is not as concerned with how the shoals are marked at summer lake levels; however, he does have an issue with how the shoals are marked when the lake levels go down and is also concerned with what would happen if DNR pulls out of the program on Lake Murray.

The group continued to discuss this issue and a few individuals expressed that DNR does not have the manpower to keep up with buoy placement and repair, even if money was provided. Joy Downs asked if the agreement with DNR to maintain the buoys on Lake Murray was semi-formal. Tommy Boozer explained that although SCDNR has committed to maintain the buoys, there was no legal, binding agreement that they had to do so. Tommy also pointed out that DNR performs the buoy placement on many other lakes and any funding that was contributed to DNR for the placement of buoys would need to carry with it the requirement that that money would only be spent on the program for Lake Murray. Dave noted the Safety RCG would continue after relicensing and questioned whether they could then set the priorities for buoy placement on Lake Murray at their meetings.

The group discussed the option of hiring a third party contractor to work under the supervision of DNR. Patrick Moore pointed out that the FERC would not be able to agree to a third party contractor in a settlement agreement. Dave asked the group if there was a current process by which a homeowner or lake user could put in a request for a hazard marker. Tommy explained that they frequently receive calls reporting problems with existing shoal markers which they subsequently contact Skeet Mills from DNR about. Norm Nichols explained that DNR owns two buoy boats that they use for the entire state and they had been on Lake Murray twice last week, although he was unsure how often they frequented the Lake. Bill Marshall noted that Skeet had informed him that 54 percent of the navigational aids in the state are located on Lake Murray.

Steve Bell noted that it would be SCE&G's responsibility to mark the Lake if the state did not. Randy Mahan noted that at this point he did not believe they could mark the waters of South Carolina and would not want to assume that liability. He continued to explain that there are some things that the government can and should do, one of which is providing highway markers and markers on the waters of the State. He noted that if it is a funding issue then they may need to look into providing some level of funding to the DNR for that issue. It was also noted that it may be possible to rally for legislation that either releases SCE&G from any kind of liability or would require SCDNR to upkeep this program.

## ***MEETING NOTES***

### ***SOUTH CAROLINA ELECTRIC & GAS COMPANY SALUDA HYDRO PROJECT RELICENSING SAFETY RESOURCE GROUP***

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Dave noted that he would draft a letter to send to Dick Christie with some of the questions that the group had about marking the shoals. Dave noted that he would ask Dick about the agency funding of the program. He would also ask DNR to better define what they meant in the July 6, 1999 letter regarding shoal markers on Lake Murray. Dave also noted that he would ask DNR to define the difference between "aids to navigation" vs. "hazard markers". He would also ask DNR for their definition of a shoal. Dave noted that SCE&G would work with DNR separately regarding a solution for the issue of shoal markers.

After a short break, the group discussed the Warning System for Rising Water on the Lower Saluda River Issue Recommendation. Malcolm Leaphart had submitted a few questions via email and the group briefly discussed these. One of Malcolm's questions was regarding where the float switches that trigger the sirens are located on the LSR. Bill Argentieri noted that the float switch for the sirens at Metts Landing is located at the USGS gage about a 3/4 of a mile upstream. Bill continued to explain that the sirens by Millrace, Shandon Rapids, and the railroad tracks are all activated by a float switch located about 1/4 mile upstream of the first siren at the Zoo near Candi Lane.

Dave had put together an illustration of the LSR in which the areas that the group had indicated the majority of the recreational activity occurs are highlighted in red. Bill Argentieri again asked Trout Unlimited representatives (Malcolm Leaphart and Mike Waddell) if the areas highlighted in red covered the areas that they typically fish in. Malcolm replied that they fish on the entire length of the river. Patrick also recommended that an emergency exit light be placed at Gardendale that would indicate to non-expert boaters the need to exit the waters due to a release.

There were some questions on why all of the sirens were not activated as soon as there was a release at the dam. It was explained that for the areas by the zoo, at times it would take several hours for the water to rise significantly in that area. Malcolm asked the group if there could be a warning for when water was released at the dam as well as a warning when the water started to rise in the immediate vicinity. Malcolm noted that he would like a clearer idea of how much flow was released; he continued to explain that if it was around 400 cfs he may be able to stay in the water and continue with his activities. Bill noted that he believed it was more important that they make sure there is a good coverage area on the river. He continued to explain that it needed to be clear that when the siren was activated, individuals should exit the water, and not try to gage how long they could remain in the water before exiting. Charlene Coleman with American Whitewater agreed, noting that there only needs to be one light, which indicates when to exit the waters. She noted that complex combinations of lights and sirens that depicted flow levels would only serve to confuse the majority of the individuals recreating on the river. Karen Kustafik also agreed and noted that the more detailed information was something that may be more appropriate on the website or in the phone tree message.

Malcolm noted that he would like to clarify that it may be important for different river users to know how much water was coming down the river because individuals with Jon boats may have an

**MEETING NOTES**

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issue negotiating back up the river safely during high flows. Bill A. replied that they were discussing emergency take out points under the Recreation Management TWC.

Steve asked for an explanation from Dave on how the Issue Recommendation for Warning System for Rising Water on the Lower Saluda River was put together. Dave noted that he had put it together based on the groups recommendations during the meetings and sent it back out to the group to comment on. Steve noted that he was not agreeable to the wording in the document that stated Saluda would be used for reserve. Dave noted that if SCE&G was going to be putting in a multi-million dollar warning system in the river, it would be important for them to have the recommendation to keep reserve capacity.

The group discussed the benefits of reserve capacity to the lake homeowners and Joy Downs noted that reserve was more beneficial to the lake levels than peaking. However, Malcolm noted that in his opinion, when the facility was used for peaking, they did not see high flows as often. Randy pointed out that the data indicates that they rarely run Saluda up to 18,000 cfs. Mike Waddell asked if the operations model will provide the group with travel times of different flows. Bret Hoffman noted that they could run a few transient travel times using the model, but it would be modeled data and could have some inconsistencies due to the many variables involved. It was also asked that the model be used to look at the ramping of flows. Bret pointed out that initially the data indicated that it would take the better part of the day in order to allow the river to rise slowly using ramping. He continued to explain that 15 or 30 minute ramping increments probably will not significantly affect the rate of river rise, depending on where one was located on the river.

The group discussed changes to the Warning System Issue Recommendation . It was noted that if the sentence on reserve generation were removed, than the document would be more agreeable to the group. It was also noted that the recommendation include the area between Corley Island and I-20 as well.

Bill A. noted that it had been discussed that there may be a need at some locations for strobe lights instead of warning sirens. The group agreed and noted that this would be left up to the discretion of SCE&G.

After lunch the group then discussed the Safety and Outreach Programs. Dave noted that one of the purposes of the document is to put in place a safety group that will continue beyond relicensing. Dave noted that the document also reviews current public outreach efforts, as well as those planned for the future. It was further clarified that if the Safety Program was kept out of the license the group would have more local control of it. Joy explained a little about the safety committee that met previously and noted Lee Barber could provide more detail on it if needed. The group noted that it may be beneficial to add more detail into the document that discussed the previous committee. It was also noted that there was a safety committee associated with the Lower Saluda Scenic River Advisory Council that developed/constructed the kiosks, painted poles, and map of the LSR.

## ***MEETING NOTES***

### ***SOUTH CAROLINA ELECTRIC & GAS COMPANY SALUDA HYDRO PROJECT RELICENSING SAFETY RESOURCE GROUP***

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Marty Phillips was available by conference call to guide the group through the document. Marty noted that her goal was to try to make the document as brief as possible, but still provide enough information for a clear understanding of the programs that are in place. Marty explained that in Section 3 of the document, they attempted to separate out the regulatory authorities, as well as what the laws and regulations were. Marty asked the group if it was necessary to list the specific laws, or if that section could be generalized. After some discussion it was noted that the document should generally define what authorities have jurisdiction and generally how the laws apply.

Marty then asked the group what the lifespan of the document should be. Bill Mathias noted that he believed it should be reviewed annually and amended where appropriate. Bill M. also explained that he believed that the safety group should meet on a quarterly basis. The group noted that since the document would be reviewed annually, the document could be very specific as to what federal, state and local entities would be involved and their responsibilities. The group briefly mentioned a few agencies involved, such as DHEC and SLED as State entities, and EMS, the sheriff, the coroner, the city police and the county police at the local level, and the National Weather Service at the federal level. Jay Schabacher noted that it may be helpful to put agency contact information in the document. Marty suggested that it may be provided separately, and noted that there was the concern that someone may use this as an emergency reference document. The group agreed that contact information should be provided as an appendix.

The group then discussed the existing safety measures on Lake Murray. Marty asked the group if there were any safety measures not currently listed that needed to be included in the document. Bill M. suggested including an item referring to the Lake Murray Power Squadron and their vessel safety checks, safe boating checklists, and training programs. Charlene also mentioned the American Canoe Association that certifies instructors on whitewater and flatwater. She pointed out that the American Whitewater webpage provides descriptions of the rapids on the LSR as well. Sea Tow and Boat US were also listed as a resource. Marty discussed the existing outreach section with the group, and it was noted that the Lake Murray Association needed to be added to that section. Dave asked the group if there were additional outreach efforts that needed to be listed in this section and the group concluded their discussions on this section of the document.

Dave explained that he still had some difficulty with obtaining accident data from DNR. Tommy noted that he would assist Dave with his efforts on this. Dave also noted that Patrick had requested that the group put the ramping of non reserve call flows as part of the Proposed Safety and Outreach Programs section. Bill Marshall asked the group if, operationally, ramping rates could be considered under a non-emergency reserve situation. Randy noted that any restriction on the ability to attain the flow that was needed could be a restriction on economics. However, Randy noted that this may be something that is worth looking at under lake level management conditions. Bret noted that they could use the operations model to look at the possibility of ramping during non-emergency lake level management situations. Bret then asked the group what a reasonable rate of water rise

***MEETING NOTES***

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would be. The group noted that the Downstream Flows TWC would look at this during their recreational flow assessment scheduled during mid-May.

The group concluded discussions on the agenda items and began to decide on future meeting dates. It was noted that the next meeting would probably occur around the third quarter of the year. Dave noted that he would update the issues matrix and send it around to the group.

Meeting Adjourned

reimburse the funds at a time of its discretion, but in any case on or before the 10- or 20-year dates noted in Appendix C.

### **2.3.6 Recreation Safety and Enforcement**

The Parties agree that within one year of the effective date of the New License the Licensee will make a one-time contribution of \$50,000 to the NCWRC to assist with the development of two boathouse facilities, one each on High Rock and Narrows reservoirs, for enforcement purposes. The Licensee and NCWRC will work together to identify appropriate locations for the new boathouse facilities and to develop and execute any necessary license agreements.

The Licensee will also provide NCWRC with \$2,500 annually to assist with the installation and maintenance of buoys and other hazard markers/signs on the Project reservoirs. In the first year following issuance of a New License, the funds will be made available within six months of the effective date of the New License. Thereafter, the funds will be made available in July of each year. This payment amount specified in dollars shall be deemed to be stated as of the year 2008, and such sums shall be escalated as of January 1 of each following year (starting in January 2009) according to the formula set forth in Section 2.3.9.

### **2.3.7 Assessing Future Recreational Needs**

Nothing in this Relicensing Settlement Agreement (RSA) shall preclude the use of established mechanisms for monitoring growth in recreation facility demands such as the FERC Form 80, North Carolina State Comprehensive Outdoor Recreation Plan, and USFS recreation use monitoring. The information generated by these processes will serve as indicators of future recreational needs beyond those noted in this RSA.

### **2.3.8 Compliance with the Project's Shoreline Management Plan**

The Parties agree that any new recreational facilities or upgrades to existing facilities shall be in accordance with the requirements of the Project's Shoreline Management Plan.

### **2.3.9 Escalation of Funds**

Where noted, the Parties agree that the Licensee will escalate payment amounts specified in dollars according to the following formula:

$$AD=D \times ((NGDP)/IGDP)$$

Where:

AD = Adjusted dollar amount as of January 1 of the year in which the adjustment is made

D = Dollar amount prior to adjustment

IGDP = GDP-IPD for the third quarter of the year before the previous adjustment date (or, in the case of the first adjustment, the third quarter of the year before the effective date of the New License)

NGDP = GDP-IPD for the third quarter of the year before the adjustment date



“GDP-IPD” is the value published for the Gross Domestic Product Implicit Price Deflator by the U.S. Department of Commerce, Bureau of Economic Analysis in the publication Survey of Current Business, Table 7.1 (being on the basis of 2000 = 100), in the third month following the end of the applicable quarter. If that index ceases to be published, any reasonably equivalent index published by the Bureau of Economic Analysis may be substituted. If the base year for GDP-IPD is changed or if publication of the index is discontinued, the Licensee will promptly make adjustments or, if necessary, select an appropriate alternative index to achieve the same economic effect.

Contribution amount will not be adjusted to be less than the amount from the previous year.

## **2.4 Shoreline Management**

### **2.4.1 Modifications to the Existing Yadkin Shoreline Management Plan**

The Parties agree that the Licensee will make modifications to the existing Yadkin Project Shoreline Management Plan (SMP) Specifications for Private Recreation Facilities, Shoreline Stewardship Policy, and Subdivision Access Approval, Multi-use Facility Permitting, and Industrial Approval Procedures consistent with Appendix D.

### **2.4.2 Implementation of the Shoreline Management Plan Modifications**

The Parties agree that the Licensee will implement the modifications to the existing SMP referenced in Section 2.4.1 within three months of the effective date of the New License. The Parties agree that any provisions in the existing, FERC approved SMP that are not addressed in Appendix D remain unchanged and in full force and effect.

### **2.4.3 Fees**

The Parties agree that the Licensee has the right to recover the cost of administering the SMP through permit fees.

## **2.5 Wildlife, Aquatics, and Rare, Threatened and Endangered (RTE) Species**

### **2.5.1 RTE Species**

The Parties agree that periodic freshwater mussel monitoring to be conducted under the Rare, Threatened and Endangered Species Management Plan, required by Article FW-1, will be completed within the first 10 years of the effective date of the New License and will be limited in scope and duration so as not to exceed a total cost to the Licensee of \$50,000 (in 2008 dollars) over the term of the New License.

The Parties further agree that if, at the completion of the 10-year mussel monitoring period, the Licensee and NCWRC agree that recruitment of the freshwater mussel species occurring in the Falls tailwater area is not sufficient to justify continued management efforts in this location, within one year of such a finding, the Licensee will make a one-time contribution of \$50,000 to the NCWRC to assist with its freshwater mussel management and preservation efforts elsewhere in the watershed.

## **Issue Action Group: R2 Public Safety**

### **IAG Recommendation Proposal to Enhance Public Safety on APC Reservoirs**

Final

June 25, 2003

#### **Warrior and Coosa Projects Combined**

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The following outlines a proposal developed by Alabama Power Company (APC) and the Alabama Marine Police (Marine Police) in consultation with other stakeholders to enhance public safety on all of APC's FERC licensed reservoirs in the State of Alabama. The proposal is specifically designed to address concerns raised by stakeholders and the public during relicensing discussions and is intended to be incorporated by reference into APC's relicensing application.

#### **Goals:**

1. Address all aspects of the public safety issue that have been raised in relicensing (marking, education, training, control and management) at all APC reservoirs.
2. Provide for a fair, equitable and consistent distribution of resources and programs,
3. Provide a solution that allows for both short term and long term planning.
4. Allow program flexibility to address the unexpected.
5. Initiate early implementation of the program (in 2003), as opposed to waiting for issuance of a new license (in 2007 or later).
6. Clarify public safety responsibilities.

#### **Proposal:**

1. **Funding**
  - a. APC will commit to providing an annual level of funding to the Marine Police to enhance public safety on all APC reservoirs.
  - b. Funding provided by APC will be to supplement, not replace existing Marine Police programs and existing, ongoing APC commitments.
  - c. Funding provided to the Marine Police may be used for a variety of activities to enhance public safety, including but not limited to: purchase, installation, and maintenance of hazard markers, signs, education program and public input.
  - d. APC will continue to maintain the markers and signs for which it is presently responsible.

## **Issue Action Group: R2 Public Safety**

### **IAG Recommendation Proposal to Enhance Public Safety on APC Reservoirs**

Final

June 25, 2003

#### Warrior and Coosa Projects Combined

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#### 2. Priorities and Decision Making

- a. The Marine Police shall determine and set priorities for the boater and recreational safety programs and projects to be implemented with the contributed funds.
- b. The Marine Police will evaluate the need for all public safety programs and measures, including requests for regulatory markers, using appropriate criteria and standards.
- c. All decisions will be made through a transparent process including opportunities for public input.

#### 3. Public Input and Accountability

- a. The Marine Police encourage the public to communicate regularly with its officers on APC lakes, in order to have questions answered and to provide public safety related comments.
- b. The process by which the general public may request a regulatory marker (hazard, no wake zone, speed limit, etc.) remains unchanged. Applications are presented to the officer(s) on the reservoir.
- c. The Marine Police shall provide APC a report generally describing each safety program and project implemented during the preceding calendar year. Copies of this report will be provided to interested parties on request and be made available at the annual public safety workshop described below.
- d. APC agrees to host an annual public safety workshop for its reservoirs. The Marine Police agrees to chair this meeting. The purpose of this meeting will be to share public safety information, answer public safety questions and to discuss the reservoirs' public safety needs. This meeting will be held annually, given a reasonable level of public interest.
- e. The Marine Police will enhance its current efforts to respond consistently to public safety issues and questions raised by the public.
- f. Neither the Marine Police nor APC is responsible for marking channels with lateral system channel markers.
- g. APC is not responsible for marking hazards.

**Issue Action Group: R2 Public Safety**

**IAG Recommendation  
Proposal to Enhance Public Safety on APC Reservoirs**

Final

June 25, 2003

**Warrior and Coosa Projects Combined**

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4. Hazard Markers

- a. Requests for hazard markers will be evaluated on criteria including conditions at full pool, amount of boater traffic, etc. If the Marine Police determine a condition is a true hazard, the Marine Police will install and maintain appropriate marker(s).
- b. If determined not to be a true hazard, the Marine Police may permit an interested individual or group to install and maintain an appropriate marker for a “personal” hazard.
- c. Applicants are responsible for installing and maintaining other non-hazard regulatory markers permitted by the Marine Police.
- d. Applications that are denied will be returned with an explanation for the decision and contact information should the applicant wish to discuss the matter further.

## Safety Resource Conservation Group

### **Issue Recommendation Warning System for Rising Water on the Lower Saluda River**

DRAFT

April 16, 2007

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#### **Issue:**

South Carolina Electric & Gas (SCE&G) currently operates the Saluda Project in order to provide reserve capacity for the company's utility obligations. Project generators are typically offline, i.e., not operating, but can be started and synchronized to the electrical grid and can increase output immediately in response to a generator or transmission outage on SCE&G's system or in response to a call for reserve power from neighboring utilities, with which the company has reserve agreements and obligations. As a result, flows from the Saluda Project are generally unscheduled.

American Whitewater, Trout Unlimited, and American Rivers have expressed concern over the safety of river users due to the unscheduled flows from the Project, as well as the rates that the river level changes due to the higher flows (> 10,000 cfs). SCE&G currently has a warning system in place that covers the area from the Riverbanks Zoo to the confluence with the Broad River, as well as the area around James R. Metts Landing. A float switch upstream activates the sirens. At Metts Landing the siren is activated with a 2 inch rate of rise (ROR). The ROR is measured every 10 seconds and averaged with 5 readings over a 1-minute interval. The siren sounds for three minutes once activated. There is a hold-off period of 16 minutes at the Metts Landing siren and an override if the water level rises two feet during the 16-minute hold-off period; the siren will activate again and reset itself for the next 16-minute hold-off period. A strobe light activates and remains on for 16 minutes concurrently with the siren activation. At the Zoo location, the siren activates with a 1 inch ROR. The sirens sound for three minutes once activated. There is a hold-off period of 60 minutes at the Zoo location sirens and an override if the water level rises three inches during that 60-minute hold-off period; the sirens will activate again and then reset for the next 60-minute hold-off period. A strobe light activates and remains on for 16 minutes concurrently with the siren activation. Sirens are active 24 hours per day, and were tested in 2004 to calibrate the volume to cover an area 1500 feet upstream and downstream of the Zoo siren, and 500 feet upstream and downstream of the Metts Landing siren. Since 2004 additional sirens and strobe lights were installed downstream of the Zoo. Their activation is based on the Zoo location float switch. Prominent warning signs posted near the strobe lights and sirens warn people that the activation of the sirens and/or the light signals potentially dangerous conditions caused by a rising water level. SCE&G is also currently testing an electronic call system that is initiated upon the start of generation at Saluda Hydro. Once activated, a message is sent to selected individuals via e-mail and telephone, alerting them to the change in flow. Information about current and planned operations is also provided on a website maintained by SCE&G.

## **Safety Resource Conservation Group**

### **Issue Recommendation**

#### **Warning System for Rising Water on the Lower Saluda River**

DRAFT

April 16, 2007

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#### **Recommendation:**



SCE&G will continue to operate the Saluda Project to meet reserve capacity for the company's utility obligations. In order to mitigate the effects of this mode of operation, SCE&G proposes to:

1. Continue to work with river users to make the current warning system on the river more effective;
2. Implement the electronic call system for the general public to alert of generation releases;
3. Install additional warning devices on the lower Saluda River that will provide auditory and/or visual warning from the tailrace of the dam to Corley Island, as well as from I-26 to the confluence with the Broad River (see Figure 1);
4. Continue to implement and improve the website providing current and planned operations of the Saluda Project; and
5. Coordinate with swiftwater rescue training agencies to determine an annual schedule for training personnel. Training will involve an estimated 2 days of training with flows of 8,000 CFS for approximately 10 hours each day.






### Legend

-  Project Boundary
-  Extent of Proposed Warning System

1 inch equals 2 miles

Scale: AS SHOWN	South Carolina Electric & Gas Columbia, SC	
Project No: 0455-029	Saluda Project	
Filename: Potential Warning System Poly.mxd	Figure 1: Proposed Range of Warning System for Lower Saluda River	<b>1</b>
Drawn By: DKA	<b>Kleinschmidt</b> Energy & Water Resource Consultants	
Date Drawn: 03-29-2007	4958 Valleydale Rd., Ste. 250 Birmingham, AL 35242 Telephone: (205) 981-4547 Fax: (205) 981-4549 www.KleinschmidtUSA.com	

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# SOUTH CAROLINA ELECTRIC & GAS COMPANY

SAFETY AND OUTREACH PROGRAM

DRAFT

SALUDA PROJECT  
(FERC NO. 516)

*APRIL 2007*

Prepared by:

***Kleinschmidt***  
*Energy & Water Resource Consultants*



SOUTH CAROLINA ELECTRIC & GAS COMPANY

SAFETY AND OUTREACH PROGRAM

DRAFT

SALUDA PROJECT  
(FERC NO. 516)

APRIL 2007

Prepared by:

***Kleinschmidt***  
*Energy & Water Resource Consultants*

# SOUTH CAROLINA ELECTRIC & GAS COMPANY

## SAFETY AND OUTREACH PROGRAMS

### SALUDA PROJECT (FERC NO. 516)

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**SOUTH CAROLINA ELECTRIC & GAS COMPANY**

**SAFETY AND OUTREACH PROGRAMS**

**SALUDA PROJECT  
(FERC NO. 516)**

This document describes the complex system public safety measures that exist within the project boundary and identifies numerous regulatory, public, and private entities that contribute to and/or are responsible for public safety on Lake Murray and the lower Saluda River. This document was current at the time of this writing. ***This document should not be used as a source of information for use during emergencies.*** Telephone numbers, regulations, and responsible parties may change over time.

**1.0 INTRODUCTION**

This document seeks to identify the safety and outreach programs in place for public use of project resources within the boundary of the Saluda Project, including Lake Murray, the lower Saluda River, and lands within the project boundary. The document provides an assessment of known or reasonably foreseeable safety issues within the boundary. It identifies existing laws and regulations governing use of project resources, and existing safety and other outreach measures in place at the project. This document does not seek to duplicate the detailed Emergency Action Plan already in place for the Saluda Project. That plan is recognized here as complementary to other safety plans and programs that exist to benefit the users of Lake Murray and the lower Saluda River.

## 2.0 BACKGROUND

### 2.1 Project Operations

SCE&G operates the Saluda Project to provide reserve capacity for the company's utility obligations, a mode of operation that the company proposes to continue under the new license. Project generators are typically offline, i.e., not operating, but can be started and synchronized to the electrical grid and can increase output immediately in response to a generator or transmission outage on SCE&G's system or in response to a call for reserve power from neighboring utilities, with which the company has reserve agreements and obligations. As a result, flows from the Saluda Project are generally unscheduled. Although there is no minimum flow requirement for the Project, SCE&G has an informal agreement with the South Carolina Department of Health and Environmental Control (SCDHEC) to provide a minimum of 180 cfs at the Project to enhance downstream water quality. The average annual flow from the Saluda Dam to the lower Saluda River is 2,595 acre feet with a minimum flow of approximately 400 cfs. **INSERT TEXT ON LAKE LEVELS TO BALANCE DISCUSSION OF DOWNSTREAM FLOWS.**

A more comprehensive review of project operations is provided in the Initial Consultation Document (Kleinschmidt, 2005).

### 2.2 Area Description

Lake Murray and the four surrounding counties (Richland, Lexington, Saluda, and Newberry) are experiencing rapid population growth. Population figures from the U.S. Bureau of the Census (2002) indicate that in 2000, the combined population of these counties was approximately 592,000. This represents a change of about 89,000 people since 1990, or an increase of 17.7 percent. The population of these counties increased by 4.1 percent between 2000 and 2005 and is projected to increase by another 29.3 percent by the year 2030 (SCBCB, 2005). For counties surrounding the lower Saluda River – Richland, and Lexington – population is expected to increase by 40 percent, with Lexington County having the fastest population growth of the area, at 52.9 percent from 2000 to 2030 (SCBCB, 2005).

## 2.3 Activities and Usage

### 2.3.1 Lake Murray

#### Activities

Recreational activities occurring on Lake Murray are diverse including power boating, sailing, personal water craft (PWC), swimming, diving, water skiing, boat rentals (primarily novices), hunting, camping, hiking along the shoreline, sport fishing, commercial fishing excursions, high profile fishing tournaments, sailing regattas, wind surfing, flatwater boating (kayaking and canoeing), watercraft to construct and repair docks, and occasional seaplanes.

#### Times of Greatest Use

The lake is primarily used during the day, during weekends, and during the “boating season,” generally defined as Memorial Day through Labor Day. There may also be substantial use beginning with warm days in March and April, and a hearty contingent, primarily anglers, uses the lake year round regardless of the weather.

#### Characteristics of Individual Users

The level of expertise of the various participants ranges from first time users to world-class participants and champions in sailing and professional anglers. Users vary widely in their experience and in judgment with regard to sun/UV exposure and hydration, experience, expertise, physical strength, and sobriety.

### 2.3.2 Lower Saluda River

#### Activities

Recreation activities downstream from the Saluda Project are somewhat different from, but equally diverse, as activities on Lake Murray. These include flatwater and whitewater

boating with canes and kayaks, rafting, sunning, and socializing on rock outcroppings, bank fishing, wade fishing, camping, and hiking along the riverbanks.

#### Times of Greatest Use

For most of the activities cited above, the peak usage times are generally consistent with the peak usage times on the Lake.

#### Characteristics of Individual Users

Similar to users on Lake Murray, individuals recreating on the lower Saluda River exhibit varying levels of experience and judgment. Stretches of water may be enjoyed by novice boaters or by professionals training for major boating events. Likewise, individuals wading in the river may be local college students sunbathing on exposed rock outcroppings or experienced anglers. Most users live, work, and/or are enrolled in school in the urban Columbia area (Kleinschmidt 2007).

### **3.0 LAWS, REGULATIONS, and REGULATORY ENTITIES GOVERNING PUBLIC USE**

Public use of project lands and waters is regulated and managed by a combination of federal, state, and local governments, and SCE&G. Public use of project lands is governed by federal agencies such as the United States Army Corps of Engineers (USACE), Federal Emergency Management Agency (FEMA), and FERC, state agencies that must review and approve permit applications, local governmental zoning or planning regulations, and SCE&G's shoreline management policies. Public use occurring at recreation sites is generally governed by site operators, while activities such as boating, fishing, and hunting are regulated by the South Carolina Department of Natural Resources (SCDNR).

#### 3.1 Laws and Regulations

##### **SHOULD USACE OR FERC BE LISTED HERE?**

Laws or regulations governing the use of Lake Murray and its shoreline and the lower Saluda River resources can emanate from federal, state, and local authorities.

##### 3.1.1 Federal

- The Congress of the United States—(LIST AUTHORITY)
- United States Coast Guard
- Federal Energy Regulatory Commission
- Army Corps of Engineers

##### 3.1.2 State

- South Carolina General Assembly (the primary source) (§ )—(LIST AUTHORITY)
- South Carolina Department of Natural Resources (SCDNR or DNR)
- South Carolina Department of Health and Environmental Control (SCDHEC or DHEC)—(Clean Water Act)

##### 3.1.3 Local

- County/City jurisdictions through which the Lake/River flow—(LIST AUTHORITY)
- South Carolina Electric & Gas (SCE&G)—The owner of the land under the Lake and licensee of the Federal Energy Regulatory Commission (FERC) which sets conditions

and grants the license for SCE&G to use the waters/lands of the Saluda River for power generation and for other purposes, primarily recreation. These waters are owned by the citizens of the United States and FERC acts on behalf of the citizens in licensing the use of public waters.

### 3.2 Regulatory Agencies and Responsibilities

Numerous entities are responsible for managing use, safety, and law enforcement on Lake Murray and the Lower Saluda River.

#### 3.2.1 Federal

By the terms of the license granted by FERC to SCE&G, the primary responsibility for safety is assigned to SCE&G. SCE&G is responsible providing warning signs, lights, and necessary sirens to alert the public of possible dangers. SCE&G has filed a public safety plan with the FERC that details sign placement, dimensions, and verbiage.

#### 3.2.2 State

Under South Carolina law (§           ), the primary entity responsible for boating safety (including marking of shoals and navigation hazards) is the SCDNR.

#### 3.2.3 Local

Numerous other local and voluntary organizations hold responsibility for managing use, safety on the water.

<b>PROVIDER</b>	<b>SAFETY ACTIVITIES INVOLVED IN</b>	<b>GEOGRAPHIC AREA COVERED</b>
Lake Murray Power Squadron	Boater safety; CPR training; Vessel inspection; Maintenance of day markers and reference lights	Lake Murray
U. S. Coast Guard Auxiliary	Boating safety; Education; Water rescue on Lake Murray	Lake Murray
Columbia Fire and Rescue	Swift water rescue in the lower Saluda and Congaree Rivers	Columbia City Limits & within Richland County; outside Richland



		County when called (limited to LSR?)
City of Columbia Parks and Recreation Department	Whitewater Kayak Program; Boating Safety Information; Park Ranger Staff Patrol	Lower Saluda River and Three Rivers Greenway
Lower Saluda Scenic River Advisory Council		
Lake Murray Association		

### 3.3 Law Enforcement

By statute (SC Code 1976, Annotated, § 50), SCDNR is the state agency with the primary responsibility for the enforcement of laws on South Carolina waterways, including lakes and rivers. However, similar legal authority is vested in Sheriff’s department of each county. As a practical matter, the primary enforcement of laws on Lake Murray is conducted by a joint marine task force comprised of deputies from the four counties. As the work of this task force has evolved, the only Sheriff’s department, which staffs its marine effort twenty-four hours a day, seven days a week, is the Lexington County Sheriff’s Department (LCSD). The greatest portion of the shoreline of Lake Murray is in Lexington County, and the physical facility for the lake patrol is located on Bundrick Island, also in the county.

#### **4.0 EXISTING SAFETY MEASURES ON LAKE MURRAY AND THE LSR**

This section addresses measures relating to safety, such as signs, lights, sirens, barriers, or other safety devices reasonable to alert the public to potential dangers within the project boundary.

##### **4.1 SCE&G's Warning and Safety Programs**

Hydroelectric licensees are bound by federal regulations to promote safe and responsible use of project lands and waters. This may include management activities, or safety measures such as, signs, lights, sirens, buoys, barriers, fences, or other safety devices that may reasonably be necessary or desirable to warn the public of fluctuations in flow from the project or otherwise to protect the public in the use of project lands and waters (18 CFR 12.42).

FERC monitors public safety at hydroelectric projects via its Public Safety Program and a Dam Safety Program, both of which are designed on a project-by-project basis to accommodate the unique conditions of each project. All safety measures installed at a project must be approved by FERC prior to installation. FERC conducts annual inspections of the project and require independent safety inspections, annual spillway gate tests, and the maintenance of an Emergency Action Plan. SCE&G performs regular project inspections and monitors various types of instruments at the dam. A backup dam at the Saluda Project is designed to prevent massive downstream flooding in the unlikely event of a seismically induced primary dam failure.

##### **4.1.1 Warning Systems**

SCE&G has installed an early warning system consisting of ten large sirens downstream of the dam. The sirens are designed to activate in the unlikely event of a dam failure, to alert people in areas that could be flooded and to seek information from television or radio media sources for further instruction. A brochure containing evacuation routes and emergency preparedness information is mailed to businesses and residents in these areas periodically. The information is also posted on SCE&G's website at [www.xxxx.com](http://www.xxxx.com).

SCE&G maintains a warning system on the LSR to warn river users of sudden changes in water level. Sirens are located at Metts Landing, upstream of Riverbanks Zoo, and downstream of the Zoo. A float switch upstream activates the sirens. At Metts Landing the siren is activated with a 2 inch rate of rise (ROR). The ROR is measured every 10 seconds and averaged with 5 readings over a 1-minute interval. The siren sounds for three minutes once activated. There is a hold-off period of 16 minutes at the Metts Landing siren and an override if the water level rises two feet during the 16-minute hold-off period; the siren will activate again and reset itself for the next 16-minute hold-off period. A strobe light activates and remains on for 16 minutes concurrently with the siren activation. At the Zoo location, the siren activates with a 1 inch ROR. The sirens sound for three minutes once activated. There is a hold-off period of 60 minutes at the Zoo location sirens and an override if the water level rises three inches during that 60-minute hold-off period; the sirens will activate again and then reset for the next 60-minute hold-off period. A strobe light activates and remains on for 16 minutes concurrently with the siren activation. Sirens are active 24 hours per day, and were tested in 2004 to calibrate the volume to cover an area 1500 feet upstream and downstream of the Zoo siren, and 500 feet upstream and downstream of the Metts Landing siren. Since 2004 additional sirens and strobe lights were installed downstream of the Zoo. Their activation is based on the Zoo location float switch. Prominent warning signs posted near the strobe lights and sirens warn people that the activation of the sirens and/or the light signals potentially dangerous conditions caused by a rising water level. Currently SCE&G is working with the Safety Resource Conservation Group to determine the potential need to install additional sirens two additional sirens have been or will be installed near Riverbanks Zoo and the confluence of the LSR with the Broad River, by mid-2007.

#### 4.1.2 Emergency Action Plan

In accordance with FERC requirements, SCE&G developed and maintains an Emergency Action Plan (EAP). The purpose of an EAP is to determine the results of a dam failure, and create discharges, depth of flow, and travel time are part of the dam break analyses. The EAP contains a notification flowchart showing a priority of who is to be notified, and by whom. It also identifies who is responsible for carrying out various duties outlined in the Plan. Responsibilities of the licensee include contacting the emergency and local agencies, who then have the duty of warning and evacuating affected areas.

#### 4.1.3 Public Safety Plan

Buoys, signs, and fences are placed throughout the project as part of the Public Safety Plan, which is on file with FERC. Public safety measures include warning signs near hazardous areas of the project, buoys in the impoundment serve as navigational aids or notify of dangerous conditions, and restraining devices such as fences around the powerhouse and downstream project area. The Plan contains descriptions and locations of these devices.

#### 4.1.4 Other

SCE&G supports numerous programs to promote the safe use of project lands and waters, in compliance with this regulation, in support of relicensing, and as a community leader and corporate citizen.

- SCE&G supports swiftwater rescue training by providing Columbia Fire and Rescue and AWW with flows for training events.
- SCE&G provides up-to-date information on designated evacuation routes and associated shelters that are in place for use in case of dam failure. Evacuation routes are available on-line at SCE&G's website.
- SCE&G partnered with the USCG Auxiliary and SCDNR to develop a safe boating checklist which is distributed (NEED INFORMATION FROM SCE&G)
- SCE&G and SCDNR monitor recreation sites regularly for purposes of public safety.
- SCE&G maintains a warning system on the LSR to warn river users of sudden changes in water level. Currently SCE&G is working with the safety Resource Conservation Group to determine the potential need to install additional sirens. Two additional sirens have been or will be installed near Riverbanks Zoo and the confluence of the LSR with the Broad River, by mid-2007.
- SCE&G coordinates safety efforts with the River Alliance to ensure compatibility with the Three Rivers Greenway Project.
- SCE&G manages an electronic call system that is initiated upon sudden changes in water levels on the lower Saluda River. Once activated, a message is sent to registered individuals via e-mail and telephone, alerting them to the change in flow. The system is currently being revised to accommodate a larger volume of use and for the general public registration. NEED INFO FROM TOMMY TO DESCRIBE WHO IS ON THE NOTIFICATION LIST AND ABOUT HOW MANY PEOPLE THERE ARE.
- The Lower Saluda River Advisory Consul and American Whitewater, with assistance from SCE&G, established a series of color-coded river markers are positioned along the LSR for use by boaters, anglers and other recreators. The markers help users interpret danger associated with rising water levels. The color coding was designed by American Whitewater. Information on the codes is provided at all public access points on the lower

Saluda River. Additional information is provided at [http://www.dnr.sc.gov/water/envaff/river/low\\_saluda\\_scenic.htm](http://www.dnr.sc.gov/water/envaff/river/low_saluda_scenic.htm).

#### 4.2 Other Warning and Safety Programs

Safety programs and measures for areas on and along the water, within and beyond the project boundaries are provided by numerous other local, state, and federal agencies and organizations. Most of these organizations and the programs they offer work due to extensive interagency coordination and support from one another and the corporate community, including SCE&G. SCE&G often sponsors, supports and participates in these efforts. A selection of the organizations that work to promote public safety within the project boundary is provided below.

- The US Coast Guard Auxiliary, which is under the jurisdiction of the USCG base in Charleston, SC, maintains a base on Lake Murray to assist with boating safety and emergencies until the Charleston unit arrives. It also maintains a weather link to the US Weather Bureau and an unofficial reporting station to the lake. The Auxiliary focuses on educational activities to promote boating safety on Lake Murray. Additional information on the services provided by the Auxiliary is available at [INSERT INFORMATION HERE]
- The National Weather Service issues small craft advisories for Lake Murray. Advisories are advertised ... WHERE?
- The City of Columbia Parks and Recreation Commission provides whitewater kayaking courses, including a focus on how to prevent emergencies. Courses are available for the general public, and are coordinated with city park rangers along the riverfront area. The Park Commission also provides ACA-certified instructors for children's boating classes. Additional information is provided at the city's website: [www.columbiasc.net](http://www.columbiasc.net).
- The Lake Murray Power Squadron offers courses on safe boating, engine care, ocean navigation, and weather. The Squadron also participates in public outreach and education efforts and assists in maintaining the emergency center on Lake Murray, reference lights and day markers.
- The SCDNR is responsible for placing navigation buoys on Lake Murray, and works with SCE&G in identifying hazards on the lake at normal or nearly full pond levels.
- The Columbia Fire Department is currently working on the Three Rivers Greenway Plan, which will provide emergency access points on the lower Saluda River. The Plan includes significant public access along the lower Saluda River, including emergency call boxes, which provide immediate access to a 911 operator.

## **5.0 Existing EDUCATION AND OUTREACH PROGRAMS**

Hydroelectric licensees are bound by federal regulations to make reasonable efforts to inform the public of the availability of project lands and waters for recreational purposes (18 CFR 8.1). SCE&G takes this duty seriously, providing informational signage at all of its public access sites, and a substantial amount of information on its website. SCE&G also recognizes that more and better information to users about where and how to properly use the project's lands and waters can promote responsible resource use; help prevent activity conflicts; help prevent accidents; and lessen overcrowding, and therefore, participates in many educational programs to help inform the public on these topics. Outreach activities typically focus on resources related to the Project and are designed to inform and educate the public regarding the locations of recreation sites, lake levels, generation schedule, lake drawdown events, and safe and responsible use of recreation and environmental resources.

This section discusses the types of activities that SCE&G engages in for these purposes. This section is intended to provide a summary of the education and outreach activities in which SCE&G participates and supports. SCE&G's commitment to public education and outreach is long term and dynamic: the company continually responds to worthy new ideas and requests, supplementing and supporting the activities described here.

### **5.1 SCE&G's Public Outreach and Education Activities**

SCE&G's website is located at **INSERT WEB ADDRESS**. The website is regularly maintained and provides information regarding the Saluda Project, ongoing public activities, educational material, and links to SCE&G's parent corporation, SCANA, which provides additional informational and educational resources. The website is used to describe ongoing activities around the lake and to provide information to homeowners, recreationists, and the general public of upcoming events. This includes information for shoreline residents regarding shoreline management and permitting requirements, as well as permit applications and directions; lake levels, current and planned generation schedules (excluding reserve calls); and identification of SCE&G's public access sites used for recreation. The website provides numerous contact numbers for individuals interested in additional information about the topics presented.

The Reservoir Information System (1-800-XXX-XXXX) also provides a source of information about lake levels and the planned generation schedule (excluding reserve calls). This system is operational 24 hours a day.

SCE&G also educates the public by advertising in local lakeside magazines, newspapers, and through the distribution of information to establishments around the lakes.

SCE&G holds periodic information meetings with local contractors and realtors to ensure they are aware of notification and permit requirements prior to starting any construction work and makes presentations to local organizations on an as-requested basis. SCE&G also participates in many ad hoc meetings to discuss notification and permit requirements for various homeowner and boat owner groups, boards of realtors, and home builders associations, just to name a few.

Through its Speakers' Bureau, which is described on its website, SCE&G provides informative presentations on a variety of energy-related topics to civic and social groups. Subjects range from energy costs and conservation to hurricane preparedness. Upon request, SCE&G strives to create presentations to meet the needs of any requesting party. To schedule a presentation, please contact us at (800) 562-9308.

SCE&G participates in many community activities and groups. For example, SCE&G supports the annual Dam Swim for Drew, and is very active with local Boy Scout chapters.

**[CANOEING FOR KIDS – PROVIDE FLOWS SO THEY CAN CANOE THE RIVER. TOY GIVEAWAY]**

With agencies and local sponsors, SCE&G maintains a shoreline conservation demonstration project that illustrates conservation alternatives for shoreline stabilization at its #3 boat launch. The demonstration project, profiled on SCE&G's website, supports the use of natural elements as much as possible.

As part of a cooperative effort between SCE&G, the Department of Natural Resources, and several other lake interest groups host an annual Lake Murray Shoreline Habitat

Enhancement Project. 2007 will mark the 10<sup>th</sup> year anniversary of this project. It is designed to improve the aesthetics of the Lake's shoreline, help control erosion, re-establish shoreline vegetation, enhance fish and wildlife habitat, and protect water quality. As part of the project, tree seedlings are provided to lakeside residents free of charge. Seedlings are generally distributed in bundles of 10 and 15 trees, and include native species such as cypress, river birch, willows, and button bushes. Planting instructions are provided.

With respect to aquatic plant management, SCE&G posts signs at all public boat launches, warning boaters of the potential hazards of inadvertently introducing invasive aquatic species would be detrimental to the health of Lake Murray. In addition, SCE&G monitors and manages hydrilla and water primrose in the lake, and posts this information on its website for public consumption.

**[INSERT TEXT ON ANY OTHER ENVIRONMENTAL PROGRAMS OF INTEREST ON THE LAKE OR RIVER, RELATED TO ZEBRA MUSSELS, FISHERIES, WILDLIFE, ETC. WOULD BE GOOD TO GET SOME FISHERIES IN HERE.]**

SCE&G is a proud partner in education in communities throughout South Carolina. Through various initiatives, educational resources and financial contributions, SCE&G strives to benefit students, teachers and communities overall. One example is SCE&G's involvement in Junior Achievement, where business and education are connected through sponsorship of Homework Centers -- supervised places where students can go after school to work on their assignments. Other examples of the ways SCE&G fosters education in communities throughout South Carolina at are described at an educational Web site: [www.energeticminds.com](http://www.energeticminds.com).

SCE&G is a strong supporter of the City of Columbia's Riverbanks Zoo. SCE&G leases roughly 180 acres to City, where the Riverbanks Zoo and Garden now exist. Today, Riverbanks Zoo is one of the top-ranked zoos in the nation and is home to more than 2,000 magnificent and fascinating animals and one of the nation's most beautiful and inspiring botanical gardens. SCE&G also provided a cash donation, and continues to provide support for numerous zoo projects. A special camera provided to Riverbanks Zoo & Garden courtesy of SCE&G offers a live video feed of selected animals within their zoo habitat. The video feed – tabbed SCE&G ZooView – is available from 7 a.m. to 7 p.m. EST daily through a link on [EnergeticMinds.com](http://EnergeticMinds.com).



Finally, and importantly, SCE&G staff are all members of the local community and many participate in community outreach activities as citizens and active members of their communities.

## 5.2 Other Public Outreach and Education Programs

Many different agencies, universities, and organizations support public education and outreach activities to support good decision-making in resource utilization and management. SCE&G has compiled a list that identifies some of the various agencies and organizations that provide outreach and educational materials and services, and in some cases, grant monies. *This list is far from complete* – many other sources exist, including in neighboring states and across the country that may provide useful information and/or educational materials. It is impracticable to try and list them all, and sources are continually changing; however, the information below is sufficient to get a person started in learning more about management of our natural resources.

Topic areas addressed by these organizations include a broad range of subjects such as: boating safety for adults and children; community development and best management practices; landscaping and agricultural best management practices; watershed and wetland management and protection; lesson plans and materials for the classroom; fishing; nonpoint source pollution and water quality management. Persons interested in additional information from these sources are encouraged to contact the following agencies and browse their websites. The information and resources provided by these agencies and organizations are frequently free and downloadable from their websites. Information available is also continually evolving – sources should be consulted frequently in order to remain current.

American Red Cross  
 City of Columbia Parks and Recreation  
 Commission  
 Environmental Protection Agency  
 Lake Murray Power Squadron  
 National Safe Boating Council  
 National Water Safety Congress  
 North American Lake Management Society  
 Recreational Boating and Fishing  
 Foundation  
 Safe Boating Campaign

South Carolina Cooperative Extension  
 Service  
 South Carolina Department Natural  
 Resources  
 South Carolina Department of Parks,  
 Recreation and Tourism  
 US Army Corps of Engineers National  
 Water Safety Program  
 US Coast Guard Auxiliary  
 US Coast Guard Office of Boating Safety  
 US Fish and Wildlife Service

US Weather Bureau  
USDA Forest Service  
USDA Natural Resources Conservation  
Service

**6.0 PROPOSED SAFETY AND OUTREACH PROGRAMS**

**THIS SECTION TO BE COMPLETED PENDING FURTHER INPUT FROM THE SAFETY RCG.**

- 6.1 Annual Safety Meeting
- 6.2 Shoal Markers
- 6.3 Additional Communications

**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
SAFETY RESOURCE CONSERVATION GROUP**

**LAKE MURRAY TRAINING CENTER  
October 24, 2006**

final dka 11-27-06

**ATTENDEES:**

<b>Name</b>	<b>Organization</b>	<b>Name</b>	<b>Organization</b>
Alison Guth	Kleinschmidt Associates	Dave Anderson	Kleinschmidt Associates
Bill Argentieri	SCE&G	Alan Stuart	Kleinschmidt Associates
Tom Eppink	SCANA Services, Inc.	Tommy Boozer	SCE&G
David Hancock	SCE&G	Steve Bell	Lake Watch
Ed Schnepel	LMA	Kenneth Fox	LMA
Tony Bebber	SCPRT	Joy Downs	LMA
Lee Barber	LMA	Richard Mikell	Adventure Carolina
George Duke	LMHOC	Malcolm Leaphart	TU
Bret Hoffman	Kleinschmidt Associates	Bill Mathias	LMA & LMPS
Bill Marshall	SCDNR, LSSRAC	Charlene Coleman	American Whitewater
Patrick Moore	SCCCL, Am. Rivers	Mike Waddell	TU

**HOMEWORK ITEMS:**

- Steve Bell—contact Winward Point Yacht Club and discuss whether or not there are any areas in which power lines pose a problem
- Tom Eppink—research laws regarding non-traditional vehicles
- Dave Anderson—obtain redacted accident data from DNR
- Tom Eppink—research specifics of shoal marker law

**PARKING LOT ITEMS:**

- None

**DATE OF NEXT MEETING:**

**March 20, 2007 (tentative) at 9:30 a.m.  
Located at the Lake Murray Training Center**

## **MEETING NOTES**

### **SOUTH CAROLINA ELECTRIC & GAS COMPANY SALUDA HYDRO PROJECT RELICENSING SAFETY RESOURCE CONSERVATION GROUP**

**LAKE MURRAY TRAINING CENTER**  
**October 24, 2006**

final dka 11-27-06

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#### **MEETING NOTES:**

*These notes serve to be a summary of the major points presented during the meeting and are not intended to be a transcript or analysis of the meeting.*

Dave Anderson opened the meeting and welcomed the group. In reviewing a few of the past Action Items, Dave noted that he has issued the Final Study Plan for the Recreational Flow Assessment. He explained that this study will include both land and water based reconnaissance of the river and will include the placement of water level data loggers that will record water level changes in the river over a period of time. The group posed no questions on this document and moved to the next item on the agenda.

#### **Location of Additional Sirens on LSR**

Dave noted that the next topic of discussion was regarding the location of additional warning sirens on the lower Saluda River (LSR). The group examined a map of the LSR and Dave encouraged the group to indicate areas on the map where they felt additional warning sirens were most needed. Dave pointed out that Trout Unlimited has already provided dot locations where they believe sirens are most necessary. Bill Marshall noted that the section of the river near the tailrace was probably the section of river that needed the best warning system, as it has the most rapid rate of change. Dave replied that the level loggers will provide much needed information on this issue. Dave also noted that Corley Island appeared to be a high use area. He then asked the group if there were any needs for sirens in the stretch of river down to Gardendale. Malcolm Leaphart noted that it would probably not be necessary as it is flat water. Patrick Moore commented that we should begin by warning the whole river of the danger of the rising water and then exclude places where adequate warning exists instead of looking for just a few high use places.

The group also discussed alternate warning systems. Leaphart suggested that strobe lights be used at certain sections of the river. Dave also noted that SCE&G is currently testing a phone call/email warning system as well. Bill Argentieri further pointed out that the purpose of the phone warning system is not to replace the sirens, but to add to the available information. Bill M. noted that he had received feedback on the call-down program and it was suggested that there be amount of discharge information with the message. Argentieri noted that they had discussed this, however there were legal issues involved with providing this information. Patrick Moore asked if the system could be configured in such a way that the sirens only functioned during the daylight hours and strobe lights functioned at night.

The group continued to discuss different methods of warning systems. Malcolm Leaphart questioned the warning systems not being triggered until there is a two-inch rise in the water level

## **MEETING NOTES**

### **SOUTH CAROLINA ELECTRIC & GAS COMPANY SALUDA HYDRO PROJECT RELICENSING SAFETY RESOURCE CONSERVATION GROUP**

#### **LAKE MURRAY TRAINING CENTER October 24, 2006**

final dka 11-27-06

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registered a short ways upstream, instead of being triggered when water is released at the dam. In some cases, such as a full release from all five turbines, the time from when the two-inch rise is measured until it reaches the warning area could be too short for safe exit. There was a concern about the length of time before rising waters would reach the lower areas, but he noted that allowances for each of the warning areas could be calculated at different flows to factor them in so that the warning is not so long in duration that people would ignore it. Malcolm also suggested that the maximum amount of time possible be given for warnings, but for the sake of consistency, a 30 minute sounding before an area is affected could be implemented - except of course for the upper areas where the time would be less. A possibility would be to use different colored lights. For example, orange or yellow flashing lights could mean that water has been released (that would raise the flow at least two inches), and red could mean that the gage registering the two inch increase upstream of the warning system had been triggered. Bill A. noted that he believed that a complex multi-tiered warning system would send the wrong message to recreators. He explained that the idea that they wanted to focus on is "when the sirens go off, then the individuals need to exit the water." Alan Stuart noted that an important component of the Safety RCG would be education on this issue. The group agreed.

Patrick Moore pointed out that while reserve capacity would probably be in the license application, the Safety RCG would ultimately be called on to make a recommendation on the safety of reserve capacity operations vs. non-reserve scenarios. He noted that the warning system location exercise was valuable but was not necessary the safest option in light of all operational possibilities.

Malcolm noted that more information on releases would help determine how to approach the river, whether to wade or go out by boat. Bill A. reiterated that they were concerned with informing the individuals that they needed to leave the water due to rising water levels. Bill A. explained that if they inform the individuals of cfs, and it is originally planned to be only 3000 cfs and SCE&G has to go up to 18000 cfs for some reason, then they could be distributing misleading information. Dave explained that the group was discussing two different items, immediately warning individuals of rising water levels, and providing more information for the more educated river users. The group was informed that SCE&G is currently working on developing a website that provides their 48-hour schedule for generation to their best possible knowledge. It was noted that reserve calls could not be predicted and thus could not be included on a long-range schedule. Many individuals agreed that the warning system had to be simple enough for the average recreating public to understand; however, the group was looking at ways of disseminating information to the more educated river users as well.

The group then began to discuss Saluda's operation for reserve and its relation to safety. Lee Barber asked how much on average the lake level dropped during a reserve call. Bill A. noted that

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it would be less than an inch. Dave asked the group if lake levels affect safety. Malcolm noted that it would be helpful to know what shoals will be showing at various lake levels.

Communication System Needs

After a short break the group discussed communication system needs. Through an interactive exercise, the following list was developed:

- Lake Levels (Rule Curve)
- Generation Schedule
  - Lake Level Management/Normal Operations
  - Reserve Calls
  - Special Releases
  - Special Drawdowns
    - Maintenance
  - Minimum Flow
- Identification of Shoals at Different Lake Levels
- Education About
- What to do in an Emergency
- How To Get Information

The group discussed this list, and Alan S. noted that he had envisioned many information needs being answered in a Public Safety Plan. For example, emergency contacts, how the Project operates, etc. Dave then asked the group where they thought people received most of their information on the Lake. The group noted various sources, such as the following:

- Word of mouth
- Signage
- Internet
- Newspaper
- Tourism Department
- University South Carolina 101
- High Schools
- Local Outfitters
- Call Down System
- Marinas/Parks
- Brochures
- Billboards
- Real Estate Agents

## **MEETING NOTES**

### **SOUTH CAROLINA ELECTRIC & GAS COMPANY SALUDA HYDRO PROJECT RELICENSING SAFETY RESOURCE CONSERVATION GROUP**

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- Conservation Group

The group noted that the safety information that needed priority was the following:

- Special releases
- Special drawdowns
- Reserve calls

#### HEC-ResSim Model Discussion

The next item on the agenda was a discussion of the operations model. Dave explained that he attended the presentation on the model earlier in the month and took notes on the items he felt were important for the committee to note. Dave continued to explain that the committee would need to decide upon what flows and lake levels were needed during certain times of the year to address safety issues. Dave then asked the group if 354', 355', and 356' were appropriate lake levels to examine. Joy Downs noted that the Lake Murray Association has deemed 354' an appropriate lake level, access wise. She continued to explain that as a whole, with more development stemming into the backs of coves and such, many individuals would like the standard to be set at 356'. However, Joy D. noted that as an organization, the Lake Murray Association has deemed 354' the most appropriate for all parties involved. Bill A. pointed out a couple things for the group to consider when discussing lake levels. First, that the Water Quality RCG was looking at a periodic drawdown for water quality benefits. Second, that even if SCE&G has a target range of 354' during the year, there still may be the need to take the lake down to 345' for maintenance on the dam or the towers. Dave noted that once an appropriate lake level is decided on, the group could then look at shoal issues at that lake level.

#### Identified Issues – Power Lines and Amphibious Aircraft

After lunch the group discussed some issues that have been identified in the group, power lines, and non-traditional vehicles (amphibious aircraft, submarines). Dave noted that the first item they would discuss was power lines that cross the reservoir. Tommy Boozer gave the group a brief history on this topic and explained that of the 196 power lines crossing the reservoir, only 78 are SCE&G owned. He noted that all power lines that do not meet the codes on height are in the process of being phased out. Steve Bell suggested having the sailing clubs identify areas where they feel power lines pose a threat. Steve volunteered to discuss this with Winward Point Yacht Club as a homework item.

The group then moved on to discuss non-traditional vehicles. Tom Eppink noted that once an airplane touches water it is subject to the authority of the Coast Guard. Bill Mathias noted that it



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was the take-off and landing that raised concerns. Tom E. noted that the only way to resolve this was to ask the FAA to restrict the airspace. The group also discussed the potential for submarines in the future. Tom E. noted that he would research non-traditional vehicles and the laws that deal with them. The group also noted that unforeseen items can be addressed in the Safety Committee that is ongoing after relicensing.

Dave passed out the issues matrix and asked the group to look at it and let him know if there is anything else that the group would like to add to it.

#### Accident Data Collection

The final item on the agenda was to discuss accident data collection. Dave asked the group if there was any information besides location that the group would like to see DNR collect from an accident. The group compiled the following list:

- Location
- Blood alcohol level
- Fatalities
- What type of vessel
- Type of accident
- Age
- Cause
- Time of day
- Time of year

Dave noted that he was working on placing the existing information in some type of form. However, Dave noted that he had problems obtaining the information from DNR, who noted they could not release personal information. Tom E. noted that he felt confident that they could request redacted copies. Joy D. added that a Colonel Alvin Taylor could assist Dave in obtaining this information. Dave explained that this information could provide information on whether there were patterns to accidents, and what the causes are (shoals, congestion). He continued to explain that SCE&G could then take this information and use it in lake and land management decisions.

#### Develop an Agenda for Next Meeting and Set Next Meeting Date

Before adjourning the meeting, the group discussed the schedule. Dave noted that the group was waiting on a lot of data to come back. Therefore, it may be better to have the next RCG meeting in the spring of 2007. The group tentatively chose March 20th as the next meeting date. It was also

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noted that there would be a meeting to discuss the safety program and that Dave would email the RCG to see who would be interested.

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**Saluda Hydro Relicensing  
Safety Resource Conservation Group**

**Meeting Agenda**

**October 24, 2006**

**9:30 AM**

**Lake Murray Training Center**

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- **9:30 to 10:00** Downstream Recreation Flow Assessment Study Plan Questions (Dave Anderson)
  - **10:00 to 10:30** Location of Additional Sirens on LSR (Dave Anderson)
  - **10:30 to 10:45** BREAK
  - **10:45 to 11:45** Communication System Needs (Dave Anderson)
  - **11:45 to 12:00** HEC-ResSim Model Discussion (Dave Anderson)
  - **12:00 to 1:00** LUNCH
  - **1:00 to 2:00** Identified Issues – Power Lines and Amphibious Aircraft (Dave Anderson)
  - **2:00 to 2:15** BREAK
  - **2:15 to 2:45** Accident Data Collection (Dave Anderson)
  - **2:45 to 3:00** Develop an Agenda for Next Meeting and Set Next Meeting Date
- Adjourn



*MEETING NOTES*

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**Comments from Charlene Coleman:** I'd like to add using the inserts in SCE&G bills as a way to inform the public as to lake and river dangers, warnings, web site information and what they mean to the public using the resources. education should be a primary concern and target, just like Drivers Ed, investments, car buying and voting.

I don't think horns or sirens are the perfect answer to the problem. Both of these warning methods are much too intrusive for a normally peaceful river. Lights at key areas and a more something less obnoxious in the more remote areas would be worth investigating.

Markers, signage and a serious public information push would go a long way towards helping the situation. I hate to throw water so to speak on everyone's stress but there is a certain amount of responsibility everyone has to their own safety too. the river or the lake are both oxygen poor environments and that's just a fact.

Saluda Hydro is not the silver bullet for all power issues for reserve capacity. This Summer after the lower Zoo siren was installed there was a reserve need, and the siren worked well with the first 2 inches of rise and length of time for each area. Also a less rapid rate of change was used than the normal, all at once, technique. As a result no rescues were needed, things went off with out any problems, power was covered and at a time when peak use and system use was at it's highest demand. the 20 minutes it took to raise the water a little slower at the onset, gave everyone time to get off the water. I find it hard to believe this technique can't be used more often if not, exceptionally so in high public use times of the year.

To note also, the recreational flow studies will need to be carefully thought through and a "meeting of the minds" for "known" levels should be compiled first before we waste any more time on shuffling issues.

**Comments from Tom Eppink:** Inserts may be worth exploring, if they can be targeted – we have more than 600,000 customers, most of who probably don't need to be educated as much as others.

From a legal stand point, SCE&G is interested in doing what is right and reasonable to make the Lower Saluda safer, understanding, of course, that no body of water can ever be made truly "safe." And just as the river can never be made perfectly safe, SCE&G can never completely escape liability. No matter what we do, we cannot reach everybody with our message of safety – some will continue to make uninformed, impaired, or just plain old dumb decisions, and those decisions will occasionally have dire consequences. Having just been treated to the spectacle of one Lexington County man shooting his friend over a \$20 bet on the USC/Clemson game [Sadly, now national news:

<http://sportsillustrated.cnn.com/2006/football/ncaa/11/26/bc.fbc.footballbet.shoo.ap/index.html?cnn>

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[=yes](#)] I become more and more convinced that there is a limit to what we can do to effectuate safety and a point beyond which that it is simply pointless to try.

**Comments from Charlene Coleman:** "you can lead a horse to water...."

All true, and that's a prime example of the shallower end of the local gene pool.

We have to understand those not bright enough, are why RESCUE became a profession and many have had to reinvent the wheel, mouse trap, napkin and a couple other things to save them from themselves and not get one of the rescuers killed.

But in the end of the day I can only rest when I know we did what we could.


one day that game will end up in a classroom being played on one of those vibrating football games from the dark ages....(made you laugh)....and you have to pass an emotional stability test to get the score afterwards.



**Legend**

- Existing Warning Devices
- Project Boundary
- \* Suggested Warning Devices

1" equals 1,400'

Scale:	AS SHOWN	SOUTH CAROLINA ELECTRIC & GAS COLUMBIA, SC
Project No:	455-029	SALUDA HYDROELECTRIC PROJECT P-516
Filename: Potential Warning System		SUGGESTED LOCATION OF RISING WATER WARNING DEVICES IN THE LSR
Drawn By:	DKA	 101 Trade Zone Dr., Ste. 314 West Columbia, SC 29170 phone: (803) 822-3177 fax: (803) 822-3183 www.KleinschmidtUSA.com
Date Drawn:	10-17-2006	

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**ATTENDEES:**

<b>Name</b>	<b>Organization</b>	<b>Name</b>	<b>Organization</b>
Alan Stuart	Kleinschmidt Associates	Don Eng	TU
Kelly Miller	Kleinschmidt Associates	Dave Anderson	Kleinschmidt Associates
Bill Argentieri	SCE&G	Steve Bell	Lake Watch
Bret Hoffman	Kleinschmidt Associates	Charlene Coleman	American Whitewater
Karen Kustafik	Columbia Parks & Recreation	Kenneth Fox	LMA
Malcolm Leaphart	Trout Unlimited	Bill Mathias	LMA, LMPS
Gerrit Jobsis	American Rivers	Tom Eppink	SCANA Services
George Duke	LMHC	Norm Nicholson	Lex. Co. Sherrif's Dept.
Mike Waddell	TU	Joy Downs	LMA
Patrick Moore	SCCCL	David Price	LMPS
Am. Rivers		Alice Ammons	Palmetto Richland Hospital
Randy Mahan	SCANA Services	Tommy Boozer	SCE&G
Regis Parsons	Homeowner	Richard Mikel	Adventure Carolina
Mike Dawson	River Alliance	Randy Mahan	SCANA Services

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**HOMEWORK ITEMS:**

- Dave Anderson – modify Safety RCG Work Plan and send to group for final approval

**PARKING LOT ITEMS:**

- None

**DATE OF NEXT MEETING:**

**October 24, 2006 at 9:30 a.m.  
Located at the Lake Murray Training Center**



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**MEETING NOTES:**

*These notes serve to be a summary of the major points presented during the meeting and are not intended to be a transcript or analysis of the meeting.*

Dave Anderson opened the meeting and distributed meeting agendas to the group. He briefly went over the agenda and then turned the meeting over to Mike Dawson to give a presentation on the Three Rivers Greenway.

Mike began his presentation by detailing the construction of the riverwalk system. He showed a map that displayed the exact layout of the riverwalk, including the location of restrooms, parking lots, and boat access. Mike also explained how potential problems such as flooding and maximum flows were being considered. He showed a detailed drawing of the composting toilets that are being installed and explained they are designed to limit potential damage from flooding of the restrooms. He also addressed the issue of wetlands, mentioning that the pathway will circle the wetland areas in order to preserve them. Mike also specified the various smaller pathways that will lead to and from the riverwalk to allow for easy access. After Mike finished detailing the length of the riverwalk, he addressed the installation of emergency call boxes. He said these boxes would be installed along the riverwalk, providing immediate access to a 911 operator. Mike added that a light would turn on near the call box when activated. He also said that there would be a gate for firemen and other rescue workers to easily access the riverwalk. Mike concluded his presentation stating that the new portion of the Three Rivers Greenway was scheduled to be operational by early summer in 2007. Mike then added that the International Canoe Federation was considering the Saluda River as the site for its annual canoe race and that he would like to have the riverwalk functional for that event. Mike then opened the meeting for questions.

Malcolm Leaphart asked who had police jurisdiction in regards to the call boxes. Mike answered that police from the University of South Carolina and other city police have an agreement on who will take jurisdiction in the various areas. He said that the law enforcement wants to be proactive. Mike also added that there will be active patrolling around the river including security guards on golf carts.

Bret Hoffman asked if the walkway would be located above the high water mark during periods of high flows; Mike replied that they are not, but it should not matter as any flooding will not affect the walkway.

Steve Bell then asked if there was any idea of what to expect in the next thirty years in terms of recreational activity on the river. Mike answered that there was no accurate prediction of the amount of recreational activity that the Saluda River will see in thirty years. He said that a



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probability analysis could be done based on population, but the accuracy would not be very reliable. Mike predicted that as many as 450 people per hour would use the greenway after completion.

Charlene Coleman brought up the issue of an increased budget for training rescuers. She stated that by adding more access to the river, there would be a rise in river use, causing an increased need for additional trained rescuers. Mike agreed that more resources were needed and that the budget did need to expand to include this issue. Charlene then asked if there would be some type of public education informing people on the new access routes. Mike answered that the State newspaper has already begun running articles about the greenway.

Dave asked if there were plans to expand the riverwalk above Interstate 26, towards Saluda Shoals. Mike answered that Saluda Shoals has put in grant requests to do their own expansions. He added that this would be funded by the cities of Columbia and West Columbia, highway funds, and local school districts. Mike added that the Three Rivers Greenway project does not have the budget to expand towards Saluda Shoals.

After a break, Dave reconvened the meeting and then turned it over to Bret Hoffman to give the group an update on the installation of the new warning siren on the Saluda River. Bret began by stating that the pole was in place and the rest of the equipment would be installed within the next week. He added that noise testing would be done on Thursday to determine if the siren noise could be reduced, in consideration of nearby neighborhoods. The new siren would be operational following that noise test. Malcolm then asked Bret where this new siren was located. Bret answered that it was at the left of the Riverbanks Zoo parking lot, covering the rapids in that area and the downstream side of the zoo. Mike Waddell then asked how long the siren will sound after activation. Bill Argentieri answered that it will sound for three minutes after initial activation. He added that the siren will be activated after a three inch rise in water level, changed from a  $\frac{3}{4}$  inch rise, and that the siren will be reactivated after each rise. Bill then said that a strobe will also be triggered and will flash for sixteen minutes. Bill also added that this system runs on a three minute time delay. Charlene said that she felt that people in the river needed that extra three minutes to move to safety. Bill replied that the system can be adjusted. Malcolm asked if the siren and strobe were activated by a drop in water level. It was stated that the warning siren system was only initiated by rising water levels.

Dave then distributed copies of the Safety RCG Work Plan (attached) for discussion and the issue of having a safety plan versus a program was introduced. Bill Mathias said that a safety plan would be integrated into the FERC license, but the creation of a safety program would not, which would allow for easier modifications. Malcolm asked what assurance there is if a safety program is created. He wanted to know how it could be included into the license. Overall, the group expressed concern over the fact that a program could eventually be absolved, but a plan could not, since it

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would be included in the license. Patrick M. pointed out that regardless of the plan vs. program decision, the final settlement terms will be enforceable in a court of competent jurisdiction by any signatory. Bill Mathias said that the safety program would be a partial liability absolver, and there would be no reason to terminate the program. Charlene added that the plan could include specifics about stakeholders involved and meeting times for the program. This would ensure that mention of the program was included as part of the license. Joy Downs said that some of the issues were like apples and oranges, and that some of the larger issues could be discussed in the FERC plan and the other issues could be dealt with in the program. Tom Eppink said that there were some issues that had to be included in the license, as required by FERC, but others could be dealt with in the program. Tom also reiterated that there will be unannounced releases in order for Saluda to meet reserve generation requirements and the group should move forward based on this. Patrick replied that this statement is erroneous and that no evidence has been presented to stakeholders that demonstrates operations are capable of compliance with state numeric water quality standards, state narrative standards, the Clean Water Act, Federal Power Act, Endangered Species Act, and other applicable law. Several other stakeholders also spoke up in disagreement with Tom's statement and restated their expectations the RCG would be an open forum where all issues and alternatives could be discussed. The group then agreed that we can amicably, yet seriously, disagree on this issue.

Dave Anderson then directed the discussion back to the specifics of the work plan. The group decided that the identified issues would be better separated into lower Saluda River issues and Lake Murray issues.

Before the group broke for lunch, Don Eng recounted his experience during a recent release on the Saluda River. Don explained that he was fishing when he saw a large amount of water rushing towards him, washing him downstream for approximately one block. He said that he clung to branches to stay above the water, and was eventually rescued by some kayakers. He added that during this struggle, he watched a family get washed downstream and out of his sight. Don wanted to state that real people are affected by the water releases on the river. After Don's recount, there was discussion regarding the need for in-stream recreators to use appropriate safety equipment and the lack thereof in this particular case.

After lunch, discussion on the work plan continued. During the discussion, the issue of how to attain accident information was raised. The Budget Control Board and SCDNR accident data were mentioned as possible sources for this information. Because of privacy issues and unreported accidents, accurate accident information is hard to acquire. The group agreed to continue thinking about this issue.

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The RCG Responsibilities section of the Work Plan initiated a discussion on whether the Safety RCG takes hierarchy over the other RCGs. The group then decided that safety should be compatible with all of the RCGs, allowing for compromise between the groups.

The group agreed on the changes made to the Safety RCG Work Plan (The updated work plan is attached).

Dave then directed the discussion to focus on the Safety Program Outline (attached). Again, the issue of having a program versus a plan was raised. Dave stated that a safety program is acceptable to deal with issues that will continue beyond the FERC relicensing. Mike Waddell asked if the program would be submitted to FERC. Alan Stuart answered that it would be referenced through the safety plan. Dave agreed, stating that the safety program can be referenced to FERC, allowing FERC to be aware of the program. The group agreed that a safety program would be beneficial. Randy Mahan stated that this would be something good for the community. He added that including FERC in some cases would complicate the process and use extra time when making simple changes.

Malcolm asked Dave to develop 'deliverables' for each of the tasks in the Safety RCG Work Plan (Work Scope and Product Section) as those are reflective of the important issues raised to date and are the basis for the recommendations to be made to FERC. Dave indicated that he would do that. Malcolm pointed out that developing a safety program would take away from the limited time and resources of the Safety RCG in dealing with the issues and should be considered after relicensing, and definitely not as a replacement goal or deliverable of the Safety RCG as defined in the Mission Statement. Tentative revisions to the Mission Statement made earlier in the meeting to reflect a change in scope and product (deliverable) to a safety program to be administered outside of the FERC process and after license approval were removed. The language of the original mission to develop recommendations for the identified issues was reinserted to reflect that the group would continue to develop an "RCG Safety Plan" for submission to FERC for consideration to incorporate into the FERC Public Safety Plan. Tommy Boozer acknowledged that the safety program was an idea brought to SCE&G to simplify and allow for ongoing public discussions concerning safety issues on the lake. Tommy further stated that he understands, as Malcolm explained, the stakeholders want to develop recommendations for incorporation into the FERC license and not defer actions on issues until after the license is approved. Randy reiterated that FERC will want to look at alternatives in determining whether to grant a new license and explained this might include the potential to modify Saluda to get the most economic benefit possible from a minimum flow rather than just to keep spinning a unit or two with no generation and the potential to replace the runners to increase the units' maximum capacity.

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Joy reiterated that the larger safety issues, such as flows, water levels, and shoal makers, should be included in the plan to FERC, and other issues should be included in the program. Tommy Boozer added that it is important to show that an effort is being made for safety in the future. The group ended the discussion by agreeing in favor of the safety program. The group agreed that developing a safety plan, addressing identified issues, and determining what recommendations need to be made back to Operations RCG should take priority, but that Bill Mathias can continue to work on the safety program. Malcolm suggested that developing a safety program after submitting the new license application might be more appropriate.

The group agreed to have the next RCG meeting in October, around the time of the next Quarterly Public Meeting. Dave suggested that the group have two separate meetings to discuss lake issues and river issues after the joint RCG meeting in September (after the operations model is finalized). No dates were set for any of these meetings. It was agreed that the group will continue to communicate by e-mail.

Comments received after this meeting are attached after the agenda.

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**Saluda Hydro Relicensing  
Safety Resource Conservation Group**

**Meeting Agenda**

**July 20, 2006**

**9:30 AM**

**Lake Murray Training Center**

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- **9:30 to 10:30** Presentation on the Three Rivers Greenway (Mike Dawson)
- **10:30 to 10:45** BREAK
- **10:45 to 11:00** Update on Installation of Warning Siren (Bret Hoffman)
- **11:00 to 12:00** Discussion of Safety RCG Work Plan (Dave Anderson)
- **12:00 to 1:00** LUNCH
- **1:00 to 2:00** Discussion of Safety RCG Work Plan (Dave Anderson)
- **2:00 to 2:15** BREAK
- **2:15 to 3:00** Discussion of Safety Program Outline (Dave Anderson)
- **3:00 to 3:10** Develop an Agenda for Next Meeting and Set Next Meeting Date

Adjourn



**MEETING NOTES**

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**Comments from Steve Bell:** The Saluda Generation TWC is reviewing generation data and most likely will request additional information on specific releases. It seems a bit premature to suggest that we should agree to disagree before reviewing all the data. Also, it may be worth mentioning that all issues including SCE&G's are being tracked via spreadsheet which will result in a written record of the step by step process used to resolve the issue. I believe this will complement the meeting summaries as the official record. Finally, there appears to be no consensus, at this time, on SCE&G's issue of "maximum flexibility". We owe it to our members to review all the facts before considering an outcome.

**Comments from Malcolm Leaphart:** I have no further comments for either the Safety or Recreation summaries of the most recent meetings; but still have concerns about issues not addressed to date. For example, additional recreational sites as I raised to you earlier in the process, including extension of the Greenways Trail to the dam now that we have learned of the River Alliance's plans to build it up to I26, providing the needed 'safety' exit above Mill Race. You deferred those to SCE&G, but recreation sites should be discussed in the Recreation RCG and TWCs for it. Also, how will the rest of the river users out of hearing range of the 3 sirens be warned of rising water levels - and whether the sirens are a nuisance to homeowners that should not be used at all for warnings (as opposed to something less obtrusive and possibly more effective like warning lights)? Also, I am having to question Charlene about the warning system because it is not clearly documented. Recent questions have included the location of the sensors for the water level increases, whether the sirens can be triggered before water is actually released, the amount of time that a person on the river would have to exit it once a siren goes off at each location, and whether that amount of warning time is dependent on the amount or rate of water released??? That is, should there be a table created of warning times at varying flow releases? Bottom line - the current warning system and any intended changes should be clearly documented and updated as questions are raised and answered during the remainder of the relicensing process.

There will certainly be many other questions and issues once the warning system is documented thoroughly, such as the suitability of sirens in a largely residential area, how the entire tailrace down into the confluence will be alerted, etc. For example, with the 3 sirens in place now, I know of hundreds who still must 'watch the rocks' for rising water, and are extremely fearful now of the quick releases of large volumes like the over 13,000 cfs that washed Don Eng downstream in May without any chance of escaping it... see the Saluda River Trout Unlimited website for the article on river safety in the lower Saluda in the ATTENTION box - [www.saludatu.org](http://www.saludatu.org).

And of course, there is the issue of evolving to an operational mode that uses the hydro in the heavily populated Columbia metropolitan area only for base power needs, like the TVA does with announced schedules of moderate releases more in tune with the natural hydrology. The ultimate warning for this river at this point in time is of course not lights and sirens, but an announced

*MEETING NOTES*

*SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
SAFETY RESOURCE CONSERVATION GROUP*

*LAKE MURRAY TRAINING CENTER*

*July 20, 2006*

final dka 08-08-06

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warning a day or more in advance as that mode of operation would allow. If I was a lawyer for the utility company, I would surely want that to be the case if I had to defend the company in a suit about a river drowning during a generation. Regardless of whatever decision is made, not even considering a change to a safer mode for the community during relicensing would certainly flaw the process.

I'm sure SCE&G would like to be considered a good corporate neighbor in the midlands, but their decisions about public safety, not words in ads, are the real factors in whether the public agrees with that description or not. And an open process with a clean slate approach will go a long way towards fostering a positive attitude for the company. Times have changed for the rivers, just as they have for Lake Murray, and continuing the past operating modes of peak power or reserve power usage should be closely examined given the heavy use of the river by the citizens, and the incorporation of the midlands rivers into the very fabric of the community as the greenways and parks are doing. In other words, it is time for a major re-thinking of the best usage of the Lake Murray hydro - for both SCE&G and the citizens who have placed their trust in them in managing public waters in an efficient and safe way.

Steve Bell has told me that there is a spreadsheet being kept by either SCE&G or Kleinschmidt of issues to make sure all issues are addressed. It would be good to have that clarified for all the stakeholders as I have only heard that from Steve, not from you or another committee leader. Would you confirm with a quick reply that a spreadsheet of issues is being kept, and follow up soon with information to all the stakeholders about it, including how it can be accessed, when it will be used in the process, etc.

Please share my comments with any others that you deem appropriate beyond my limited distribution and/or post as comments to the last Safety RCG meeting summary. However, please do not post as comments and fail to include them as topics for discussion at future meetings.

**Comments from Charlene Coleman:** I feel it is critical to include a **plan** to FERC on issues that do pertain to the safety of the public in regards to operation of the facility. I also agree with Steve Bell that with out the proper information to make sound decisions or agree to disagree on level ground is the only way for everyone to "feel" confident they did due process in the public's best interest, be that power or just surviving a family outing.

The program is an excellent idea and should be pursued, but not at the expense of guidelines that can not be change at whim. Therefore I do feel strongly a plan is to be offered with the program as part of the plan.

So much for semantics.



*MEETING NOTES*

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**Comments from Mike Waddell:** The word plan has to stay in the mission statement period. If it does not then I can assure you there will no consensus.



## Safety Resource Conservation Group Work Plan Saluda River Project

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# Safety Resource Conservation Group Work Plan Saluda River Project

## Mission Statement

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.

## Identified Issues

- creation of a public information system and improvement of communications concerning changes in river flows in the lower Saluda River
- creation of a public warning/notification system for river users during unannounced changes in river flows in the lower Saluda River
- fluctuating lake levels and their effect on safety
- boat traffic/congestion in cove areas related to nearby shoreline development
- fluctuating lake and river levels and their effect on recreational user safety
- placement and maintenance of shoal markers
- systematic collection of accident data on the lake and on the river
- ingress/egress to potentially hazardous areas (e.g., Mill Race)
- Lack of an advanced public information system of releases from the Lake Murray hydro plant that provides release information at least 12 hours in advance
- 'Rates of flow' from the Lake Murray hydro need a unit of measure established, and a determination of unacceptable rate levels for the safety of recreationists in the lower Saluda River
- consider alternate methods of operations besides the present "maximum flexibility" mode of operation
- Poor understanding the hazardous conditions in the river caused by hydro flows, how hazards vary from place to place, and who is affected
- Interest in managing river flows, particularly rates of increase in flow, to improve safety for river users
- fluctuating river levels and its effect on rescue resources
- flow rate recommendations for public safety concerns

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## Safety Resource Conservation Group Work Plan Saluda River Project

### RCG Responsibilities

- Identifying specific areas where lake level fluctuations may be adversely affecting safety at the lake, including the nature and timing of the effect (e.g., shoal areas).
- Working with the Operations Resource Conservation Group to identify “reasonable” (based on hydrologic, structural, and other limitations identified) changes and alternatives for modifying project operations, including operations that affect safety on the lake and lower Saluda River.
- Identifying any studies, if applicable, that should be performed to identify and/or evaluate possible changes to Project operations (e.g., flow studies on the river).
- Presenting a range of reasonable alternatives or recommendations to the Saluda Hydro Relicensing Group (SHRG) regarding possible modifications to current Project operations.
- Reviewing results from the Recreation Resource Conservation Group to make sure they are consistent with the mission statement of the Safety Resource Conservation Group.
- Developing a recreational safety plan for Lake Murray and the lower Saluda River that addresses all of the “Identified Issues”
- Developing a public information/warning system during unannounced changes in river flows in the lower Saluda River (including a phone call to Rescue One—Columbia Fire Department).
- Identify needed information products/systems/facilities to increase public awareness of potential hazards and necessary precautions

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Comment: Malcolm Leaphart suggests deleting.

### Work Scope and Product

- **Task 1** – Review the operational constraints and current operations of the Saluda Project (see Initial Consultation Document).
- **Task 2** – Determine how Project operations affect safety and alternatives to present operations to enhance safety on the lower Saluda River.
- **Task 3** – Review applicable laws governing boating use.
- **Task 4** – Identify safety-related organizations concerned with Lake Murray and/or the lower Saluda River.
- **Task 5** – Invite those safety-related organizations identified in Task 4 to participate in the Safety Resource Conservation Group.
- **Task 6** – Review stakeholder requests for particular studies and/or enhancement measures to ensure that these are incorporated into study planning, if applicable (flow studies related to safety on the lower Saluda River).
- **Task 7** – Develop and recommend operations scenarios to the Operations RCG for analysis (both lake and selected points (determine by the stakeholders) on the lower Saluda River). These scenarios should reflect initial thinking on potential solutions and be designed to narrow the focus of Task 12 below. Analysis by the Operations RCG will focus on an assessment of potential safety impacts associated with any suggested changes to operations.
- **Task 8** – Discuss results of the Operations RCG analyses.

**Safety Resource Conservation Group Work Plan  
Saluda River Project**

- **Task 9** – Develop study designs/methods/plans and review agreed upon studies, literature reviews, etc. [if necessary](#).
- **Task 10** – Identify high use areas of the river for inclusion in the rising water warning system.
- **Task 11** – Identify safety concerns that can possibly be resolved outside of the relicensing process.
- **Task 12** – Provide [safety-related](#) recommendations for Project operations and recreation access, facilities, and use to be considered in conjunction with all ecological and recreational issues.
- **Task 13** – Develop a consensus based Recreational Safety Plan for the Saluda Project that addresses all of the issues and tasks identified above.

**Schedule**

**Late 2005/Early 2006**—Finalize Mission Statement and Work Plan

**Mid-2006**—Complete identification of studies, literature reviews, etc. that need to be completed to address issues and tasks identified in the Work Plan

**Late 2006**—Begin compilation of existing information, review preliminary study results, and draft an outline of the Recreational Safety Plan

**2007**—Complete any studies identified in Task 9 and review results; draft recommendations to SHRG, complete draft Recreational Safety Plan

**2008**—Finalize Recreational Safety Plan and provide comments on Draft License Application

## Safety Resource Conservation Group Work Plan Saluda River Project

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Tommy Boozer	SCE&G	tboozer@scana.com	

# Safety Resource Conservation Group Work Plan Saluda River Project

## Mission Statement

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 consensus-based [recommendations to the 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.

## Identified Issues

### Lower Saluda River:

- [level fluctuations and their effect on safety:](#)
  - [Lack of advance public information system and improvement of communications concerning changes in river flows in the lower Saluda River](#)
  - [enhancement of a public warning/notification system \(warning devices\) for river users during unannounced changes in river flows in the lower Saluda River](#)
  - [ingress/egress to potentially hazardous areas and its effect on rescue resources \(e.g., Mill Race\)](#)
  - [rate of change on the lower Saluda River for recreational safety](#)
- [systematic collection of accident data on the river](#)

### Lake Murray:

- [levels and their effect on safety](#)
- [level fluctuations and their effect on safety](#)
- [boat traffic/congestion in cove areas related to nearby shoreline development](#)
- [placement and maintenance of shoal markers](#)
- [Power lines impeding sail boat navigation](#)
- [Water quality and its effect on safety being addressed by WQ RCG](#)
- [Amphibious aircraft using Lake Murray](#)
- [systematic collection of accident data on the lake](#)

## RCG Responsibilities

- Identifying specific areas where lake levels and fluctuations may be adversely affecting safety at the lake, including the nature and timing of the effect (e.g., shoal areas).
- Working with the Operations Resource Conservation Group to identify “reasonable” (based on hydrologic, structural, and other limitations identified) changes and alternatives for modifying project operations, including operations that affect safety on the lake and lower Saluda River.

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## Safety Resource Conservation Group Work Plan Saluda River Project

- Identifying any studies, that should be performed to identify, and/or evaluate possible changes to Project operations (e.g., flow studies on the river).
  - Presenting a range of reasonable alternatives or recommendations to the Saluda Hydro Relicensing Group (SHRG) regarding possible modifications to current Project operations. (flow rate recommendations for public safety concerns)
- Reviewing recommendations from the Resource Conservation Groups for compatibility with the Safety Program/Plan.
- Developing a safety program/plan for Lake Murray and the lower Saluda River that addresses all of the “Identified Issues”
- Developing a public information/warning system (warning devices) for unannounced changes in river flows in the lower Saluda River (including a phone call to Rescue One—Columbia Fire Department).
- Identifying needed information products/systems/facilities to increase public awareness of potential hazards and necessary precautions

### Work Scope and Product

- **Task 1** – Review the operational constraints and current operations of the Saluda Project (see Initial Consultation Document).
- **Task 2** – Determine how current Project operations affect safety.
- **Task 3** – Review applicable laws governing boating use.
- **Task 4** – Identify and invite safety-related organizations concerned with Lake Murray and/or the lower Saluda River to participate in the Safety Resource Conservation Group.
- **Task 5** –
- **Task 6** – Review stakeholder requests for particular studies and/or enhancement measures to ensure that these are incorporated into study planning, if applicable (flow studies related to safety on the lower Saluda River).
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**Safety Resource Conservation Group Work Plan  
Saluda River Project**

- **Task 13** – Develop a consensus based Safety Program/Plan for the Saluda Project that addresses all of the issues and tasks identified above.

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**Schedule**

**Late 2005/Early 2006**—Finalize Mission Statement and Work Plan

**Mid-2006**—Complete identification of studies, literature reviews, etc. that need to be completed to address issues and tasks identified in the Work Plan

**Late 2006**—Begin compilation of existing information, review preliminary study results, and draft an outline of the Recreational Safety Plan

**2007**—Complete any studies identified in Task 9 and review results; draft recommendations to SHRG, complete draft Recreational Safety Plan

**2008**—Finalize Recreational Safety Plan and provide comments on Draft License Application

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<b>on the lake and on the river</b>		
<b>Page 2: [17] Inserted</b>	<b>Alan Stuart</b>	<b>4/18/2006 9:20 AM</b>
ingress/egress to potentially hazardous areas		
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Lack of an advanced public information system of releases from the Lake Murray hydro plant that provides release information at least 12 hours in advance  
 'Rates of flow' from the Lake Murray hydro need a unit of measure established, and a determination of unacceptable

<b>Page 2: [19] Inserted</b>	<b>Malcolm Leaphart</b>	<b>7/10/2006 4:34 PM</b>
Lack of an advanced public information system of releases from the Lake Murray hydro plant that provides release information at least 12 hours in advance		
<b>Page 2: [20] Change</b>	<b>Malcolm Leaphart</b>	<b>7/10/2006 4:34 PM</b>
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<b>Page 2: [21] Inserted</b>	<b>Malcolm Leaphart</b>	<b>7/10/2006 4:34 PM</b>
'Rates of flow' from the Lake Murray hydro need a unit of measure established, and a determination of unacceptable rate		
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levels for the safety of recreationists in		
<b>Page 2: [23] Inserted</b>	<b>Malcolm Leaphart</b>	<b>7/10/2006 4:34 PM</b>
levels for the safety of recreationists in the lower Saluda River		
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consider alternate methods of operations besides the present "maximum flexibility" mode of operation Poor understanding the hazardous conditions in the river caused by hydro flows, how hazards vary from place to place, and who is affected Interest in managing river flows, particularly rates of increase in flow, to improve safety for river users fluctuating river levels and its effect on rescue resources flow rate recommendations for public safety concerns		
<b>Page 2: [27] Inserted</b>	<b>Mike Waddell</b>	<b>7/10/2006 4:40 PM</b>
consider alternate methods of operations besides the present "maximum flexibility" mode of operation		
<b>Page 2: [28] Inserted</b>	<b>Bill Marshall</b>	<b>7/10/2006 4:52 PM</b>
Poor understanding the hazardous conditions in the river caused by hydro flows, how hazards vary from place to place, and who is affected		
<b>Page 2: [28] Inserted</b>	<b>Bill Marshall</b>	<b>7/10/2006 4:52 PM</b>
Interest in managing river flows, particularly rates of increase in flow, to improve safety for river users		
<b>Page 2: [29] Inserted</b>	<b>Charlene Coleman</b>	<b>7/11/2006 9:24 AM</b>
fluctuating river levels and its effect on rescue resources		
<b>Page 2: [29] Inserted</b>	<b>Charlene Coleman</b>	<b>7/11/2006 9:25 AM</b>
flow rate recommendations for public safety concerns		
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# SOUTH CAROLINA ELECTRIC & GAS COMPANY

## SAFETY PROGRAM OUTLINE

DRAFT

SALUDA PROJECT  
(FERC NO. 516)

*JULY 10, 2006*

Prepared by:

***Kleinschmidt***  
*Energy & Water Resource Consultants*

SOUTH CAROLINA ELECTRIC & GAS COMPANY

SAFETY PROGRAM OUTLINE

DRAFT

SALUDA PROJECT  
(FERC NO. 516)

JULY 10, 2006

Prepared by:

***Kleinschmidt***  
*Energy & Water Resource Consultants*

# SAFETY PROGRAM OUTLINE

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**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
SAFETY RESOURCE CONSERVATION GROUP**

**LAKE MURRAY TRAINING CENTER  
April 18, 2006**

*final dka 05-15-06*

**ATTENDEES:**

<b>Name</b>	<b>Organization</b>	<b>Name</b>	<b>Organization</b>
Bill Argentieri	SCE&G	Alan Stuart	Kleinschmidt Associates
Dave Anderson	Kleinschmidt Associates	Dave Anderson	Kleinschmidt Associates
Henry Mealing	Kleinschmidt Associates	J. Travis Carricato	Columbia Fire
Jeni Summerlin	Kleinschmidt Associates	Steve Bell	Lake Watch
Bret Hoffman	Kleinschmidt Associates	John Altenberg	Sea Tow Lake Murray
Ken Uschelbec	U.S. Coast Guard Auxiliary	Joy Downs	LMA
David Price	Lake Murray Power Squadron	Bill Mathias	LMA & LMPS
Kenneth Fox	LMA	Michael Waddell	Trout Unlimited
George Duke	LMHOC	Ed Schnepel	LMA
Karen Kustafik	Columbia Parks & Recreation	Charlene Coleman	American Whitewater
Tommy Boozer	SCE&G	Lee Mills Jr.	SCDNR
Bill Marshall	SCDNR & LSSRAC	Tom Eppink	SCANA Services
Jenn O'Rourke	SCE&G	Patrick Moore	CCL/AR

**HOMEWORK ITEMS:**

- Dave Anderson – put Safety Organizations and Responsibilities on relicensing web site
- Tommy Boozer – contact Southshore about mapping process
- Tom Eppink – locate agreement between SCE&G and SCDNR concerning navigation aids
- Tom Eppink – investigate funding of shoal marker program
- Dave Anderson – draft “straw man” of Recreational Safety Plan
- Dave Anderson – get GIS data for the Three Rivers Greenway
- Dave Anderson - send out Safety RCG Work Plan to all group members

**PARKING LOT ITEMS:**

- None

**DATE OF NEXT MEETING:**

**July 20, 2006 at 9:30 a.m.  
Located at the Lake Murray Training Center**

**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
SAFETY RESOURCE CONSERVATION GROUP**

**LAKE MURRAY TRAINING CENTER**

**April 18, 2006**

*final dka 05-15-06*

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**MEETING NOTES:**

*These notes serve to be a summary of the major points presented during the meeting and are not intended to be a transcript or analysis of the meeting.*

Dave Anderson opened the meeting and new RCG attendees introduced themselves. Dave A. introduced the Safety RCG Work Plan (attached) and noted he developed a list of Identified Issues from previous meeting notes and comments on the ICD. Bill Mathias had a couple of specific suggestions for the Identified Issues. He wanted to change “lower lake levels” to “fluctuating lake levels” and take out winter, add “maintenance of shoal markers” as a new bullet, and add “systematic collection of accident/safety data” as a new bullet. Dave A. noted that it is not SCE&G’s responsibility to collect data, but we can address it as an issue. Bill M. then suggested adding “ingress/egress to potentially hazardous areas (e.g., Mill Race). Travis C. noted that the Columbia Fire Department is currently identifying areas where an access point is needed. Bill M. also suggested moving “unannounced river flows” to the top of the list. Steve B. suggested adding “boat traffic/congestion in cove areas due to development.” The group agreed to all changes made under Identified Issues.

Dave then focused attention to RCG Responsibilities and asked the group to provide comments. Bill M. suggested adding “creation of Recreational Safety Plan” as new bullet. For bullet five, he wanted to change “Downstream Flows TWC” to “Recreation RCG”. Through some discussion, the group agreed to the changes made under RCG Responsibilities. Dave briefly went over the Work Scope and Product. He read through and discussed tasks that have been completed and tasks that need to be addressed in the future. Dave A. noted that he would like to speed up the process by sending out the Work Plan for everyone to review and have it finalized as soon as possible.

Dave A. directed attention to shoal areas and the responsibility for marking shoal areas. Skeet Mills noted that there is a fish/hunt map that is very accurate and may be useful for identifying shoal markers on Lake Murray. Joy D. noted that Southshore has taken over the responsibility for updating the map. Dave A. noted that he would email Southshore to find out more information about the map.

Joy D. asked what is required in the license about marking shoal hazards. Tommy B. replied that Lake Murray is marked by SCDNR. He added that, in the license, SCE&G is not required to mark areas in the lake. Tommy B. mentioned there was an agreement made in the 1970s between SCDNR and SCE&G about marking shoal areas. Skeet noted that SCDNR has funding for buoy placement, but does not have the time and manpower for marking all hazardous areas on the lake. Dave A. noted that the group would try to find the agreement made between SCE&G and SCDNR and would investigate funding on the shoal marker program.



**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
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**April 18, 2006**

*final dka 05-15-06*

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Steve B. presented a letter to the group that SCDNR sent to the Federal Energy Regulatory Commission (FERC) on July 6, 1999 and also provided a reply letter from FERC to SCE&G (attached). Steve B. read two excerpts from the letters in order to clarify the issue. The SCDNR stated in its letter in response to complaints about unmarked hazards during low fall and winter levels,

“...the SCDNR attempts to work with the utility to mark some hazards to navigation at normal or nearly full pull levels. The size of Lake Murray and the extent of periodic drawdowns makes the marking of all hazards at all lake levels beyond the capability of SCDNR’s program. The SCDNR will continue to cooperate with the South Carolina Electric & Gas Company to place aids to navigation, but the SCDNR’s program is not intended to absolve the South Carolina Electric & Gas Company of any responsibility it may have to identify or mark hazards.”

The excerpt from FERC’s ruling on the complaint stated,

“Your policy of cooperating with the DNR to identify and mark hazards appears to be an acceptable approach to addressing this concern. We expect you to continue your active participation with the DNR. We remind you, however, that ultimately you are responsible for ensuring that appropriate public safety measures are implemented at your project.

Regarding the issue of low lake levels below 354 msl that affect recreational use of the lake, we expect further evaluation of this issue during your re-licensing process when project operation will be evaluated in a comprehensive manner. Your project license expires on August 31, 2007. Your evaluation of the affects low lake levels have on boating recreational use should include consultation with the appropriate Federal, state and local agencies and other affected parties, such as represented by the various home owners’ association, sports clubs, etc., that are concerned about Lake Murray.”

[Note: The entire suite of letters concerning shoal areas has been attached to these meeting notes. Only the two letters referenced above were provided at the meeting.]

Alan Stuart made copies of the two letters and distributed them to the group. Through some discussion, Tom E. noted that SCE&G relies on SCDNR’s discretion as to where to place markers. Steve B. noted that the group needs to quantify the problem then look for solutions, which might include maintaining higher year round lake levels. Steve B. suggested forming a TWC to discuss hazardous shoal issues. David Price noted that regardless of lake levels, we need to look at how to maintain safety markers, because there will always be shoals. Through some discussion, the group agreed to form a Hazardous Areas TWC. The group’s purpose is to identify unmarked hazards and

**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
SAFETY RESOURCE CONSERVATION GROUP**

**LAKE MURRAY TRAINING CENTER**

**April 18, 2006**

*final dka 05-15-06*

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propose potential solutions for unmarked hazards on Lake Murray. Members of the Hazardous Areas TWC are summarized below.

Norman Nicholson	Larry K.
David Price	Joy Downs
Tommy Boozer	Tom Eppink
Kenneth Fox	Steve Bell
Skeet Mills	Alan Stuart

Dave then focused attention on the Recreation Safety Plan. The group briefly discussed safety issues that will be sent to the FERC. Henry M. recommended using a “straw man” to summarize the Recreational Safety Plan and employ the Identified Issues as an outline.

After lunch, the group concentrated on identifying high use areas for rising water sirens. Dave A. noted that they are currently in the process of developing a map that will identify possible areas for warning devices. Travis C. noted that Columbia Fire is currently working on the Three Rivers Greenway Plan, which will provide emergency access points on the lower Saluda River. Travis presented a map, prepared by Mike Dawson from the River Alliance, illustrating the future emergency access points along the river.

The group then discussed ramping at other FERC projects. Charlene C. provided a list of projects that are related to ramping and briefly discussed each.

Big Fork	Flaming Gorge (BLM)
PIH 345 (PG&E)	Chattahoochee
Summerville	Cheoah

She noted that studies on the use of ramping for safety purposes were not available. She mentioned that it may be helpful to examine historical generation records and reserve calls. Bill A. noted that he will find out in a few weeks if generation records are available. Charlene noted that an ideal ramping scenario for the lower Saluda River would be 1,000 cfs for 45 minutes, 4,000 cfs for another 45 minutes, and then full release. Bill A. noted that SCE&G’s goal in relicensing is to use Saluda to meet contingency reserve requirements, which will mean unannounced high flows at times. Bill A. further noted the Safety RCG should stay focused on the goal of making the river as safe as reasonably possible and should be looking at some kind of warning system for the times when SCE&G has to increase generation to meet system requirements, unless the goal of the other stakeholders in this RCG is the limit our generation capability. Dave A. noted that a recreational release schedule needs to be developed. Henry M. pointed out that the group should begin looking at possible solutions for those times of high flows, such as ramping and/or sirens. Patrick suggested

**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
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**LAKE MURRAY TRAINING CENTER  
April 18, 2006**

*final dka 05-15-06*

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that the group should put together a study examining the rate of change of the river for various flows at various river reaches and an analysis of different flows for various user groups and skill levels that provide the safest conditions. Dave A. noted that Patrick's suggested study will be discussed in the Downstream Flows TWC.

Dave A. reminded the group that the FERC representative would be at the Quarterly Public Meeting on Thursday, April 20th. He noted that everyone should submit any questions to prepare the representative. Dave A. briefly discussed the agenda for the next meeting and noted that he would try to have the lower Saluda River map and historical generation records available. The group agreed to schedule the next Safety RCG meeting once the Quarterly Public Meeting has been scheduled. Dave A. noted that he would set the date through email.

**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
SAFETY RESOURCE CONSERVATION GROUP**

**LAKE MURRAY TRAINING CENTER  
April 18, 2006**

*final dka 05-15-06*

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**Saluda Hydro Relicensing  
Safety Resource Conservation Group**

**Meeting Agenda**

**April 18, 2006**

**9:00 AM**

**Lake Murray Training Center**

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- **9:00 to 9:30** Review Safety RCG Work Plan
  - **9:30 to 10:30** Discussion of Shoal Areas and Responsibility for Marking Shoal Areas
  - **10:30 to 11:30** Discussion of Draft Outline for Safety Plan
  - **11:30 to 12:30** Lunch
  - **12:30 to 1:00** Update on Identifying High Use Areas for Rising Water Sirens
  - **1:00 to 1:30** Discussion of Ramping at Other FERC Projects
  - **1:30 to 1:45** Discussion of Questions for FERC Representative
  - **1:45 to 2:00** Develop an Agenda for Next Meeting and Set Next Meeting Date
- Adjourn



## Safety Resource Conservation Group Work Plan Saluda River Project

<b>Facilitator:</b>			
Dave Anderson	Kleinschmidt Associates	dave.anderson@kleinschmidtusa.com	(205) 981-4547
<b>Members:</b>			
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Alan Axson	Columbia Fire Department	cfdwaxson@columbiasc.net	
Alan Stuart	KA	alan.stuart@kleinschmidtusa.com	
Alison Guth	KA	alison.guth@kleinschmidtusa.com	
Amanda Hill	USFWS	amanda_hill@fws.gov	
Bill Argentieri	SCE&G	bargentieri@scana.com	
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Bill Mathias	LMA/LMPS	bill25@sc.rr.com	
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Steve Bell	Lake Murray Watch	bellsteve9339@bellsouth.net	
Suzanne Rhodes	SC Wildlife Federation	suzrhodes@juno.com	
Tom Eppink	SCANA Services, Inc.	teppink@scana.com	
Tommy Boozer	SCE&G	tboozer@scana.com	

# **Safety Resource Conservation Group Work Plan Saluda River Project**

## **Mission Statement**

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.

## **Identified Issues**

- creation of a public information system and improvement of communications about river flow conditions on the lower Saluda River
- lower lake levels in the winter and their effect on safety
- unannounced river flows

## **RCG Responsibilities**

- Identifying specific areas where lake level fluctuations may be adversely affecting safety at the lake, including the nature and timing of the effect (e.g., shoal areas).
- Working with the Operations Resource Conservation Group to identify “reasonable” (based on hydrologic, structural, and other limitations identified) changes and alternatives for modifying project operations, including operations that affect safety.
- Identifying any studies, if applicable, that need to be performed for identifying and/or evaluating changes to Project operations.
- Presenting a range of reasonable alternatives or recommendations to the Saluda Hydro Relicensing Group (SHRG) regarding modifications to current Project operations.
- Reviewing results from the Downstream Flows Technical Working Committee to make sure they are consistent with the mission statement of the Safety Resource Conservation Group.

## **Work Scope and Product**

- **Task 1** – Review the operational constraints and current operations of the Saluda Project (see Initial Consultation Document).
- **Task 2** – Determine how Project operations affect safety.
- **Task 3** – Review applicable laws governing boating use.
- **Task 4** – Identify safety-related organizations concerned with Lake Murray and/or the lower Saluda River.
- **Task 5** – Invite those safety-related organizations identified in Task 4 to participate in the Safety Resource Conservation Group.
- **Task 6** – Review stakeholder requests for particular studies and/or enhancement measures to ensure that these are incorporated into study planning, if applicable.

## **Safety Resource Conservation Group Work Plan Saluda River Project**

- **Task 7** – Develop and recommend operation scenarios to the Operations RCG for analysis. These scenarios should reflect initial thinking on potential solutions and be designed to narrow the focus of Task 12 below. Analysis by the Operations RCG will focus on an assessment of potential safety impacts associated with any suggested changes to operations.
- **Task 8** – Discuss results of the Operations RCG analyses.
- **Task 9** – Develop study designs/methods/plans and review agreed upon studies, literature reviews, etc.
- **Task 10** – Identify high use areas of the river for inclusion in the rising water warning system.
- **Task 11** – Identify safety concerns that can possibly be resolved outside of the relicensing process.
- **Task 12** – Provide recommendations for Project operations and recreation access, facilities, and use to be considered in conjunction with all ecological and recreational issues.
- **Task 13** – Develop a consensus based Recreational Safety Plan for the Saluda Project that addresses all of the issues and tasks identified above.

### **Schedule**

**Late 2005/Early 2006**—Finalize Mission Statement and Work Plan

**Mid-2006**—Complete identification of studies, literature reviews, etc. that need to be completed to address issues and tasks identified in the Work Plan

**Late 2006**—Begin compilation of existing information, review preliminary study results, and draft an outline of the Recreational Safety Plan

**2007**—Complete any studies identified in Task 9 and review results; draft recommendations to SHRG, complete draft Recreational Safety Plan

**2008**—Finalize Recreational Safety Plan and provide comments on Draft License Application

ORIGINAL

17 Mar 99

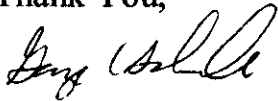
Federal Energy Regulatory Commission  
The Secretary  
Mail Code: DLC, HC-11  
888 1<sup>st</sup> St. NE  
Washington, DC 20426

FILED  
OFFICE OF THE SECRETARY  
99 MAR 22 PM 4:32  
FEDERAL ENERGY  
REGULATORY COMMISSION

To Whom I May Concern,

The attached letter and documents pertain to the Saluda River Hydro Project #516. Please forward this information to Mr. Jack Hannula in the Environmental Compliance Branch.

Thank You,



George C. Schmieler, Jr

\* PHOTO / RIMS

990324.0225.3

FERC DOCKETED

MAR 22 1999





FROM: George C. Schmieler

15 Mar 99

SUBJECT: Safety at Lake Murray

TO: Mr. Jack Hannula

The purpose of this letter is to inform you of safety hazards on Lake Murray, located just outside of Columbia, South Carolina. Every fall the licensee, South Carolina Electric and Gas (SCE&G) substantially lowers the lake level. When the lake is dropped below 354' MSL (six feet below normal pool) there are unmarked obstacles in numerous areas of the lake, creating a safety hazard for visitors and residents. Not only are these obstacles in and around the marinas, but also the coves and in the open water. It is my opinion this safety matter deserves your immediate attention.

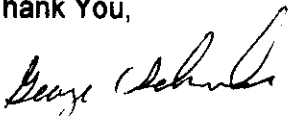
My suggestion is to keep the lake level between 354' MSL and 360' MSL year round ultimately providing a safe environment for all boaters. These lake levels would also increase the fish population, as their breeding habitat would be optimized. Additionally, keeping the lake at safe levels is cost effective. There would be less need for re-surveying and maintenance of several hundred shoal markers.

In the past SCE&G has lowered the lake for two reasons; hydro-electricity and hydrilla control. The hydrilla problem has been corrected and hydro-electricity serves only as a back up to nuclear energy. SCE&G's 1998 record profits required a rebate to customers. Despite this, the lake was once again lowered to 350' MSL. The lake was lowered for shoreline management. According to SCE&G's spokesman Rocky Sease, they planned since last summer to bring the lake down to 350' MSL for shoreline management. It appears SCE&G brought the lake down at the expense of boaters, homeowners and businesses to accommodate the Willow End project for shoreline clearing. This is unsafe; it puts at risk the people who use the lake throughout the year. This also destroys the fish habitat.

As a homeowner and year round boater I would like to know what I can do to ensure SCE&G doesn't recklessly abuse the water levels in Lake Murray. It is my goal to provide a safe environment and a better fish habitat for years to come.

I'm looking forward to hearing from you.

Thank You,



GEORGE C. SCHMIELER, JR.  
484 Smallwood Dr.  
Chapin, SC 29036  
(803) 932-9404



FEDERAL ENERGY REGULATORY COMMISSION

WASHINGTON, D. C. 20426

DOCKETS

Project No. 516-South Carolina  
Saluda Project  
OFFICE OF HYDROPOWER LICENSING South Carolina Electric & Gas Company

Mr. Neville Lorick  
V.P., Fossil/Hydro Operations  
South Carolina Electric & Gas Company  
P.O. Box 764  
Columbia, SC 29218

APR 12 1999

Dear Mr. Lorick:

On March 22, 1999, we received an inquiry about possible submerged safety hazards on Lake Murray due to the low lake level. The inquiry states that when the lake level drops below 354 feet mean sea level (6 feet below full pool and 9 feet above minimum low pool), there are unmarked obstacles in numerous areas of the lake, creating a safety hazard for boaters. The obstacles likely consist of shoals and submerged woody debris which may also provide valuable fish habitat.

So we may address this inquiry about safety concerns raised by submerged obstacles during low water conditions, please file the following information within 30 days from the date of this letter:

- an explanation of your policy regarding identifying and marking potential safety hazards on Lake Murray. Please describe how the hazards are identified and marked and how boaters are warned of the potential hazardous areas on the lake. Please include photos or drawings of markers and signs that you use.
- a description of your criteria for marking submerged obstacles, including the type of obstacles that qualify for marking and minimum depth of the obstacles.
- a description of any additional measure you believe appropriate to ensure that currently unmarked submerged obstacles on the lake are marked, including a schedule for implementing the measures.

File the above information with:

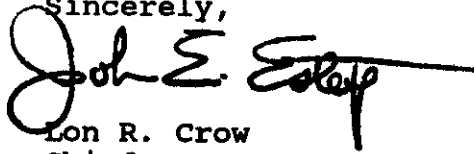
The Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

9904200579-3

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APR 12 1999

Thank you for your time and attention to this request. If you have any questions, please call Jack Hannula at (202) 219-0116.

Sincerely,

A handwritten signature in black ink, appearing to read "Lon R. Crow". The signature is stylized with a large initial "L" and a long horizontal stroke extending to the right.

Lon R. Crow  
Chief

Environmental Compliance Branch

cc: U.S. Fish and Wildlife Service  
P.O. Box 12559  
217 Fort Johnson Road  
Charleston, SC 29442-2559

South Carolina Department of Natural Resources  
P.O. Box 12559  
Charleston, SC 29442-2559

George C. Schmieler, Jr.  
484 Smallwood Drive  
Chapin, SC 29036

Public Files



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99 MAY 17 PM 4: 47

FEDERAL ENERGY  
REGULATORY  
COMMISSION

May 14, 1999

Randolph R. Mahan  
SCANA Legal Department  
(803) 217-9538

Secretary David. P. Boergers  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

Re: Project No. 516 - South Carolina  
Saluda Project  
South Carolina Electric & Gas Company

Dear Secretary Boergers:

On April 16, 1999, South Carolina Electric & Gas Company, Licensee for Project No. 516, received a letter from the Chief of the Environmental Compliance Branch (ECB) of the Office of Hydropower Regulation. In that letter, Licensee was asked to provide certain information relative to safety concerns raised by a resident of the area of Lake Murray, the name by which Project No. 516 is commonly known in the area. Please accept this letter and its contents as Licensee's response to the ECB letter. Licensee apologizes if it is received beyond the requested response date. Licensee believed it best to consult with appropriate personnel prior to responding. Personnel availability was a problem.

The information requests are repeated below. Licensee's responses follow each request.

- **Request.** Provide "an explanation of your [Licensee's] policy regarding identifying and marking potential safety hazards on Lake Murray. Please describe how the hazards are identified and marked and how boaters are warned of the potential hazards areas on the lake. Please include photos or drawings of markers and signs that you use."

SCANA Corporation  
Columbia, South Carolina  
29218

803.217.9000  
www.scana.com

FERC DOCKETED

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**Response.** Licensee's policy is to cooperate with the South Carolina Department of Natural Resources (DNR) in DNR's boating safety program, including its program of identifying and marking underwater hazards. DNR has assumed responsibility for hazards marking throughout the State of South Carolina for all waters of the State. The waters of Lake Murray are waters of the State. Licensee has cooperated with DNR for as many years as it has had a boating-safety program, and anticipates continuing that cooperation. Licensee grants to DNR whatever permissions are necessary for the location of marker buoys, signs, etc on Licensee property as DNR deems necessary. Licensee has provided manpower and equipment supplementation for DNR's efforts from time to time. Licensee either refers citizen inquiries and comments relative to boating safety, including hazards marking, to DNR, or passes such inquiries on directly to DNR. Licensee informs DNR when it finds that buoys are missing or damaged, as do the various local law enforcement agencies who have officers on the lake. While Licensee is informed that DNR will supply information directly to the Commission to supplement Licensee's response, Licensee understands DNR's hazards marking program to include buoys and signs placed where DNR judges them to be necessary. They include shoal markers, markers for other dangerously located underwater obstructions, "no-wake" zone markers, etc.

Inasmuch as Licensee places no markers, it has no "photos or drawings of markers that [Licensee] uses." DNR likely will provide information regarding the buoys and signs it uses. Should the Commission not find such information sufficiently demonstrative, Licensee will provide such further information as the Commission requests. Actually, with regard to Project works and hazards associated with them, i.e. spillways, tailrace areas, intakes, etc, Licensee does place appropriate buoys and signs. However, Licensee perceives the Commission's request not to be intended to address those matters, which are subject to regular review by the Commission's Regional Office.

- **Request.** Provide "a description of your criteria for marking submerged obstacles, including the type of obstacles that qualify for marking and minimum depth of the obstacles."

**Response.** Inasmuch as Licensee does no marking, it has no criteria. It assumes that DNR's expected letter will supply that information. Licensee does point out that its mode of operation of Project No. 516 has remained consistent over the past twenty years. In that regard, the Lake Murray levels generally operate between the levels, measured above mean sea level (msl), of 352' msl and

358' msl. Obviously, system electrical demand, weather and rainfall affect significantly Licensee's operation of the lake and even the ability to control lake levels at all. When Licensee plans to bring the lake level to abnormally low levels, as it has done several times within the past ten years for maintenance and aquatic weed control reasons, it widely publicizes the fact well in advance of such action. In addition, the levels of all major lakes in South Carolina are a standard part of television newscasts in the area. Also, Licensee has instituted a direct, call-in number for members of the public to be able to call in to get current and anticipated lake and tailrace levels on a daily basis.

- **Request.** Provide "a description of any additional measure you believe appropriate to ensure that currently unmarked submerged obstacles on the lake are marked, including a schedule for implementing the measures."

**Response.** Licensee relies upon the expertise of the agency exercising jurisdiction over boating safety matters on state waters. That agency is DNR. Licensee will not presume to insert itself into the decision-making process of that agency. Licensee will continue to supply information it has regarding possible areas deserving of attention, whether that information is generated by it, or supplied by third parties. Licensee will continue to consult and cooperate with DNR on issues relative to boating safety, including the identification and marking of special boating hazard areas.

Licensee urges the Commission to consider the personal responsibility which does and should belong to members of the boating public to practice safe boating, which includes the responsibility to know the waters they are going to recreate upon or to exercise special care. If they do not, the solution is not to attempt to make boating upon waters absolutely foolproof. It is to remedy ignorance or tendencies to foolish behavior through education and training. DNR has a very good program to promote safe boating in South Carolina. Licensee urges the Commission Staff to investigate this by going to DNR's internet web site @ <http://water.dnr.state.sc.us/>. Lake Murray has been in operation since 1932. There has been much more stability in the operation of the lake over the past two decades than during the first four. The predictability of lake levels and matters affected thereby, such as the exposure of navigational hazards, has thus likewise been relatively stable. The marking of those hazards over time reflects that fact. As the need to identify and mark underwater structures increases because of increasing numbers of boaters, especially novice and unsafe boaters, Licensee expects DNR's statewide and uniform program of boating safety to reflect these factors as well. Licensee will cooperate. Licensee will not attempt to duplicate or supplant DNR's program. It believes that to be the wrong thing to do. Licensee has neither the expertise nor the manpower to do so.

Page 4

Secretary David. P. Boergers

May 14, 1999

Licensee trusts that this response, as it will be supplemented by DNR's separate, following submittal satisfies the Commission's inquiry. Licensee stands ready to respond to any further inquiry, and to clarify any matter not made clear by this response.

Very truly yours



Randolph R. Mahan  
Attorney for South Carolina  
Electric & Gas Company

cc Lon R. Chow, Chief, Environmental  
Compliance Branch - FERC  
John E. Estep, Environmental  
Compliance Branch  
U.S. Fish and Wildlife Service  
South Carolina Department of  
Natural Resources  
George C. Schmieler, Jr,  
Brian J. McManus, Esq.  
N.O. Lorick  
G. Soult  
K. Massey  
T.C. Boozer



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OFFICE OF THE SECRETARY  
99 JUN 29 PM 2:48  
FEDERAL ENERGY  
REGULATORY COMMISSION

Mr. Jack Hannula  
Federal Energy Regulatory Commission  
Mail Code DLC, HC-11  
888 First Street, N. E.  
Washington, D.C. 20426

Re: **Saluda River Hydro Project 516-308**  
**Lake Murray, SC**

Dear Mr. Hannula:


This letter is in reference to an article that appeared on the front page of "The STATE" newspaper (SCE&G Asked to Explain Lake Safety Practices) on April 24<sup>th</sup>, 1999. It discusses Lake Murray resident, George Schmieler's, complaint to the Federal Energy Regulatory Commission about safety hazards due to water levels below 354' msl. The tone of Mr. Schmieler's letter, we believe, is representative of the many frustrated lake users who have similar concerns and have seen nothing done about it.

We support Mr. Schmieler's concern about safety, and his suggestion that lake levels should not drop below 354' msl. during winter draw downs. Sgt. Lee Mills, the DNR officer responsible for buoy placement on Lake Murray recently commented on Mr. Schmieler's concern, stating that it would be impractical, if not impossible to mark the hundreds of hazardous areas on Lake Murray which occur when water levels drop below 354' msl. He added that boaters should use extreme caution during those times.

Latest figures from DNR indicate that there are in excess of 40,000 registered boats in the four counties bordering Lake Murray. Many of these boaters are not aware of the hundreds of unmarked hazards which occur when lake levels drop. Lake Murray increasingly host major bass tournaments, with many participants unfamiliar with these unmarked hazards below the 354 msl level. Each winter countless boats and motors are damaged by these hidden obstacles. It is just a matter of time before someone gets seriously injured or killed and we believe this situation needs immediate attention.

Chris Petersen, the manager of Lakeside Marina, made these comments concerning low lake levels. "I consider Lake Murray an April to October lake. During the other months, people are simply afraid to go out there for fear of damaging their boats or injuring themselves. If winter draw downs were kept to a minimum of 354' msl, this lake would be a year round attraction for boaters, providing an economic boost to lake businesses, which normally suffer due to low levels."

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JUN 29 1999

Considering the effects (of establishing a winter minimum of 354' msl ) on hydro operations, it appears to us that this would actually increase the efficiency of production. Higher levels carried over into January should allow inflows to be used for production of electricity rather than bringing water levels back up. Since January and February are our coldest months, production of electricity then would be much more efficient than production during the fall when the weather is mild, system loads are down, and electricity can be bought on the grid very cheaply. Also, records indicate that during the Fall, an abundance of rainfall in the Saluda watershed above Lake Murray, results in sufficient inflows to allow SCE&G to take care of scheduled maintenance and normal load following. Lake Greenwood above Lake Murray is also on the Saluda River in the same watershed as Lake Murray. Duke Power Company operates it for hydro-electric production, but Lake Greenwood only fluctuates about four feet per year. Duke power has similar requirements for maintenance and flood control that SCE&G, but manages to accommodate them with significantly less variance in water levels.

Considering the effects on the fisheries, Gene Hayes, DNR's fish biologist for Lake Murray stated that establishing a minimum winter draw down of 354' msl would not negatively impact Lake Murray's fisheries. His major concerns are when and at what rate lake levels come up prior to spawning. This past December, lake levels went down to 350'. Because of dry conditions in the first four months of the year, lake levels did not come up enough for the water to rise into the shallow vegetative areas where fish spawn. This would not have happened if lake levels had stayed at a minimum of 354' msl. Mr. Hayes also agrees that higher water levels would bring more fishermen out on the lake.

According to DNR, the hydrilla problem is under control, but establishing a minimum draw down of 354' could negatively affect this situation. A draw down every three or four years may be needed to control growth around the shoreline. DNR states that they would have to study the matter.

Lake Murray has approximately 12,000 water front homeowners. These lake residents make up the majority of recreation users. As water levels recede during the fall and winter, residents begin to cease using the lake because of safety concerns and concerns that sudden drops will leave their boats high and dry. In December of 1998, an aerial survey was done by a member of this group. With levels at 351 msl, the overwhelming majority of home owners could not use their boats or even fish off their docks. Establishing a minimum winter level at 354' would eliminate these problems, resulting in a safe year round, recreational lake.

One additional area that must be addressed is the so-called "lowering of the pond to give room for winter and spring rains". A quick look at inflows indicates that going into the new year with levels at 354' msl would not create a situation which would necessitate spilling of water through the flood gates. In fact, SCE&G routinely brings water levels back up to 354'+ msl in January.

We believe that SCE&G as licensee of the Saluda River Project has the ultimate responsibility to provide a safe year round lake for the public to use. All of these concerns have been brought to the attention of SCE&G by the Lake Murray Association many times during the past five years. A survey taken by LMA indicated that an overwhelming majority of its 1400 + members agreed on "higher levels longer" and that a minimum winter level at 354' msl is needed to ensure a more safe and active recreational facility.

Saluda Hydro Project 516 is a multi-purpose project. Hydro electric production is important, but also recreational values are of equal importance if not more important considering the economic impact recreation on the lake has on the midlands of South Carolina. The Electric Consumers Protection Act states that **FERC must give the same level of consideration to the environment, recreation, fish and wildlife, and other non-power values that it gives to power and development objectives in making a licensing decision.**

South Carolina Electric and Gas in their response to Mr. Schmeiler's concerns, stated that its mode of operation has remained consistent over the past twenty years, and that lake levels on the average fluctuate between 352' and 358' msl. Also, system electrical demand, weather, and rainfall affect significantly their operation of the lake and their ability to control lake levels.

The above simplified explanation of how the Licensee operates the hydro-electric facility in relation to lake levels has no practical use in trying to resolve this serious matter. SCE&G should provide factual information and records to the Commission and thus to the public so we can come to our own conclusion. A solution to a problem cannot occur unless factual information is available for everyone to examine.

This issue before us is not whether the Department of Natural Resources can identify and mark hazardous areas which occur at water levels below 354' msl, but whether the Licensee can modify its "rule curve" thus keeping water levels higher and making Lake Murray a safer and more active recreational facility.

Therefore, we respectfully request that the Commission require SCE&G to justify their current operational policies by providing accurate information to the public, and if this information establishes that the Licensee can operate at higher minimum levels without adverse affects on power production, we request that the Commission order them to do so..

Sincerely,

Steve Bell  
President - Lake Watch on 516  
2116 Kennedy St.  
Columbia, SC 29205  
803-254-0955

ORIGINAL

# South Carolina Department of Natural Resources



Paul A. Sandifer, Ph.D.  
Director  
**Office of Chief Counsel**  
Buford S. Mabry, Jr.  
Paul S. League  
Ester F. Haymond  
James A. Quinn\*  
Charleston Office

July 6, 1999

Secretary David P. Boergers  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, SC 20426

Re: Project No. 516 - South Carolina  
Lake Murray

FILED  
OFFICE OF THE SECRETARY  
99 JUL - 8 PM 2:19  
FEDERAL ENERGY  
REGULATORY  
COMMISSION

Dear Secretary Boergers:

This letter follows up the May 14, 1999 letter to you from Randolph R. Mahan, attorney for South Carolina Electric & Gas Company. Mr. Mahan's letter was in response to a request for information from the FERC in connection with safety concerns at Lake Murray (Project No. 516). Mr. Mahan's letter indicated that the South Carolina Department of Natural Resources (hereinafter SCDNR), would provide some follow up comments on his letter. Therefore, this letter will provide general comments on the program undertaken by the SCDNR to install certain aids to navigation on Lake Murray.

The SCDNR does administer a program to place and maintain various aids to navigation on a number of water bodies in South Carolina. This program is authorized under South Carolina statutory law; however, the undertaking of the program is entirely discretionary with the agency. This program is merely one component of a larger water safety program authorized in Chapter 21 of Title 50, Code of Laws of South Carolina, 1976, as amended. Chapter 21 deals generally with the topic of equipment and operation of watercraft. For example, § 50-21-90 states, "The department is hereby authorized to inaugurate a comprehensive boating safety and boating educational program, and to seek the cooperation of boatmen, the federal government and other states."

Only one section in Chapter 21 addressees the topic of marking potential hazards to navigation. Section 50-21-710 provides in part:

**FERC DOCKETED**

JUL - 8 1999

Post Office Box 167 • Columbia, S.C. 29202 • 803-734-4006 • Fax 803-734-6310  
\* Post Office Box 12559 • Charleston, S.C. 29422 • 803-762-5061 • Fax 803-762-5412

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(2) The department may make rules for the uniform marking of the water areas in this State through the placement of aids to navigation and regulatory markers. Such rules shall establish a marking system compatible with the system of aids to navigation prescribed by the United States Coast Guard.

The statute just quoted provides authority for the SCDNR to regulate placement of markers in aid of navigation. However, in delegating this authority the General Assembly made implementation of the program discretionary rather than mandatory. As a discretionary program, the SCDNR is under no obligation to place aids to navigation in any water body in South Carolina.

Pursuant to the authority in § 50-21-710, the SCDNR has promulgated a regulation to establish a uniform marking system. This regulation states:

#### 123-19.32. State Waterways Uniform Marking System

Pursuant to Section 50-21-710 which requires that a uniform marking system of state waterways be compatible with the system prescribed by the United States Coast Guard for the marking of state waters; and the United States Coast Guard having promulgated the system known as the Uniform State Waterway Marking System for the marking of State waterways (33CFR66); and, the State being the recipient of Federal Boating Funds under a program requiring the marking of state waters with aids to navigation, a federal grant program of the type described in Section 1-23-120, Code of Laws of South Carolina (1976) as amended.

The Uniform State Waterway Marking System, as described in 33CFR66, is adopted to be the system used to mark the waters of this State in compliance with Section 50-21-710.

Additionally, the SCDNR has promulgated a number of regulations, whereby it restricts the operation of water craft in specified ways. In some instances, these regulations require identifying the restricted areas. These regulations are not requirements for the marking of navigational hazards. See, for example, R.123-19.15, relating to South Carolina Electric & Gas Company Public Park No. 3.

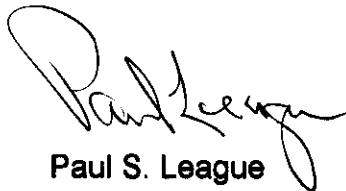
Congress has delegated authority for a program of navigational aids to the United States Coast Guard. The Coast Guard in turn has entered into a "Statement of Understanding" with the SCDNR, whereby the SCDNR is permitted to regulate private aids to navigation on Lake Murray. The "Statement" in no way requires the SCDNR to place any navigational aids on the lake to mark boating hazards.

The SCDNR has exercised its discretionary authority and has placed a number of aids to navigation in various waters, including Lake Murray. Reasonable effort is made to maintain those markers in a safe and appropriate manner. The SCDNR is not obligated to continue the program for any particular period of time and is not obligated to mark every hazard to navigation. The SCDNR works with the South Carolina Electric & Gas Company to mark potential boating hazards; however, the program is limited by certain factors, including manpower availability and funding. The program does not receive any appropriations from the South Carolina General Assembly. The SCDNR does receive some financial assistance from the federal government, but it is on a year-to-year basis with no guarantee of future availability.

Generally, the SCDNR attempts to work with the utility to mark some hazards to navigation at normal or nearly full pool levels. The size of Lake Murray and the extent of periodic draw downs makes the marking of all hazards at all lake levels beyond the capability of the SCDNR's program. The SCDNR will continue to cooperate with the South Carolina Electric & Gas Company to place aids to navigation, but the SCDNR's program is not intended to absolve the South Carolina Electric & Gas Company of any responsibility it may have to identify or mark hazards.

I hope this information will be useful to you. Please contact me if you require any additional information.

Sincerely,



Paul S. League  
Assistant Chief Counsel

COPY: Major Alvin Taylor  
Gerrit Jobsis  
Ed Duncan  
Randy Mahan

FEDERAL ENERGY REGULATORY COMMISSION

WASHINGTON, D. C. 20426

OFFICE OF HYDROPOWER LICENSING

Project No. 516-308--South Carolina  
Saluda Project  
South Carolina Electric & Gas Company

AUG 31 1999

Mr. Neville Lorick  
V.P., Fossil/Hydro Operations  
South Carolina Electric & Gas Company  
P.O. Box 764  
Columbia, SC 29218

Dear Mr. Lorick:

On April 12, 1999, we notified you of an inquiry about possible submerged safety hazards on Lake Murray due to low lake levels. The inquiry stated when the lake level drops below 354 feet mean sea level (6 feet below full pool and 9 feet above minimum low pool), there are unmarked obstacles in numerous areas of the lake, creating a safety hazard for boaters. The obstacles consist of shoals and submerged debris which may also provide valuable fish habitat.

In our letter, we requested information about your hazard marking policy, description of marking criteria and any measures you could take to improve lake safety. In a report filed May 17, 1999, you responded to our request for information.

Regarding your hazard marking policy, you state you cooperate with the South Carolina Department of Natural Resources (DNR) which has assumed responsibility for hazards marking on all waters in the state of South Carolina. You grant permission to the DNR to promote boating safety, including installing signs and warning buoys and marking hazards, and you assist the DNR by providing manpower and equipment from time to time.

The criteria for marking hazards (i.e., minimum depth, etc.) is also determined by the DNR. You state that over the years, the lake level has operated between 352 feet mean sea level (msl) and 358 feet. You occasionally bring the lake to abnormally low levels (several times in the past ten years) for maintenance and aquatic weed control, and you publicize this event well in advance. Lake levels are televised in the region and you also have a direct call-in number for the public to obtain lake and tailrace levels on a daily basis.

~~FERC DOCKETED~~

AUG 31 1999

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Concerning any additional measures you may take to ensure that any unmarked hazards are marked, you state you rely on the DNR's expertise. However, you provide information to, and continue to consult with, the DNR in issues of boating safety and hazards marking. You also state the public has a personal responsibility to practice safe boating by being knowledgeable of lake conditions. You rely on the DNR which offers boating safety programs to educate the public on personal responsibilities in boating safety.

In addition to the initial inquiry letter regarding lake levels and boating hazards, we received further comments from "Lake Watch on 516" (Lake Watch), an homeowners association located on Lake Murray. Lake Watch, in a letter filed June 16, 1999, stated that, although unmarked hazards are a problem on the lake, the real issue is low lake levels below 354 msl which allows the exposure of hazards. Lake Watch believes the lake can be operated efficiently and profitably at higher levels. Lake Watch recommends modification of your license "rule curve" to keep lake levels higher. This would make Lake Murray safer and extend the recreational use season.

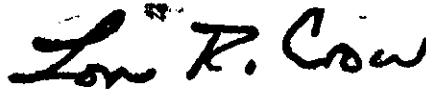
The DNR, in a letter filed July 8, 1999, confirmed that it does assist in placing navigation aids and markers in Lake Murray. However, the DNR states the size of Lake Murray and the extent of periodic draw downs makes the marking of all hazards at all lake levels beyond the capability of the DNR's program. The DNR will continue to cooperate with you to place aids to navigation, but the DNR's program is not intended to absolve you of any responsibility you may have to identify or mark hazards.

Your policy of cooperating with the DNR to identify and mark hazards appears to be an acceptable approach to addressing this concern. We expect you to continue your active participation with the DNR. We remind you, however, that ultimately you are responsible for ensuring that appropriate public safety measures are implemented at your project.

Regarding the issue of low lake levels below 354 msl that affect recreational use of the lake, we expect further evaluation of this issue during your re-licensing process when project operation will be evaluated in a comprehensive manner. Your project license expires on August 31, 2007. Your evaluation of the affects low lake levels have on boating recreational use should include consultation with the appropriate Federal, state and local agencies and other affected parties, such as represented by the various home owners' association, sports clubs, etc., that are concerned about Lake Murray.

Thank you for your time and attention to this matter. If you have any questions, please call Jack Hannula at (202) 219-0116.

Sincerely,



Lon R. Crow  
Chief  
Environmental Compliance Branch

cc: Cristina L. Massey, PE  
SCE & G Technical Services  
111 Research Drive  
Columbia, SC 29203

U.S. Fish and Wildlife Service  
P.O. Box 12559  
217 Fort Johnson Road  
Charleston, SC 29442-2559  
ATTN: Steve Gilbert

South Carolina Department  
of Natural Resources  
P.O. Box 12559  
Charleston, SC 29442-2559  
ATTN: Gerrit Jobsis

George C. Schmieler, Jr.  
484 Smallwood Drive  
Chapin, SC 29036

Steve Bell  
President, Lake Watch on 516  
2116 Kennedy Street  
Columbia, SC 29205

Dan Wojoski, President  
Hawley Creek Homeowners Association  
P.O. Box 876  
Chapin, SC 29036

Robert E. Keener  
Lake Murray Southside  
Community Association  
117 Beulah Church Road  
Gilbert, SC 29054

**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
OPERATIONS & SAFETY RESOURCE CONSERVATION GROUPS COMBINED MEETING**

**Saluda Shoals Park  
April 6, 2006**

5-26-06 final acg

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**ATTENDEES:**

Alan Stuart, Kleinschmidt Associates	Ray Ammarell, SCE&G
Alison Guth, Kleinschmidt Associates	Steve Bell, Lake Watch
Bill Argentieri, SCE&G	Theresa Thom, Congaree National Park
Bret Hoffman, Kleinschmidt Associates	Carvitas Fant, USC
Bud Badr, DNR	Charlene Coleman, American Whitewater
Feleke Arega, DNR	Lee Barber, LMA
Dave Landis, Lake Murray Association	Kenneth Fox, LMA
Karen Kustafik, Columbia Parks and Rec	Ed Schnepel, LMA
Kristina Massey, Kleinschmidt Associates	Jennifer O'Rourke, SC Wildlife Federation
Malcolm Leaphart, Trout Unlimited	Tony Bebbler, SCPRT
Bill Marshall, DNR, LSSRAC	Suzanne Rhodes, SC Wildlife Federation
Gerrit Jobsis, American Rivers	Bill Mathias, LMA, LM Power Squadron
George Duke, LM Homeowners Coalition	Bill Cutler, Lake Watch, LM Homeowners Coalition
Guy Jones, River Runner	
Michael Waddell, TU	
Patrick Moore, SCCCL, Am. Rivers	
Randy Mahan, SCANA Services	

DATE: April 6, 2006

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**HOMEWORK ITEMS:**

Alan Stuart – to research data on fatalities in the Lower Saluda River

*These notes serve as a summary of the major points presented during the meeting and are not intended to be a transcript or analysis of the meeting.*

**DISCUSSION**

Alan Stuart opened the meeting and the group proceeded through introductions. Alan explained that this meeting was organized at the request of several stakeholders. Steve Bell explained that Lake Watch felt that more information was needed as it applies to Saluda and its uses.

## **MEETING NOTES**

### **SOUTH CAROLINA ELECTRIC & GAS COMPANY SALUDA HYDRO PROJECT RELICENSING OPERATIONS & SAFETY RESOURCE CONSERVATION GROUPS COMBINED MEETING**

**Saluda Shoals Park  
April 6, 2006**

*5-26-06 final acg*

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Alan explained that SCE&G was in the process of developing a presentation on alternative energy sources. Bill Argentieri further explained that they hope to have a presentation ready in June or July that addresses the issues associated with alternative energy sources, energy sources that could replace Saluda, the permitting issues related to replacement energy sources, as well as their environmental impacts. Bill continued to explain that there would also be a dollar analysis that would address capital costs, fuel costs and O&M costs.

Gerrit Jobsis explained that he believed that although it was important to look at reserve, he was concerned with how the Saluda Project operates as it relates to compliance with water quality standards, minimum flow requirements, ESA standards, and recreation and safety needs. He noted that he believed that overall project operations need to be evaluated. Bill Argentieri replied that those issues would be addressed in an upgrade study. He noted that they were looking at runner improvements that would improve the water quality.

Bill Argentieri began to explain how Saluda was used for reserve. He noted that SCE&G started using Saluda to meet reserve requirements in the late 1990's. He noted that this was mainly due to requirement changes of VACAR. Bill informed the group that according to SCE&G's records, SCE&G was called on for reserve capacity by neighboring utilities 22 times since 1998. Bill further clarified that the records did not specify whether it was Saluda that was used to meet the reserve or if another plant was used. It also did not specify how many times Saluda was used for internal reserve needs. It was noted that in the past year SCE&G has been putting out a weekly report that specifies more information on how Saluda is used due in part to a settlement agreement with American Rivers and the South Carolina Coastal Conservation League (SCCCL). Bill explained that it was SCE&G's goal in relicensing to maintain the flexibility to use Saluda for reserve.

Steve Bell and Patrick Moore requested to form a technical committee (TWC) to explore the uses of Saluda. Patrick suggested acquiring USGS data in order to link it to Saluda operations. Charlene Coleman noted that weather patterns may also be needed when evaluating the use of Saluda. Theresa Thom pointed out that it would be difficult to link flow data to operations at Saluda until recently as the reports have been put out in the past year.

Bill Cutler recommended the development of a statistical model that would predict the future use of Saluda by looking at past uses at Saluda as well as other facilities. Randy noted that the group could look at the historical data but it would be difficult to predict the unpredictable need for reserve. Gerrit Jobsis added that he did not believe the information was available at this point to develop a model.

**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
OPERATIONS & SAFETY RESOURCE CONSERVATION GROUPS COMBINED MEETING**

**Saluda Shoals Park  
April 6, 2006**

*5-26-06 final acg*

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Ray Ammarell explained to the group what information was issued in the weekly generation reports. He noted that dispatch provides any explanations for why Saluda is used and distinguishes if it is used for reserve.

The group briefly reviewed the goal of the proposed TWC. Gerrit noted that he believed the goal of the TWC would be to evaluate operational flexibility at Saluda and understand how it affects other interests. Gerrit further noted that once information is collected on the operations, the group could work towards an agreement on how they would move forward with operations. Steve Bell also added that it was Lake Watch's goal to obtain the operational flexibility information in a physical report form. The group concluded that the new TWC would serve to accomplish the following two goals:

- To better understand Saluda operations
- To review existing operations data
- To develop a process for using input from other RCG's to develop alternatives for operation.

Charlene Colman suggested that the committee start by obtaining the operations information from the past year. She explained that all the weather events and circumstances were still fresh in everyone's memories, and the occurrence of Katrina would show what would happen under an extreme event. Randy noted that that was agreeable to SCE&G as well.

Alan then asked the group who was interested in being a member of the TWC. The following people volunteered:

Mike Waddell  
Steve Bell  
Bill Cutler  
Jennifer O'Rourke  
Theresa Thom  
Karen Kustafik  
Patrick Moore  
Bill Marshall  
Bill Argentieri

The group then began to discuss safety on the river and the group collectively brainstormed ideas for the collection of information on this topic. Alan suggested developing a questionnaire that Trout Unlimited could distribute among its members. Tony Bebbler pointed out that the recreation committee would be performing onsite studies, he noted that a few safety questions could be

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incorporated as a component of the questionnaire such as “how the individual perceived the water level that day in terms of safe recreation”.

Charlene Colman addressed the issue of safety on the lower Saluda River and noted that even if flow changes are implemented, the limiting factor will still be the responsibility of the public. She explained that people using the river, in majority, do not heed any warning, even personal. Randy Mahan mentioned that he would be in support of legislation that requires individuals who recreate below the hydro to wear a personal floatation device. The group agreed. Gerrit Jobsis added that warnings and operations can be improved and modified to limit unsafe conditions on the river.

Charlene then distributed information to the group addressing flows and recreation (attached below). She explained that the information was approximations made from 14 years of research. She noted that she worked with Bill Marshall and the SCE&G dispatchers to develop the information. Charlene agreed that the most helpful thing in regards to safety is to implement legislation that requires safety vests. She also noted that on May 13<sup>th</sup> there would be a 10,000 cfs recreation release if an individual wanted to see the effects of this.

Patrick Moore noted that he would be interested in obtaining information on fatalities on the lower Saluda River, he noted that he would be interested to find out if operations was effecting that. Alan Stuart noted that they would look into obtaining that information and that Alan Axson with the Columbia Fire and Rescue may have that information.

In closing Alan noted that the Technical Working Committee would meet directly after in order to quantify what information was needed and proceed with the next steps in data acquisition.

On a different note, Alan noted that Jim Landreth had asked him to note that if any members felt that their questions were not being answered in the group setting that Jim would be happy to talk with them personally.

The group adjourned.

**MEETING NOTES**

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5-26-06 final acg

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Just for info for tomorrow

Flows--safety

250-1000 CFS is wade able but never recommended in rescue venues.

1,000-3,500 CFS an average swimmer stands a chance to get to the bank.

1,000-4,000 Rescue is not a great risk level for the Fire Dept.. Strong swimmers would struggle and most likely swim at least 1/8 of a mile to get to land from the middle of the river.

4,500 + for every 1,000 CFS increment the danger level is increased greatly

12,000 –18,000+ a Raft could get to you, but only by experienced raft paddlers. The Fire Dept Zodiac can't do Mill Race without serious risk and would most likely flip.

Hyperthermia is loss of body heat during a long swim and the Saluda is 50 degrees year round.

It takes the water 2 hours from the tail race to the Zoo. It takes approx 20 mins for water at the warning Float (trigger) for the siren to make it to the zoo.

Flows—Rec—these are approximates but close.

250- 1000 wade fishing is possible.

250-2,000 approx –novice boaters/floaters

2,000+---4,000 intermediate level Boaters.

4,500- 6,000—experienced boaters w/ river knowledge

250—8,000 bank fishing relatively safe

10,000 –release for Canoeing for Kids Fund raiser on the Day before Mother's day

10,000—16,000 Rafting is possible with a guide.

16,000---18,000---rafting is only for the experienced guide on big water rivers.

250—18,000 experienced advanced canoeist and kayakers

8,000—16,000 Bank fishermen are at risk for slipping in the river.

16,000—18,000 nice viewing of skilled boaters at Mill Race.

**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
SAFETY RESOURCE GROUP**

**LAKE MURRAY TRAINING CENTER  
February 14, 2006**

*final dka 03-17-06*

**ATTENDEES:**

<b>Name</b>	<b>Organization</b>	<b>Name</b>	<b>Organization</b>
Bill Argentieri	SCE&G	Dave Anderson	Kleinschmidt Associates
Alan Stuart	Kleinschmidt Associates	George Duke	LMHOC
Tom Eppink	SCANA	David Price	LMPS
Alison Guth	Kleinschmidt Associates	Randy Mahan	SCANA
Ed Schnepel	LMA	Alan Axson	Columbia Fire Dept.
Kenneth Fox	LMA	Bill Marshall	SCDNR/LSSRAC
Bill Mathias	LMA & LMPS	Karen Kustafik	CoC P&R
Ken Uschelbec	USCG Auxiliary	Lee Barber	LMA
Norm Nicholson	LCSD	Steve Bell	Lake Watch
Bret Hoffman	Kleinschmidt Associates	Mike Waddell	TU

**HOMEWORK ITEMS:**

- Steve Bell – identify specific potential hazardous shoals below 354' msl
- Dave Anderson – continue to try to contact area hospitals
- Dave Anderson – better boating accident data from SCDNR
- Patrick Moore – identify safety plans at other FERC projects
- Charlene Coleman – list FERC projects where ramping is a requirement for safety reasons
- Tom Eppink – review DNR authority concerning shoal markers on Lake Murray
- Alan Axson – review accident data for incidents at Candy Lane
- All – Identify high use areas on maps for possible improvement to warning system

**PARKING LOT ITEMS:**

- Equipment regulations for the LSR
- Discussion of shoal markers and lake levels

**DATE OF NEXT MEETING:**

**April 18, 2006 at 9:00 a.m.  
Located at the Lake Murray Training Center**



**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
SAFETY RESOURCE GROUP**

**LAKE MURRAY TRAINING CENTER  
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*final dka 03-17-06*

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**MEETING NOTES:**

*These notes serve to be a summary of the major points presented during the meeting and are not intended to be a transcript or analysis of the meeting.*

Dave opened the meeting by reviewing the meeting notes from January 10<sup>th</sup>, particularly the comments received from Bill M. concerning group decisions on priority safety issues. Randy M. disagreed with Bill M.'s wording on the priority items determined at the January meeting; Randy acknowledged the concerns, but suggested that meeting notes should accurately reflect what occurred in the meeting. Bill M. agreed and noted that his comments were a reflection of concerns expressed at the January meeting but did not reflect decisions made by the group to define priorities. The group decided on some alternate wording for the meeting notes and Dave agreed to redistribute the January 10<sup>th</sup> meeting notes before finalizing them.

Steve B. asked about written comments submitted after the meeting and if they could be appended to the meeting notes. Dave noted that Charlene and Malcolm L. had also submitted written comments, and asked if the group had received copies of those comments. The group decided that attaching the submitted comments to the meeting notes is acceptable as long as they remain separate from the events that occurred during the meeting.

Steve B. noted operation of the project is a priority issue of this group. Dave noted that this group would not be proposing any operating plans for the Saluda project but would consider any operational changes recommended by the Operations RCG and consider the safety aspects of their recommendation. Dave further noted that it was beyond the means of the group to determine the safest operational plan. Steve B. remarked that he believed we need to determine how project operations affect safety and then quantify those impacts and determine how project operations need to be modified. Dave agreed and commented that we would begin that process today.

The group then reviewed the homework items from the previous meeting. Dave noted that he called both area hospitals but has not been able to speak to anyone. Norm noted that he had been told that SeaTow would be in attendance.

Tom E. presented his homework assignment on boating laws in the state of South Carolina. Tom observed that there is one state statute that covers boating and that counties can make ordinances that are identical to the state statute, but could not find any examples where this had been done. Counties can also pass ordinances not specifically aimed at boating but affecting it, for example, noise ordinances that may affect boating in certain areas. Tom also went over some of the laws related to enforcement and observed that any state law enforcement office may enforce boating regulations. Norm noted that any Class One officer could put a blue light on a boat and be official.

**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
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Mike W. asked if they could board a documented vessel; Norm replied that documented vessels had to pull over when asked. Someone asked why there is only one sheriff's department patrolling the lake; the answer given dealt with avoiding duplicate efforts. Norm commented that it was also because of budget constraints and the perception that Lexington County contained the majority of the lake.

Tom continued his presentation and moved into boating safety and educational programs and towing laws. Bill Mathias noted that 107 percent is added to fines for court fees. Lee B. noted that changing any of these laws is very difficult in South Carolina because the legislature believes the laws are adequate. Steve B. asked if we could make better laws through the relicensing process. Tom E. replied that this might be something to do after the relicensing process, but is probably not necessary for the license application. Tom further commented that FERC has no authority over water; Charlene observed that the TVA is the only entity she can think of that has authority over water and they are not governed by FERC.

Mike W. asked how no wake zones are established. Norm replied that the SCDNR was the only one that could do that. The group then began to talk about reckless operation of water devices and went over some examples. Dave asked how it was possible for violators to lose the privilege of boating when there are no laws about boating licenses. Norm noted that they are entered into a database, which will flag them if they are pulled over and their name is taken. Tom continued going over boating under the influence laws and the mechanism for punishment for these crimes.

Tom went on and defined Reckless Homicide by Operation of a Boat, which can be charged if a person dies within three years due to injuries caused by the operation of a boat in a reckless disregard of the safety of others. Lee B. noted it is interesting the offender did not lose their license. Tom further explained laws concerning operation of a boat while a license suspended and the duties of boat livery, which covers rentals of boats. Tom discussed the laws concerning swimming near a public boat landing or in the vicinity of a hydro generation plant and the laws governing no-wake zones. Alan S. commented that if FERC wanted to establish a 100 foot no swimming zone around a public boat ramp, they could not because it is a state law.

Tom continued and talked about the "good Samaritan" clause and the relationship between state and federal regulations. Tom observed that state laws incorporate U.S. Coast Guard regulations.

Norm began to discuss some of the authority he has concerning trespassing and noted that he could use maritime law if needed. Lee noted that an inspection of the Southern Patriot about 10 years ago resulted in a requirement for ballast so that the boat would be evenly weighted. Tom continued his presentation and talked about the placing of aid and regulatory markers, towing water skiers, windsurfers, and personal watercraft. Tom also discussed the fact that DNR has set out further

**MEETING NOTES**

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boating requirements beyond the state statutes. The group then briefly noted that we can continue to discuss these laws and that, in the past, these laws have only been changed as a result of an incident.

The group then began looking at the accident data collected as part of the homework assignments. Dave presented the boating accident data on Lake Murray, data provided by the SCDNR, and noted his surprise that better data were not available on boating accidents (data presented are attached). The group agreed that further homework needs to be done to see if better data can be collected. Norm remarked his department is required to collect GPS coordinates of accidents and he believed the SCDNR had the same thing. Bill Marshall said the DNR probably had more information in the paperwork.

The group then discussed some information it would be nice to have in order to analyze effects of project operations on safety. Norm believed that most problems were at the swimming beaches and the rocks inside this area. George wondered if there was a difference in reported accidents between daytime and night. Dave agreed to further question the SCDNR to see if the group could get some better information from them. The group then looked at the accident report generated by Bill A. (attached) and Bill A. noted none of the incidents on his report were wearing a PFD. Only one incident on his list was classified as project-related according to FERC's definition. Randy M. commented that the group does not need to get caught up in project versus non-project related accidents.

Dave reported that Patrick M. (not in attendance) was not able to locate any "safety plans" at other FERC projects. Patrick had contacted some other sources of information to see if he can find an example of a safety plan. Patrick is continuing his search. Charlene reported that Duke and Carolina Power have ramping for project safety and wanted to know if this is what the group wanted to locate. Charlene agreed to list other FERC projects that have specific ramping procedures for downstream safety. Steve B. inquired whether there are any FERC regulations or standard license articles that require licensee's to operate safely. Bret H. identified the Part 12 inspections related to dam safety. Randy clarified that it states that FERC has the authority to specify flows and such for power production. Steve B. remarked that one of his concerns is that there are safety issues when the lake level drops in the winter. Steve B. brought up some letters where he believes FERC stated the licensee is responsible for safety at the project.

Dave A. noted that FERC is going to be interested in specific areas on the lake where project operations make it unsafe. There was a discussion on responsibility for marking shoal areas in the lake.. Steve B. noted that an individual with SCDNR told him it was SCE&G's responsibility. Norm disagreed and commented that only the SCDNR has the authority to put out buoys. The group decided to look at the issue further and to attempt to get someone from SCDNR law

**MEETING NOTES**

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enforcement to attend the next meeting. There are several letters of interest to the discussion that will be examined. Bill A. noted that according to the data he collected, there are fewer accidents when the lake is down. David P. remarked that this was because many of the amateurs stayed away during this time. Steve B. noted that the reason the shoal markers do not work is the drawdown. George D. made the point that if SCDNR felt it was necessary to mark shoal areas at high water, then that same logic should apply to low water also. Lee B. remarked that we need to find out if this a safety issue and see if there is evidence that lake levels have any effect on safety.

After some further discussion on the shoal marker issue, the group agreed to put the issue into the parking lot so that Steve B. can gather some additional information. It should be noted that Randy M. identified the partnership between SCE&G and SCDNR for placing navigational aids on Lake Murray and other reservoirs. Steve B. agreed to talk to his constituents and identify shoal areas that are unsafe due to the lake going below the 354' msl mark.

Alan A. then reviewed the data he collected from the 911 database maintained by the Columbia Fire Department (attached). The CFD uses a specific address (500 Wildlife Drive) to record calls from the Riverbanks Zoo area. Alan queried the database for incidents at this address from 2000 until February 2006. The data are attached to these meeting notes.

The group then discussed other possible sources of information for accidents on Lake Murray and/or the LSR. American Whitewater maintains an accident database, which Charlene described in some detail.

After lunch, Bret H. presented information on the rising water warning system that SCE&G has installed on the LSR. There are two sirens: one at Mett's Landing across from Saluda Shoals Park and another just upstream of the Riverbanks Zoo. SCE&G had these sirens tested in 2004 to calibrate the loudness of the sirens. Bret noted that the system was designed to cover an area 1500 ft. upstream and downstream of the siren at the Zoo and 500 ft. upstream and downstream of the siren at Mett's Landing. There was some discussion about testing station #4 associated with the Zoo siren. No sirens were heard at this location during the testing; Charlene noted that most of the emergency calls are to this area. Dave A. asked about the radio transmitters that send signals from the float switches to the siren. He wondered if it would be possible to use this signal to warn users and/or emergency personnel that the river is rising. The group agreed that this would be worth looking into.

Mike W. asked about including high-intensity strobe lights as part of the warning system. Mike W. felt it would provide an additional level of warning for river users. Mike W. also wanted the group to focus on the flow scenarios that are the cause of the rapidly rising water. The group then discussed the placement and coverage area of an additional siren in the area of testing station #4.

**MEETING NOTES**

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The group then examined a series of maps to begin identifying possible areas of concern that should be included in the warning system. Mike W. provided some maps that Trout Unlimited produced with possible locations of lights along the river. The group identified several areas below the I-26 bridge for consideration. The group agreed that the area between the I-20 bridge and the I-26 bridge is a low use area. Above the I-20 bridge, the group talked about the area of Corley Island as a possible siren location as well as the area of Sandy Beach above Saluda Shoals Park.

The group then discussed changing the operations of Saluda. Mike W. asked if SCE&G could look at gas turbines to meet their reserve capacity. Bill A. said they have been doing some studies and will share the cost information for replacing Saluda as their reserve capacity requirement when the information is available. Steve B. asked if Charlene could explain what ramping is and how it would work at Saluda. Bill M. had some information on how fast the water rises in the river. The USGS gauge below the dam showed an 8 foot rise in 30 minutes and a 4.5-foot rise in 15 minutes when the river flow was released rapidly at the dam on January 1, 2006<sup>1</sup>. Someone noted that these numbers would not apply to the Zoo area because of the morphology of the river. Bill M. agreed and said that the USGS data for January 1 show a two-hour delay for this pulse of water to reach the downstream gage above the zoo, and the most rapid rise there was about a 3-foot rise in 30 minutes and a 1.5-foot rise in 15 minutes.

The group then discussed ramping and if it would actually provide a safer experience on the river. Alan S. asked if ramping just rewards people for staying on the river as long as possible after the sirens are activated. Randy M. pointed out that we need to keep the message simple; if the sirens go off, get off the river. Charlene remarked that ramping is an acceptable method for increasing public safety in hydropower tailraces and that the river warning system is somewhat defective. She reported the sirens sometimes are activated on falling water as well as rising water. The group agreed that ramping will be an alternative that is analyzed in the environmental assessment, but hopefully a group decision will be made so that the relicensing team can present one preferred alternative to FERC.

The group then agreed on the next meeting date and reviewed the homework assignments that need to be completed before the next meeting.

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<sup>1</sup> The water-level changes mentioned above represent how quickly water levels can rise on the lower Saluda River; thus the figures mentioned represent the most rapid increases that occurred on January 1, 2006. As flows climbed that day from 750 to 18,200 cfs, the total rise in river levels was 12 feet at the USGS gage below the dam and 5.5 feet at the gage located above the zoo.

**MEETING NOTES**

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**LAKE MURRAY TRAINING CENTER  
February 14, 2006**

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**Saluda Hydro Relicensing  
Safety Resource Conservation Group**

**Meeting Agenda**

**February 14, 2006**

**9:00 AM**

**Lake Murray Training Center**

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- **9:00 to 9:15** Discussion of 01-10-2006 Meeting Notes
- **9:15 to 10:30** Presentation and Discussion of State Boating Laws
- **10:30 to 12:00** Discussion of Existing Boating Accident Data
- **12:00 to 12:30** Lunch
- **12:30 to 1:00** Presentation on Existing Rising Water Sirens
- **1:00 to 2:50** Discussion on Improving Existing Rising Water Warning System
- **2:50 to 3:00** Develop an Agenda for Next Meeting and Set Next Meeting Date

**Adjourn**



## MEMORANDUM

FOR: Project 516 Relicensing Safety Resource Group

RE: Watercraft Safety – Applicable Law

FROM: Thomas G. Eppink

DATE: January 17, 2006

### **ASSIGNMENT**

My assignment from the January 10, 2006 Safety Committee Meeting was to review applicable ordinances from the four counties surrounding Lake Murray, as well as State law and regulation, relating to watercraft safety.

### **S.C. STATE WATERCRAFT LAW GENERALLY**

S.C. Code §§ 50-21-10 *et seq.*, “Equipment and Operation of Watercraft” is the primary source of legal authority for regulating the operation of watercraft in Project 516 and surrounding waters. Pursuant to S.C. Code § 50-21-30, counties and municipalities are essentially preempted from enacting any ordinances or local law governing the use of watercraft on the navigable waters of the state that are not *identical* to state law. Given that, it is not surprising that I could find no local law or ordinances directly regulating watercraft. Case law, however, suggests that counties and municipalities are not necessarily preempted from passing local laws or ordinances that restrict launching or beaching watercraft. (See Barnhill v. City of North Myrtle Beach, 333 S.C. 482, 511 S.E.2d 361 (1999)). Additionally, local law and ordinance may incidentally regulate watercraft, such as Lexington County’s noise ordinance that imposes limits on, *inter alia*, watercraft, requiring that exhaust noise be kept to a level at or below that provided by the original equipment manufacturer.

### **SPECIFIC STATE LAW LISTED**

The entire text of the law can be found at <http://www.scstatehouse.net/code/t50c021.doc>. Key sections are highlighted below:

SECTION 50-21-80. Enforcement of chapter; authority to stop and board vessels, make arrests and issue summonses.

SECTION 50-21-90. Boating safety and educational program.

SECTION 50-21-105. Towing of watercraft by department.

SECTION 50-21-110. Negligent operation of water device.



SECTION 50-21-111. Reckless operation of water device.

SECTION 50-21-112. Operation of moving motorized water device or water device under sail while under the influence of drugs and/or alcohol.

SECTION 50-21-113. Operation of moving water device while under the influence of alcohol or drugs resulting in property damage, great bodily injury or death.

SECTION 50-21-115. Reckless homicide by operation of boat; persons convicted of certain offenses prohibited from operating boat.

SECTION 50-21-117. Operation of water device while privileges suspended.

SECTION 50-21-120. Duty of boat livery as to equipment, registration and the like; liability of owner for negligent operation of vessel.

SECTION 50-21-125. Restriction on swimming near public boat landing or ramp in vicinity of utility for hydroelectric generation; establishment of no wake zone.

SECTION 50-21-130. Duties of vessel operator involved in collision; immunity of person rendering assistance; accident reports; suspension of privileges.

SECTION 50-21-148. Prohibition against obstruction of pier, dock, wharf, boat ramp, or access areas; erection of signs.

SECTION 50-21-170. Relationship between state and federal regulations; effect of changes in federal law or regulations.

SECTION 50-21-175. Watercraft required to heave to; cooperation of operator, crew and passengers.

SECTION 50-21-610. Regulations of Division as to construction, equipment and other safety standards.

SECTION 50-21-710. Placing of aids to navigation and regulatory markers; certain conduct prima facie evidence of negligence; prohibited acts.

SECTION 50-21-810. Motorboat towing person on water skis or similar device shall have observer or rear-view mirror.

SECTION 50-21-820. Water skiing, surfboarding and similar activity prohibited during certain hours.

SECTION 50-21-840. Certain conduct which endangers person on water skis, surfboard or similar device prohibited.



SECTION 50-21-850. Ski belt, life preserver or similar equipment required; exceptions.

SECTION 50-21-855. Enforcement of regulations affecting windsurfers and sailboarders.

SECTION 50-21-870. Personal watercraft and boating safety.

### **DNR REGULATIONS**

In addition to the statute, limited regulations have been promulgated by the Department of Natural Resources. Significantly, they incorporate by reference the federal Inland Navigation Rules Act (33 U.S.C. §§ 2001 *et seq.*) and the regulations promulgated pursuant thereto, as well as the International Navigation Rules Act (33 U.S.C. §§ 1601 *et seq.*) and the regulations promulgated pursuant thereto. *See* S.C. Reg. § 123-1. The regulations further set out requirements for Accident Reports (S.C. Reg. § 123-2), Lights (S.C. Reg. § 123-3), and vessel numbering (S.C. Reg. § 123-6). Significantly, there are also a number of regulations imposing restrictions on certain parts of Lake Murray. *See* S.C. Reg. §§ 123-19.2 (Pine Island), 19.4 (Lakeside Marina), 19.9 (Lake Murray Marina), 19.11 (SCE&G Public Park No.1), 19.12 (Dreher Island Launching Ramp), 19.14 (Dreher Island State Park Swimming Area), 19.15 (SCE&G Public Park No. 3), and 19.26 (Dreher Island State Park marina docking facilities).

**Boating Accidents on Lake Murray  
Lexington / Richland / Newberry / Saluda Counties  
1994-2005  
Data provided by SCDNR**

Year	# Accidents	# Injuries	# Fatalities
1994	11	6	2
1995	14	9	1
1996	11	9	2
1997	13	10	5
1998	17	9	2
1999	10	10	1
2000	10	5	1
2001	8	2	4
2002	11	10	0
2003	7	1	4
2004	6	4	0
2005	13	11	1

\* We had a total of 35 River Rescue calls answered from 1999 – 2004 on the Lower Saluda.

# ACCIDENT REPORT INDEX

Date Reported	Date of Incident	Victim	Description
9/2/2005	8/29/2005	Sam E. Goodwin III	Drowned
8/24/2005	8/22/2005	Enoch Harding, Jr.	Drowned
8/2/2005	7/29/2005	Annette Lee Fitts	Drowned
7/14/2005	7/10/2005	Inver Lopez-Roblero	Drowned
6/15/2005	6/12/2004	Edna J. Smith	Death caused by Heart-Related Issues while Boating
8/6/2004	7/31/2004	Travis Eugene Niles	Drowned
8/3/2004	8/1/2004	Lawrence Shealy	Drowned
12/1/2003	11/16/2003	Jim Lindsay	Drowned
9/23/2003	9/22/2003	Allen Jeter	Drowned
9/9/2003	9/1/2003	Michael Jones	Drowned
6/16/2003	6/9/2003	Timothy J. McLamore	Drowned
4/4/2003	4/2/2003	Christopher M. Glenn	Man Inside Car Found in River
3/14/2003	3/4/2003	Manual Salazar	Severe Electrical (Burn) Injury on Construction Site
6/10/2002	6/2/2002	Lamont Worthy	Drowned
6/10/2002	6/2/2002	Christopher Paul Brayboy	Drowned
5/29/2002	5/24/2002	Keith Busbee	Injury Caused by Boating Accident
5/29/2002	5/25/2002	James Howell	Injury Caused by Watercraft Accident
9/4/2001	8/12/2001	James A. Alderman	Drowned
8/15/2001	7/26/2001	Benjamin Thomas	Death Caused by Boating Accident
8/2/2001	7/22/2001	Brian Keith Shealy	Drowned
7/18/2001	7/7/2001	Charles Randall Brayboy	Drowned
3/26/2001	2/11/2001	Michael Spoon & David Koprowski	Drowned
8/22/2000	8/19/2000	David & Marie Shumpert	Rescued After Boat Sank
7/5/2000	7/2/2000	Rodriguez Terrace Danley	Drowned
5/16/2000	5/12/2000	Cedric Lamont Gilmore	Drowned
4/26/2000	4/24/2000	Steven Patrick Xayasane	Death Caused by Injuries from Boating Accident
8/30/1999	8/21/1999	Thomas David Wright	Death Caused by Boating Accident
6/1/1999	5/30/1999	Glen & Linda Folsom	Accident - Plane Struck Power Line & Crashed into Lake
9/16/1998	9/14/1998	Henry Richard Metts	Drowned
6/10/1998	6/3/1998	James Albert Donnelly	Body Found in Lake Murray
5/19/1998	5/14/1998	R. Gregory Jowers	Drowned
4/14/1998	4/12/1998	Virgil R. Sarine	Drowned
		Laurence A. Savage, Robert Welt,	
3/3/1998	2/25/1998	Robert van Dewatern	Injuries Caused by Plane Crash
9/2/1997	8/30/1997	Kevin Laster, Sr. & Wesley Daniels	Death Caused by Boating Accident
8/7/1997	8/6/1997	George Ernest Cole	Drowned
7/21/1997	7/19/1997	Joseph Drew Smith	Death Caused by Boating Accident
7/17/1997	6/15/1997	Allen W. Flath	Injury Caused by Watercraft Accident
7/11/1997	7/4/1997	Benjamin Harley, Jr.	Drowned
6/30/1997	6/25/1997	Walter Oliver White, Jr.	Drowned
6/30/1997	6/25/1997	Clinton Wingard	Drowned
6/20/1997	6/15/1997	Lynn Kempson Wingard	Death Caused by Boating Accident

# ACCIDENT REPORT INDEX

Date Reported	Date of Incident	Victim	Description
5/27/1997	5/23/1997	Chase Thornhill	Electrocuted While Swimming
1/28/1997	1/24/1997	Farron Taylor	Drowned
8/13/1996	8/10/1996	Caleb Emanuel Middleton	Drowned
6/24/1996	6/22/1996	Steve Dial, Jr.	Death Caused by Boating Accident
6/19/1996	5/25/1996	Foster Hamilton & Family	Sail Boat Hit Power Line; Power Company Response
6/3/1996	6/2/1996	Yan Wei Guo	Drowned
5/28/1996	5/25/1996	Foster Hamilton & Family	Sail Boat Hit Power Line
4/10/1996	4/8/1996	Jared Ferguson	Drowned
3/13/1996	3/11/1996	Charles Andrew Soos	Drowned
9/27/1995	8/7/1995	Terrence G. Morrison	Found Dead in Car @ Park Site 1
9/15/1995	4/29/1995		FERC Response to Sailboat Incident
9/12/1995	9/4/1995	Phillip D. Lekvoff	Injury Caused by Watercraft Accident
8/3/1995	4/29/1995		Recreational Report
6/27/1995	4/29/1995	Brian Adam Pawlicki	Suicide, Body Found in Lake
6/27/1995	4/29/1995	Lyndal Timmie Matthews	Homicide, Body Found on Boat Ramp
5/12/1995	4/29/1995	Brian Adam Pawlicki	Suicide, Body Found in Lake
5/12/1995	4/29/1995	Lyndal Timmie Matthews	Homicide, Body Found on Boat Ramp
5/12/1995	4/29/1995	Eric B. Moore	Drowned
7/15/1994	6/7/1994	Allen Strickland	Drowned
6/20/1994	6/7/1994	Allen Strickland	Drowned
7/20/1993	7/6/1993	Donald R. Hinson	Drowned
7/13/1993	7/6/1993	Donald R. Hinson	Presumed Drowned
7/27/1992	7/26/1992	Carolyn Anwell Williams	Drowned
7/10/1992	7/8/1992	William E. Amick	Drowned
7/7/1992	7/4/1992	Trent Avery Smith	Drowned
6/25/1992	3/21/1992	Joseph Schepsisk, Jr.	Update: Found Alive in Bermuda
3/30/1992	3/21/1992	Joseph Schepsisk, Jr.	Drowned
1/15/1992	1/10/1992	Willie Scott Sr.	Drowned
7/17/1991	7/13/1991	Julian Colter	Drowned
7/3/1991	6/29/1991	Matthew Gerald Meetze, Jr.	Drowned
9/7/1990	8/24/1990	Audie Lee Jay	Drowned
7/10/1990	6/30/1990	Cindy Pickard	Drowned
6/19/1990	5/27/1990	Ronald Michael Sims	Death Caused by Boating Accident
6/19/1990	6/7/1990	Marshall Mayers	Drowned
5/29/1990	5/19/1990	Leigh Ann Rodgers	Death Caused by Boating Accident
		Derek Sommer, Mark Sommer,	
3/30/1990	2/24/1990	Gregory Young	Drowned
7/16/1987	6/27/1987	Kevin Stroud	Drowned
6/4/1987	5/31/1987	Leslie Ann Truesdale	Death Caused by Boating Accident

City of Columbia Fire Dept.

901 Code Summary Report  
Type of Situation

Date greater than or equal to 01/01/2000 and Date less than or equal to 02/10/2006 and Street Name equal to "Wildlife Pw"

Type of Situation	Count	Percent
<b>** 1 Fire/Explosion</b>		
13 Vehicle Fire	1	1.0%
14 Trees, Brush, Grass Fire	2	2.0%
15 Refuse Fire	1	1.0%
19 Fire/Explosion Not Classified	1	1.0%
<b>Subtotals:</b>	<b>5</b>	<b>5.1%</b>
<b>** 3 Rescue Call</b>		
30 Rescue Call	20	20.6%
31 Inhalator Call	1	1.0%
32 Emergency Medical Call	45	46.3%
34 Search	2	2.0%
35 Extrication	2	2.0%
39 Ambulance Assist	1	1.0%
<b>Subtotals:</b>	<b>71</b>	<b>73.2%</b>
<b>** 4 Hazardous Condition</b>		
41 Spill/Leak No Ignition	2	2.0%
44 Power Line Down	1	1.0%
45 Arcing/Shorted Elec. Equip.	1	1.0%
<b>Subtotals:</b>	<b>4</b>	<b>4.1%</b>
<b>** 6 Good Intent Call</b>		
60 Good Intent Call	6	6.1%
61 Smoke Scare	1	1.0%
69 Good Intent Call	1	1.0%
<b>Subtotals:</b>	<b>8</b>	<b>8.2%</b>
<b>** 7 False Call</b>		
70 False Call	4	4.1%
71 Malicious/Mischievous False Ca	1	1.0%
74 Unintentional False Call	2	2.0%
79 False Call Not Classified	1	1.0%
<b>Subtotals:</b>	<b>8</b>	<b>8.2%</b>
<b>** 9 Other Situation</b>		



City of Columbia Fire Dept.

901 Code Summary Report  
Type of Situation

Date greater than or equal to 01/01/2000 and Date less than or  
equal to 02/10/2006 and Street Name equal to "Wildlife Pw"

Type of Situation	Count	Percent
99 Situation Found Not Classified	1	1.0%
<b>Subtotals:</b>	<b>1</b>	<b>1.0%</b>

Total Incident Count: 97

**City of Columbia Fire Dept.**

**901 Code Detail Report  
Type of Situation**

Date greater than or equal to 01/01/2000 and Date less than or  
equal to 02/10/2006 and Street Name equal to "Wildlife Pw"

Incident	Date	Alarm	Response	Act	Ign	Prop Use
<b>** 13 Vehicle Fire</b>						
03-018746-00	09/21/2003	13:16:00	00:08:00	1	54	962 Paved Public Street
<b>Situation Count</b>	<b>1</b>	<b>Percent All</b>	<b>1.0%</b>			
<b>** 14 Trees, Brush, Grass Fire</b>						
02-013745-00	07/06/2002	20:22:17	00:04:54	1	00	961 Limited Access/Divid Hwy
02-013827-00	07/08/2002	15:58:29	00:06:35	1	11	950 Railroad Property
<b>Situation Count</b>	<b>2</b>	<b>Percent All</b>	<b>2.0%</b>			
<b>** 15 Refuse Fire</b>						
05-006931-00	04/05/2005	19:12:43	00:07:06	1	11	930 Outdoor Property
<b>Situation Count</b>	<b>1</b>	<b>Percent All</b>	<b>1.0%</b>			
<b>** 19 Fire/Explosion Not Classified</b>						
01-010822-00	05/17/2001	12:59:51	00:08:13	1	73	593 Medical, Research Office
<b>Situation Count</b>	<b>1</b>	<b>Percent All</b>	<b>1.0%</b>			
<b>** 30 Rescue Call</b>						
00-009229-00	04/30/2000	12:32:53	00:05:41	2		593 Medical, Research Office
00-017998-00	08/07/2000	14:20:06	00:07:13	2		946 Inland Water Area
01-004624-00	02/28/2001	17:42:07	00:07:20	3		593 Medical, Research Office
01-013848-00	06/26/2001	14:31:52	00:01:11	2		940 Water Areas
01-014024-00	06/28/2001	19:01:15	00:13:28	2		940 Water Areas
01-015779-00	07/22/2001	17:34:18	00:12:17	2		593 Medical, Research Office
01-015835-00	07/23/2001	14:08:13	00:10:06	2		940 Water Areas
01-016319-00	07/29/2001	17:50:47	00:26:23	2		940 Water Areas
01-016974-00	08/07/2001	12:24:03	00:00:16	2		940 Water Areas
02-015622-00	08/04/2002	17:49:25	00:08:38	2		593 Medical, Research Office
03-008411-00	04/29/2003	17:54:20	00:05:39	2		940 Water Areas
03-009113-00	05/09/2003	18:06:00	00:05:00	3		940 Water Areas
03-011833-00	06/17/2003	19:03:00	00:05:00	2		946 Inland Water Area
03-013894-00	07/17/2003	08:21:29	00:02:38	3		946 Inland Water Area
03-015107-00	08/01/2003	20:17:00	00:07:00	2		940 Water Areas

**City of Columbia Fire Dept.**

**901 Code Detail Report  
Type of Situation**

**Date greater than or equal to 01/01/2000 and Date less than or  
equal to 02/10/2006 and Street Name equal to "Wildlife Pw"**

<b>Incident</b>	<b>Date</b>	<b>Alarm</b>	<b>Response</b>	<b>Act</b>	<b>Ign</b>	<b>Prop Use</b>
04-008355-00	04/17/2004	18:42:22	00:07:37	2		593 Medical, Research Office
04-014402-00	07/10/2004	05:22:52	00:09:25	3		940 Water Areas
05-006935-00	04/05/2005	19:57:53	00:08:11	3		940 Water Areas
05-010918-00	05/30/2005	15:41:21	00:06:10	4		946 Inland Water Area
05-011805-00	06/11/2005	18:26:43	00:06:43	3		946 Inland Water Area

**Situation Count      20                  Percent All      20.6%**

**\*\* 31 Inhalator Call**

01-017157-00	08/06/2001	17:34:42	00:00:00	3		930 Outdoor Property
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**Situation Count      1                  Percent All      1.0%**

**\*\* 32 Emergency Medical Call**

00-005861-00	03/24/2000	12:19:00	00:04:00	2		110 Fixed Use Amusement
00-006179-00	03/27/2000	10:37:38	00:05:14	2		939 Outdoor Prop. Not
00-008494-00	04/21/2000	12:35:52	00:05:27	3		109 Public Assembly (not
00-009540-00	05/04/2000	11:13:39	00:06:51	5		965 Uncovered Parking Area
00-011616-00	05/27/2000	16:03:57	00:18:25	3		593 Medical, Research Office
00-013748-00	06/20/2000	13:43:40	00:06:53	3		965 Uncovered Parking Area
01-003302-00	02/11/2001	13:36:20	00:05:55	3		100 Public Assembly Property
01-005462-00	03/11/2001	14:43:17	00:06:08	3		009 Not Classified
01-007823-00	04/10/2001	14:06:30	00:04:57	5		962 Paved Public Street
01-009397-00	04/29/2001	19:45:21	00:01:13	3		100 Public Assembly Property
01-016075-00	07/26/2001	11:27:08	00:01:08	3		119 Not Classified
01-016304-00	07/29/2001	13:50:42	00:11:27	3		900 Special Property
01-016585-00	08/02/2001	09:21:14	00:06:00	3		109 Public Assembly (not
01-017364-00	08/11/2001	17:23:45	00:06:56	3		109 Public Assembly (not
01-017700-00	08/16/2001	06:50:00	00:00:01	3		949 Water Areas - Not
01-023288-00	10/18/2001	15:40:42	00:00:00	2		915 Vacant Property
02-011818-00	05/25/2002	15:19:27	00:12:48	5		940 Water Areas
02-011825-00	05/25/2002	17:44:07	00:09:34	2		940 Water Areas
03-002556-00	10/03/2002	16:30:00	00:00:00	9		593 Medical, Research Office
03-006639-00	04/05/2003	15:15:05	00:04:55	3		100 Public Assembly Property
03-007414-00	04/16/2003	13:58:24	00:09:01	3		965 Uncovered Parking Area
03-008227-00	04/27/2003	12:44:31	00:01:01	5		414 2-family Dwelling-year
03-011817-00	06/17/2003	15:48:39	00:05:57	3		009 Not Classified
03-015434-00	08/06/2003	11:53:19	00:05:51	3		100 Public Assembly Property
04-005749-00	03/13/2004	08:21:38	00:05:22	2		965 Uncovered Parking Area



**City of Columbia Fire Dept.**

**901 Code Detail Report  
Type of Situation**

**Date greater than or equal to 01/01/2000 and Date less than or equal to 02/10/2006 and Street Name equal to "Wildlife Pw"**

<b>Incident</b>	<b>Date</b>	<b>Alarm</b>	<b>Response</b>	<b>Act</b>	<b>Ign</b>	<b>Prop Use</b>
04-007086-00	03/30/2004	11:30:15	00:06:09	2		113 Amusement Center
04-008595-00	04/20/2004	20:27:55	00:10:36	3		129 Not Classified
04-008567-00	04/20/2004	13:47:33	00:05:19	3		129 Not Classified
04-010384-00	05/15/2004	15:25:11	00:02:39	3		109 Public Assembly (not
04-011769-00	06/05/2004	18:25:54	00:06:29	3		949 Water Areas - Not
04-012878-00	06/20/2004	11:53:42	00:05:31	2		931 Open Land/Field
04-015558-00	07/26/2004	12:33:40	00:08:55	3		100 Public Assembly Property
04-015932-00	07/31/2004	15:49:13	00:05:32	2		129 Not Classified
04-015984-00	08/01/2004	15:09:12	00:05:41	2		593 Medical, Research Office
04-016392-00	08/07/2004	13:38:32	00:06:39	3		593 Medical, Research Office
04-016401-00	08/07/2004	14:46:17	00:06:30	2		593 Medical, Research Office
04-017307-00	08/19/2004	07:43:30	00:06:58	3		593 Medical, Research Office
04-020857-00	10/05/2004	15:26:30	00:06:44	3		593 Medical, Research Office
05-008558-00	04/27/2005	20:14:10	00:06:37	5		593 Medical, Research Office
05-008677-00	04/29/2005	09:48:23	00:06:11	3		100 Public Assembly Property
05-010540-00	05/24/2005	18:09:51	00:06:47	3		100 Public Assembly Property
05-012078-00	06/15/2005	20:11:03	00:05:39	2		965 Uncovered Parking Area
05-014419-00	07/17/2005	15:03:57	00:07:32	3		100 Public Assembly Property
05-015207-00	07/27/2005	18:10:33	00:05:27	3		965 Uncovered Parking Area
05-019793-00	09/27/2005	14:23:11	00:06:03	3		100 Public Assembly Property

**Situation Count      45                  Percent All      46.3%**

**\*\* 34 Search**

00-013467-00	06/17/2000	13:46:00	00:07:53	9		940 Water Areas
03-013663-00	07/13/2003	16:00:00	00:05:00	2		930 Outdoor Property

**Situation Count      2                  Percent All      2.0%**

**\*\* 35 Extrication**

00-007566-00	04/10/2000	17:00:43	00:04:54	2		940 Water Areas
01-008296-00	04/16/2001	14:12:50	00:02:04	2		940 Water Areas

**Situation Count      2                  Percent All      2.0%**

**\*\* 39 Ambulance Assist**

00-012862-00	06/10/2000	22:31:19	00:05:39	9		949 Water Areas - Not
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City of Columbia Fire Dept.

901 Code Detail Report  
Type of Situation

Date greater than or equal to 01/01/2000 and Date less than or equal to 02/10/2006 and Street Name equal to "Wildlife Pw"

Incident	Date	Alarm	Response	Act	Ign	Prop Use
<b>Situation Count</b>	<b>1</b>	<b>Percent All</b>	<b>1.0%</b>			
<b>** 41 Spill/Leak No Ignition</b>						
05-007961-00	04/19/2005	16:32:42	00:06:36	9		962 Paved Public Street
05-012055-00	06/15/2005	15:16:18	00:06:45	3		965 Uncovered Parking Area
<b>Situation Count</b>	<b>2</b>	<b>Percent All</b>	<b>2.0%</b>			
<b>** 44 Power Line Down</b>						
01-008854-00	04/23/2001	08:26:52	00:06:25	3		965 Uncovered Parking Area
<b>Situation Count</b>	<b>1</b>	<b>Percent All</b>	<b>1.0%</b>			
<b>** 45 Arcing/Shorted Elec. Equip.</b>						
05-021823-00	10/23/2005	20:44:38	00:07:18	3		962 Paved Public Street
<b>Situation Count</b>	<b>1</b>	<b>Percent All</b>	<b>1.0%</b>			
<b>** 60 Good Intent Call</b>						
04-000227-00	01/03/2004	17:16:55	00:09:26	3		962 Paved Public Street
04-008021-01	04/13/2004	07:37:14	00:08:47	3		940 Water Areas
04-008021-00	04/13/2004	07:37:14	00:08:47	3		940 Water Areas
04-013990-00	07/04/2004	20:56:55	00:07:44	3		940 Water Areas
05-008867-00	05/01/2005	13:04:05	00:08:03	3		593 Medical, Research Office
05-013923-00	07/11/2005	08:19:03	00:06:33	3		100 Public Assembly Property
<b>Situation Count</b>	<b>6</b>	<b>Percent All</b>	<b>6.1%</b>			
<b>** 61 Smoke Scare</b>						
05-024610-00	11/30/2005	10:45:59	00:02:12	3		965 Uncovered Parking Area
<b>Situation Count</b>	<b>1</b>	<b>Percent All</b>	<b>1.0%</b>			
<b>** 69 Good Intent Call</b>						
00-006180-00	03/27/2000	11:04:51	00:06:18	3		939 Outdoor Prop. Not



City of Columbia Fire Dept.

901 Code Detail Report  
Type of Situation

Date greater than or equal to 01/01/2000 and Date less than or equal to 02/10/2006 and Street Name equal to "Wildlife Pw"

Incident	Date	Alarm	Response	Act	Ign	Prop Use
<b>Situation Count</b>	<b>1</b>	<b>Percent All</b>	<b>1.0%</b>			
<b>** 70 False Call</b>						
02-010477-00	05/09/2002	15:13:49	00:03:53	3		940 Water Areas
03-007013-00	04/10/2003	19:06:43	00:13:08	3		940 Water Areas
03-009105-00	05/09/2003	15:47:00	00:12:00	3		940 Water Areas
05-008291-00	04/24/2005	12:13:18	00:05:44	3		593 Medical, Research Office
<b>Situation Count</b>	<b>4</b>	<b>Percent All</b>	<b>4.1%</b>			
<b>** 71 Malicious/Mischievous False Ca</b>						
01-004779-00	03/02/2001	20:35:49	00:06:13	3		960 Road, Parking Property
<b>Situation Count</b>	<b>1</b>	<b>Percent All</b>	<b>1.0%</b>			
<b>** 74 Unintentional False Call</b>						
02-020086-00	10/01/2002	12:02:16	00:05:09	3		593 Medical, Research Office
05-011338-00	06/05/2005	19:32:27	00:06:36	3		100 Public Assembly Property
<b>Situation Count</b>	<b>2</b>	<b>Percent All</b>	<b>2.0%</b>			
<b>** 79 False Call Not Classified</b>						
05-025087-00	12/07/2005	05:05:16	00:01:34	3		962 Paved Public Street
<b>Situation Count</b>	<b>1</b>	<b>Percent All</b>	<b>1.0%</b>			
<b>** 99 Situation Found Not Classified</b>						
01-017165-00	08/09/2001	17:34:00	00:00:00	9		593 Medical, Research Office
<b>Situation Count</b>	<b>1</b>	<b>Percent All</b>	<b>1.0%</b>			
<b>Total Incident Count</b>	<b>97</b>					

City of Columbia Fire Dept.

Fire Incident Summary

Date greater than or equal to 01/01/2000 and Date less than or equal to 02/10/2006 and Type of Situation contained in "30", "32", "34", "35" and Street Name equal to "Wildlife Pw"

Incident	Date	Alarm	Location	Type of Situation
05-006935-00	04/05/2005	19:57:53	500 Wildlife Pw/Columbia, SC 29210	30 Rescue Call - SELF RESCUE
05-008558-00	04/27/2005	20:14:10	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
05-008677-00	04/29/2005	09:48:23	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
05-010540-00	05/24/2005	18:09:51	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
05-010918-00	05/30/2005	15:41:21	500 Wildlife Pw/Columbia, SC 29203	30 Rescue Call - REMOVED 1 PER
05-011805-00	06/11/2005	18:26:43	500 Wildlife Pw/Columbia, SC 29210	30 Rescue Call - NOTHING FOUND
05-012078-00	06/15/2005	20:11:03	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
05-014419-00	07/17/2005	15:03:57	500 Wildlife Pw/Eleph/Columbia, SC 29210	32 Emergency Medical Call
05-015207-00	07/27/2005	18:10:33	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
05-019793-00	09/27/2005	14:23:11	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
04-005749-00	03/13/2004	08:21:38	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
04-007086-00	03/30/2004	11:30:15	500 Wildlife Pw/Columbia, SC 29021	32 Emergency Medical Call
04-008355-00	04/17/2004	18:42:22	500 Wildlife Pw/Columbia, SC 29210	30 Rescue Call - RECOVERY
04-008567-00	04/20/2004	13:47:33	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
04-008595-00	04/20/2004	20:27:55	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
04-010384-00	05/15/2004	15:25:11	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
04-011769-00	06/05/2004	18:25:54	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
04-012878-00	06/20/2004	11:53:42	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
04-014402-00	07/10/2004	05:22:52	500 Wildlife Pw/Columbia, SC 29201	30 Rescue Call - MEDICAL
04-015558-00	07/26/2004	12:33:40	500 Wildlife Pw/Columbia, SC 29201	32 Emergency Medical Call
04-015932-00	07/31/2004	15:49:13	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
04-015984-00	08/01/2004	15:09:12	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
04-016392-00	08/07/2004	13:38:32	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
04-016401-00	08/07/2004	14:46:17	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
04-017307-00	08/19/2004	07:43:30	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
04-020857-00	10/05/2004	15:26:30	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
03-006639-00	04/05/2003	15:15:05	500 Wildlife Pw/Columbia, SC 29021	32 Emergency Medical Call
03-007414-00	04/16/2003	13:58:24	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
03-008227-00	04/27/2003	12:44:31	500 Wildlife Pw/Columbia, SC 29202	32 Emergency Medical Call
03-008411-00	04/29/2003	17:54:20	500 Wildlife Pw/Columbia, SC 29210	30 Rescue Call - REMOVED 1 PER
03-009113-00	05/09/2003	18:06:00	500 Wildlife Pw/Columbia, SC 29201	30 Rescue Call - ON SHORE
03-011817-00	06/17/2003	15:48:39	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
03-011833-00	06/17/2003	19:03:00	500 Wildlife Pw/Columbia, SC 29201	30 Rescue Call - REMOVED 2 PEOPLE
03-013663-00	07/13/2003	16:00:00	500 Wildlife Pw/Columbia, SC 29201	34 Search
03-013894-00	07/17/2003	08:21:29	500 Wildlife Pw/Columbia, SC 29210	30 Rescue Call - GOOD INTENT
03-015107-00	08/01/2003	20:17:00	500 Wildlife Pw/Columbia, SC 29201	30 Rescue Call - REMOVED 2 PEOPLE
03-015434-00	08/06/2003	11:53:19	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
02-011818-00	05/25/2002	15:19:27	500 Wildlife Pw/Columbia, SC 29201	32 Emergency Medical Call
02-011825-00	05/25/2002	17:44:07	500 Wildlife Pw/Columbia, SC 29201	32 Emergency Medical Call
02-015622-00	08/04/2002	17:49:25	500 Wildlife Pw/Columbia, SC 29210	30 Rescue Call - REMOVED 2 PEOPLE
03-002556-00	10/03/2002	16:30:00	500 Wildlife Pw/Columbia, SC 29201	32 Emergency Medical Call



# City of Columbia Fire Dept.

## Fire Incident Summary

**Date greater than or equal to 01/01/2000 and Date less than or equal to 02/10/2006 and Type of Situation contained in "30", "32", "34", "35" and Street Name equal to "Wildlife Pw"**

Incident	Date	Alarm	Location	Type of Situation
01-003302-00	02/11/2001	13:36:20	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
01-004624-00	02/28/2001	17:42:07	500 Wildlife Pw/Columbia, SC 29210	30 Rescue Call - <i>WRECK</i>
01-005462-00	03/11/2001	14:43:17	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
01-007823-00	04/10/2001	14:06:30	100 Wildlife Pw/Columbia, SC 29201	32 Emergency Medical Call
01-008296-00	04/16/2001	14:12:50	500 Wildlife Pw/On the Saluda River/Columbia, SC 29201	35 Extrication - <i>REMOVED 2 PEOPLE</i>
01-009397-00	04/29/2001	19:45:21	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
01-013848-00	06/26/2001	14:31:52	500 Wildlife Pw/Columbia, SC 29201	30 Rescue Call - <i>REMOVED 10 PEOPLE</i>
01-014024-00	06/28/2001	19:01:15	600 Wildlife Pw/Columbia, SC 29201	30 Rescue Call - <i>3 WALKED OUT</i>
01-015779-00	07/22/2001	17:34:18	500 Wildlife Pw/Columbia, SC 29201	30 Rescue Call - <i>RECOVERY</i>
01-015835-00	07/23/2001	14:08:13	500 Wildlife Pw/Columbia, SC 29206	30 Rescue Call - <i>REMOVED 5 PEOPLE</i>
01-016075-00	07/26/2001	11:27:08	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
01-016304-00	07/29/2001	13:50:42	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
01-016319-00	07/29/2001	17:50:47	500 Wildlife Pw/Columbia, SC 29201	30 Rescue Call - <i>REMOVED 2 PEOPLE</i>
01-016585-00	08/02/2001	09:21:14	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
01-016974-00	08/07/2001	12:24:03	500 Wildlife Pw/Columbia, SC 29201	30 Rescue Call - <i>REMOVED 3 PEOPLE</i>
01-017364-00	08/11/2001	17:23:45	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
01-017700-00	08/16/2001	06:50:00	500 Wildlife Pw/Columbia, SC 29201	32 Emergency Medical Call
01-023288-00	10/18/2001	15:40:42	500 Wildlife Pw/Columbia, SC 29205	32 Emergency Medical Call
00-005861-00	03/24/2000	12:19:00	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
00-006179-00	03/27/2000	10:37:38	500 Wildlife Pw/Columbia, SC 29169	32 Emergency Medical Call
00-007566-00	04/10/2000	17:00:43	500BK Wildlife Pw/Columbia, SC 29201	35 Extrication - <i>REMOVED 1 PERSON</i>
00-008494-00	04/21/2000	12:35:52	500 Wildlife Pw/BK Cafe/Columbia, SC 29205	32 Emergency Medical Call
00-009229-00	04/30/2000	12:32:53	500 Wildlife Pw/Columbia, SC 29201	30 Rescue Call - <i>REMOVED 1 PERSON</i>
00-009540-00	05/04/2000	11:13:39	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
00-011616-00	05/27/2000	16:03:57	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
00-013467-00	06/17/2000	13:46:00	500 Wildlife Pw/Columbia, SC 29210	34 Search - <i>RECOVERY</i>
00-013748-00	06/20/2000	13:43:40	500 Wildlife Pw/Columbia, SC 29210	32 Emergency Medical Call
00-017998-00	08/07/2000	14:20:06	500 Wildlife Pw/Columbia, SC 29210	30 Rescue Call - <i>REMOVED 3 PEOPLE</i>

**Total Incident Count      69**

**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
SAFETY RESOURCE GROUP**

**LAKE MURRAY TRAINING CENTER  
January 10, 2006**

*final dka 03-06-06*

**ATTENDEES:**

<b>Name</b>	<b>Organization</b>	<b>Name</b>	<b>Organization</b>
Bill Argentieri	SCE&G	George Duke	Lake Murray Homeowners Coalition
Alison Guth	Kleinschmidt Associates	Bill Marshall	SCDNR/LSSRA
Tom Eppink	SCANA	Jim Devereaux	SCE&G
Aaron Small	USCG Auxiliary	Tommy Boozer	SCE&G
Norm Nicholson	Lexington County Sheriffs Dept.	Mike Waddell	Trout Unlimited
Patrick Moore	American Rivers/CCL	Bret Hoffman	Kleinschmidt Associates
Randy Mahan	SCANA	Karen Kustafik	Columbia Parks and Recreation
Alan Axson	Columbia Fire Dept.	Lee Barber	LMA
David Price	Lake Murray Power Squadron	Alan Stuart	Kleinschmidt Associates
Bill Mathias	LMPS & LMA	Dave Anderson	Kleinschmidt Associates
Kenneth Fox	LMA		

**HOMEWORK ITEMS:**

- Dave Anderson – contact local hospitals to see if they are interested in participating
- Dave Anderson – start locating data on project related accidents
- Tommy Boozer and/or Norm Nicholson – contact Sea Tow to see if they are interested in participating
- Patrick Moore – attempt to locate other "safety plans" at FERC projects
- Jim Devereaux – contact Mike Dawson to see if he is interested in participating
- Aaron Small – bring copies of DNR pamphlets related to boating/safety
- Alan Axson – begin getting data on emergency responses on the LSR
- Tom Eppink – look into state laws about boating safety

**PARKING LOT ITEMS:**

- None

**DATE OF NEXT MEETING:**

**February 14, 2006 at 9:00 a.m.  
Located at the Lake Murray Training Center**

**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
SAFETY RESOURCE GROUP**

**LAKE MURRAY TRAINING CENTER  
January 10, 2006**

*final dka 03-06-06*

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**MEETING NOTES:**

*These notes serve to be a summary of the major points presented during the meeting and are not intended to be a transcript or analysis of the meeting.*

The meeting began with a recap of organizations and their responsibilities for safety around Lake Murray and the Lower Saluda River (LSR). Alan Axson with the Columbia Fire Department began by explaining the CFD responds to anything in Richland County related to swiftwater rescue, mainly below the I-20 bridge. The CFD also responds to some calls in the Congaree River in West Columbia, occasionally responding to calls down to State Highway 601. Alan talked about how the number of visitors at the Columbia Canal have increased (from 5 to 10 per hour to 100 per hour). The CFD is in the process of putting another station at the Broad River and Greystone. The CFD has two Zodiacs and about 30 people trained for swiftwater rescue.

Jerry Wise was absent, but Dave went over the information he submitted reporting his involvement with various safety related organizations around the lake (especially on the Lexington County side and the Saluda River above the lake).

Lee Barber explained the LMAs involvement with safety around the lake, mainly dealing with education and legislation. He briefly explained Drew's Law, one of LMAs successes, which deals with boating laws and boating under the influence.

Mike Wadell told the groups about Trout Unlimited's concern with safety education, mainly with their members.

Aaron Small gave a short presentation about the U.S. Coast Guard Auxiliary, which is under the jurisdiction of the USCG base in Charleston, SC. The Auxiliary are located at Lake Murray to assist with boating safety and emergencies until the Charleston-based unit arrives. They also maintain the weather link for the U.S. Weather Bureau and have an unofficial reporting station on the lake. They presently have one unit on-duty (Unit 1) available twenty-four hours a day, seven days a week, which is available to assist with emergencies. They also have seven other USCG certified boats and have about 41 members who work closely with the Lake Murray Power Squadron. They also have boats on Lake Greenwood and Wateree; additional boats can be requested from the Charleston base. Education is their major concern for promoting boating safety. Aaron noted that the National Weather Service issues small craft advisories for the lake. While the Auxiliary does not have any authority for punishing boating violations, when members from the Charleston base ride with them, they have that authority. Tommy B. noted that SCE&G has a long standing positive relationship with the USCG Auxiliary and appreciate the work they do; Aaron expressed similar sentiments about SCE&G.

## **MEETING NOTES**

### **SOUTH CAROLINA ELECTRIC & GAS COMPANY SALUDA HYDRO PROJECT RELICENSING SAFETY RESOURCE GROUP**

#### **LAKE MURRAY TRAINING CENTER January 10, 2006**

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Karen Kustafik talked about her efforts teaching whitewater kayaking to prevent emergencies and is coordinating park rangers for assistance with the riverfront area in Columbia. She also has a few ACA-certified instructors doing instruction for kids. These park rangers are not able to issue citations, but may eventually be able to and will start patrolling within the city limits of the Three Rivers Greenway. The rangers are funded by the city of Columbia. Further information on the whitewater program is available through the city's website: [www.columbiasc.net](http://www.columbiasc.net).

Patrick Moore explained that while American Rivers/CCL don't have any staff who deal directly with safety, they are concerned with water quality and its possible effects on public health.

Bill Marshall talked about the Lower Saluda River Scenic River Advisory Council and their responsibility for advising the Department of Natural Resources regarding the management of the State Scenic River. Two Lower Saluda River corridor plans have been developed from this effort and the 1990 plan contains a section with recommendations dealing specifically with safety. Objectives range from improving information and warning systems to removing rebar from rocks in the river<sup>1</sup>. The Council has worked with SCE&G to put river markers in place on poles and bridge pilings to help users interpret danger associated with rising water levels. They have put this information at all public access points and have the information available on their website: [http://www.dnr.sc.gov/water/envaff/river/low\\_saluda\\_scenic.htm](http://www.dnr.sc.gov/water/envaff/river/low_saluda_scenic.htm). Bill noted that the river marker project was accomplished with leadership from Charlene Coleman of American Whitewater and with cooperation from SCE&G who provided various flows for evaluation. The color-coding on the poles equates to river flows as follows: top of blue/bottom of yellow is approximately 2600 cfs; top of yellow/bottom of red is approximately 8800 cfs.. He also noted that this information is probably not being handed out at local outfitters, but has been in the past.

David Price talked about the Lake Murray Power Squadron. They offer safe boating courses to everyone and specific courses to their members on anything from taking care of engines to navigating the ocean. They also offer a weather course and work with other groups, such as the Boy Scouts. The Squadron helps to maintain the emergency center on Lake Murray, including the helipad. They also maintain reference lights and day markers (with the help of the Lake Murray Association). The Squadron is completely volunteer organization and rely on their members for continuing education opportunities related to boating.

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<sup>1</sup> The 1990 Lower Saluda River Corridor Plan, User Safety Recommendations identify the following needs: improved warning systems, river map signs at access points, training programs for river rescue personnel, improved access to flow release information, portage path around major rapids, and river safety education materials for the public. Most of these safety-related needs have been addressed to some degree but the needs merit ongoing attention and upgrading of solutions through time.



**MEETING NOTES**

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Steve Bell explained that his organization is mainly concerned with safety on the lake but has concerns on the LSR as well. Steve would like to focus on public education and changes in project operations to make things safer. They have about 16 volunteers who provide reports of hazards on the lake.

Norm Nicholson discussed the Lexington County Sheriffs Department's involvement with safety issues around the lake and the upper Saluda River. They have patrol boats and fire rescue boats on the lake and have a helicopter to use located at the substation on Lake Murray. Tommy B. explained that SCE&G leases the land for the sub-station and have been since the late 1990s. This substation is a very important part of maintaining safety on the lake since it allows responsible parties to keep emergency boats on the lake. Norm continued explaining that the LCSD also covers Saluda and Newberry counties and they have jurisdiction in all four counties (Lexington, Saluda, Newberry, and Richland). David P. noted that his organization has started Harbor Watch to keep an eye out for terror related activities. Alan S. noted they patrol heavily around the water intake structures to the dams. It was noted that all agencies work together when there is an emergency. Lee B. noted that the LMA sells dock signs, at the request of the Sheriff's Dept., that indicate the property's street address to assist with location of emergency situations.

Dave A. listed the organizations that are responsible on the lake, the river, or both.

Lake	Both	River
Hollow Creek FD	AR	Columbia Fire Dept.
Lexington County EMS	CCL	Trout Unlimited
LMA	SCWF	CoC Parks and Recreation
Lake Murray CG	LMW	American Whitewater
Lake Murray PS	SCDNR	LSSRAC
LMHOC	Lexington County Sheriff	

The group then discussed the need to contact the Richland, Saluda, and Newberry County Sheriffs office, as well as Providence Hospital, Richland Hospital, and West Columbia Rescue.

Randy M. questioned the group concerning a registry of certified first responders and who is responsible for contacting them in case of an emergency. Norm N. indicated the fire departments should have a list. There was some discussion between Tommy B. and Norm N. about getting someone from SeaTow to attend the RCG meetings. Norm N. further explained that he helps get first responders to the location. However, the bottom line is that the number to call in case of emergencies is 911.

**MEETING NOTES**

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Dave A. asked the group about statutory authority and who is able to issue citations. Someone responded that the only people that have that authority were the USCG, SCDNR, and the Sheriffs Depts. (anyone who is a class one certified law enforcement officer).

Tommy B. explained that there is a FERC safety plan that deals with warning signage and is being updated right now. It was noted that signs don't necessarily mean that people will act responsibly. Tommy B. showed some examples of the signs that SCE&G uses at their sites. The group talked about the need to increase public education about the signs. It was noted that the USCG Auxiliary and the SCDNR have created a safe boating checklist and that would be a good beginning for education efforts. Norm N. and Tommy discussed the idea about getting a package together that the DNR could give to people when they register a boat. Tommy B. also asked if the DNR could enforce the signs on the back of the dam in the tailrace. Norm N. replied that if there are four signs up; then it could be enforced. Tommy talked a little about the idea of putting a positive barrier across the tailrace so people could not approach the dam.

The discussion turned to the warning system that is in place on the LSR to warn river users of rising water. Bill A. explained the sirens are activated by a float switch upstream; on every three-inch rise of the river, the sirens are activated. The sirens stay on for three minutes and there are some controls in place that keep the sirens from sounding continuously if there is a prolonged rise in water. After this delay, the sirens will activate on the next three-inch rise in water. The sirens will sound 24 hours a day; SCE&G received many complaints, so they have performed studies that resulted in a lowering of the volume. The sirens are located upstream of Riverbanks Zoo and at Hope Ferry (Metts) Landing.

The group then proceeded to talk about ramping and the pros and cons of ramping releases at Saluda. Randy M. made the point that ramping is a double-edged sword; it gives the river user a false sense of security when they know they have "more" time to get off the river. In addition, if SCE&G needs the reserve capacity of Saluda, then ramping is not an option. Patrick M. noted we need to approach the ramping issue like FERC will approach it and made the point that SCE&G has options for offline capacity if Saluda cannot be operated safely. Bill M. suggested the group should study and understand how fast the water actually rises below the dam, in areas such as Hope Ferry Landing, to see how rapidly conditions can change for people in the river when the turbines are opened.

The group then looked at the mission statement and decided to finalize the statement and post it to the website.

The discussion turned to the difference between the FERC required safety plan and the expected deliverable from this RCG. The group wondered if there had been another safety plan of this type

**MEETING NOTES**

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at other FERC projects. Patrick M. agreed to search e-Library to see if there have been any other plans at a FERC project (besides the FERC required safety plan). Alan S. stated that he envisions some type of plan that summarizes the safety personnel and equipment around the lake and what is available and a way to get this information out to the public. Tommy B. noted that this would probably be the only committee that continues after the licensing process is over. Steve B. asked about if this committee will examine ramping and higher lake levels. It was explained that lake levels will be addressed in the Operation RCG and that this group can make recommendations to the Operations RCG as it relates to safety. The Operations RCG can then balance all the factors before making a recommendation to FERC. Alan asked what is the main cause of accidents on Lake Murray. David P. replied that there is probably not one main cause attributable to operations, most of it is alcohol related. There was some discussion on ramping and lake levels. Norm N. made the point that it does not matter how the project is operated; the bottom line is that we need to educate lake/river users on how to be safe. Someone mentioned it would be useful to get data on calls to the fire department from the lake/river. Dave A. agreed and noted we would be getting these kinds of data.

After lunch, Dave A. led a discussion about what happens when there is an emergency on the lake or river. Norm N. talked about 911 and enhanced 911 and the differences between them. When a 911 call is placed, the dispatcher forwards the call to the appropriate authority depending on what the emergency is. If there is an on-water emergency, the call goes to the Lexington County Sheriffs Dept.; if a call is for the river, the call usually goes to the Columbia Fire Dept. There are a lot of problems with people knowing where they are on the water and with emergency personnel locating accidents (i.e., there are different names for the same coves, people don't know distances on the water, etc.). It was noted that the USCG monitors channel 16 on the lake usually, and the two on-water towing companies monitor it all the time. Dave A. inquired as to what information is generated when an accident occurs. Norm N. said that the DNR usually writes reports for the lake; Alan A. said they keep a record of the 911 calls they receive. It was also noted that a big problem is when a new semester starts at the University of South Carolina and there is an influx of thousands of new people that don't know the hazards of the river. It was noted that we should contact someone from the university to participate in this group. Alan S. wondered if we should also invite Mike Dawson from the Rivers Alliance. Jim D. agreed to get in touch with him.

The discussion then turned back to the need for better education of lake/river users. Randy M. noted that if we can get people to use certain access areas, we can get the information to them at those areas.

The group then entered into a question and answer session about safety and accidents around the lake. It was noted that all the agencies work together to make sure emergencies are taken care of and they are in constant communication when they are patrolling the lake. Questions were raised as

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to how best promote safety and the group discussed a public education campaign and the possibility of monthly meetings about safety on the lake. Tommy B. noted that this would be good for SCE&G as well as they can get input on future access points. There was a discussion as to data that show how fast the water rises on the river.

The discussion then turned to laws that govern boating use in South Carolina. Aaron S. agreed to bring in some DNR pamphlets that cover boating laws. Dave A. questioned the group on warning buoys and the process for getting them installed. The DNR has criteria for placing new buoys.

The group then turned to listing specific issues they will be dealing with in the RCG meetings. The group talked about water release response time and the issue of ramping. It was mentioned that ramping provides a false sense of security and the rate of water rise will not encourage people to get off the river. Alan S. made the point that if the sirens start going off, it's time to get off the water. Karen K. noted there are some places where the sirens cannot be heard and the group agreed that is an issue worth exploring. The issue of egress from the river when the water starts rising was also discussed. The group agreed to look at maps of the river next time and the estimated coverage of the current warning system to begin examining if there are areas where the sirens should be heard. There was some discussion if the confluence needs to be included. The group would like some more information from Mike Dawson before looking at this issue.

The group then returned to applicable laws that might affect water recreation and use. Tom E. agreed to look up these applicable laws. Alan S. reminded the group that we need to prioritize the issues so that we can deal with them in the license application. We don't necessarily have to have the safety plan in place, but the issues that will be affected by the application need to be the first to be resolved. The group agreed that improvements to the information/warning systems for river-user safety is a priority safety issue. There was also a discussion about the management of river flows as a safety issue.

The group agreed to meet next month and be prepared to discuss the warning system and the siren coverage on the LSR. The agenda for this meeting is attached below.

Comments received after this meeting are attached after the agenda.

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**Saluda Hydro Relicensing  
Safety Resource Conservation Group**

**Meeting Agenda**

**January 10, 2006**

**9:30 AM**

**Lake Murray Training Center**

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- **9:30 to 11:30** Discussion on Safety Organizations and Responsibilities
- **11:30 to 12:00** Group Discussion of Mission Statement for Finalization Purposes
- **12:00 to 12:30** Lunch
- **12:30 to 3:00** Discussion on Prioritized Issues



## **MEETING NOTES**

### **SOUTH CAROLINA ELECTRIC & GAS COMPANY SALUDA HYDRO PROJECT RELICENSING SAFETY RESOURCE GROUP**

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**Comments from Steve Bell:** Probably, the most important issue that must be addressed in the relicensing is the impact project operations have on public safety. It is apparent that dangerous situations occur as a result of lake level management and releases downstream. We recommend this committee be given the task of identifying and quantifying these unsafe conditions. This information should then be sent to an operations technical committee assigned the task of determining alternatives to the existing operational scheme which could reduce or eliminate the unsafe conditions. In addition the committee should review all FERC regs and articles that address public safety at these projects.

**Comments from Malcolm Leaphart:** There has been much discussion about the topics and approaches discussed at the last Safety meeting. There is a real concern from Trout Unlimited and other stakeholders that the emphasis is being placed on developing public education and warning systems to deal with the huge fluctuations in flows, without a true consideration of eliminating the source of the danger. The flows from Lake Murray into the lower Saluda River ranging from 180 cfs to over 18,000 cfs, often in extremely short time frames, are simply unacceptable in a new FERC license because of the grave danger that flow regime presents to the public, especially with the lack of advanced notice. Trying to deal with the safety concerns with the confinements of maintaining the current operational framework is too limited and will not successfully address the threats to public life, including those involved in river rescues; and, also the expense to the taxpayers who bear the costs for those.

The safety problems being raised now by all involved will continue until the flow range is either significantly reduced or eliminated, preferably to a more natural, 'run of the river' flow, altered only by hydrological conditions, and managed for constant flows. See the IDC comments from Trout Unlimited of 8-15-05 for further concerns and suggestions for safety issues -

<http://saludatu.org/news/www/articles.cfm?fo=Articles&method=story&RecordID=322>

A more constant minimum flow was discussed in the the 1980's with several from SCE&G, including engineers and also Mr. Mahan who suggested that could be accomplished with the purchase of a new, smaller generator that could run more efficiently at lower flow levels than the existing turbines. His valid comment then was that his company would want a definitive flow level determined and set for a long term so that they could maximize any purchased equipment without altering or even replacing it for new flow requirements. A maximum flow limit also needs to be established for many reasons, especially safety, and the new FERC license would be the opportune time to set both upper and lower flow limits from the hydro at Lake Murray.

Using the hydro to meet SCE&G's regional power reserves has obviously changed thinking from the time when it was used for 'peak power'; but, ways to meet the regional power demands outside of the hydro at Lake Murray should be developed. Until those demands can be met with other

**MEETING NOTES**

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alternatives in the SCE&G power system, the Saluda will never be safe to the public. Plus, the extremely low and high flows are very detrimental to the fisheries, through scouring of the river cobble and fish spawning sites, de-watering of spawning sites, erosion of the river banks, and other frequently documented factors from studies such as the one done on the Smith River in Virginia. See the following link for the study on the effects on that river from releases at the Philpott Dam near Martinsville, Virginia.

[http://www.cnr.vt.edu/fisheries/Smith\\_River/](http://www.cnr.vt.edu/fisheries/Smith_River/)

Also, in addition to public safety and fisheries, the dangers from the current flow regime affects or is directly linked to overall operations, management of the lake, and the provision for recreational opportunities on a public lake and river in a safe atmosphere. So, all of the RCG's need to be open to the optimum solution to safe operations, not just the current lowest cost mode. I am recommending through copies of this note, that all of the above mentioned RCG's add this request to their agendas as the Operations RCG has for Mike Waddell's request to study gas turbines for regional power demand.

We would appreciate a Safety agenda item for February 14 for consideration of alternatives to drastically reducing the fluctuations in the flows, or at least reducing them to no more than a few thousand cfs in a 24 hour period, with an advanced release schedule. And we certainly hope that as a meeting facilitator, that you will foster a serious discussion of how to eliminate the safety problems, not continue to live with them as the public has for over 75 years; that is, please encourage all to 'think outside the box' rather than trying to maintain the current unacceptable level of danger for the way flows have been managed. I would ask you also to try to reach a consensus from the Safety RCG member whether the new FERC license is the time to place more importance on human life than power production, especially for temporary regional power needs which could be met by other means. A consensus 'vote' on that question would probably provide the proper direction to the entire current FERC guidelines process that many think is missing now.

**Comments from Charlene Coleman:** I must say that after reading the minutes I have a few serious concerns:

- 1) SCE&G, at first impression, values reserve capacity needs greater than human life. I sincerely hope that is not the case.
- 2) ramping does NOT create a false sense of security, it is a responsible operational procedure during high seasonal public use periods.
- 3) the present siren system does create a false sense of security for SCE&G. Where technological testing is useful for equipment, in this situation it is not. Until someone from SCE&G physically stands at the rapids and has a sensory acceptance that this system is, has



**MEETING NOTES**

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been and may always be a “cry wolf” to the public, we will get no resolution as to the actual response of this “system” to actual water fluctuation.

- 4) The present warning system does not cover many high use areas and that type of system may not fit all areas, making ramping an even more critical option during the summer and trout stocking seasons.
- 5) Education must be universal, everyone (SCE&G, DNR, CPD, CFD, City governments, development groups, and the public) needs an education on the river, it’s dangers, its resources, its subculture, and its very critical place in the community as more than just a power source. The river has an important role in this area as a food source for many poorer families, water for numerous areas, recreation for generations, a habitat for threatened, redeveloping, and endangered species and a natural treasure of seeming remoteness in an urban area. Yet in its beauty is the fact, it is formidable whitewater.
- 6) the local boaters are the unidentified/unpaid/highly skilled rescuers of the public at the major rapid. I have included a message from American Whitewater on river safety and who we are in the US [attached]. I represent local boaters and their concerns. The Saluda also provides a training ground for some of the best whitewater paddlers in the world. Several US Olympic and Free style Team members are either from here or have come here to train. Several pioneers in extreme “creek” boating are from the area. But most important is the fact, we average over 35 rescues each summer alone. Rescues that don’t make the news, don’t cause the water to be turned off, and go unnoticed for the skill required to make those rescues non news worthy.
- 7) the whitewater boating community has a good relationship with SCE&G, CPD, DNR, and CFD Rescue units. The “rock people” consider us their guardians. Most boaters on the Saluda are Swift and Whitewater rescue trained and have first responder and wilderness responder first aid training by the same schools that train CFD and DNR. Not to mention certifications as instructors in rescue and boating and years of experience in whitewater, a different animal than swiftwater. We offer our skills as the first line of defense and would like to suggest cooperative training with all rescue sources on the river.
- 8) all river users must be identified and how they interact with the river must be examined, to better understand the impact of reserve capacity rapid high water fluctuation, through out the project’s effected areas.



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**For Immediate Release**

Contact: Charlie Walbridge,  
AW Safety Editor  
PH 304-379-9002  
e-mail [ccwalbridge@cs.com](mailto:ccwalbridge@cs.com)

**American Whitewater's Accident Database and Safety Code**

The Most Comprehensive Source for  
Whitewater Safety Education...*Anywhere!*

Cullowhee, NC -- February 7, 2006 -- Safety has been at the core of American Whitewater's mission since 1954. "We've been reporting and analyzing accidents since our earliest days and today we are leaders in whitewater safety education based on that research. Our Accident Database is the most comprehensive collection and analysis of whitewater accidents and close calls anywhere," explains Charlie Walbridge, American Whitewater's Safety Editor. He goes on to say, "The freedom to take calculated risks, in business, love, or whitewater, is one of the most cherished prerogatives of a free people. We support the right of knowledgeable paddlers to push their limits, and at the same time help give uninformed paddlers the information they need to have fun and stay safe." The Accident Database is online at <http://www.americanwhitewater.org/accidents/>.

Accident analysis is the foundation for the AW Safety Code which outlines whitewater safety guidelines applicable to all skill levels. First written in 1957 and regularly updated, it is the most complete set of guidelines for whitewater paddlers in existence. It also contains the International Scale of River Difficulty which is in use throughout North America and the world. AW's listing of Standard Rated Rapids helps make river classification more consistent across the country. It was developed by former AW Safety Chair Lee Belknap by scientifically analyzing forms filled out by hundreds of paddlers across the country. Paddlers across the nation use it to know what to expect when traveling to an unfamiliar river.

## **MEETING NOTES**

### **SOUTH CAROLINA ELECTRIC & GAS COMPANY SALUDA HYDRO PROJECT RELICENSING SAFETY RESOURCE GROUP**

#### **LAKE MURRAY TRAINING CENTER January 10, 2006**

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Safety often becomes an issue in river stewardship work; AW's key programmatic focus. The challenge is often explaining whitewater paddling to the non-paddling public. Commonly asked questions are: "How safe is whitewater paddling? Where does AW stand on riverbed modification or boat registration? What are the most important issues for legislators, river managers, and emergency responders?" All of these questions are answered in the safety section of the stewardship toolkit online at [AW Stewardship](#).

#### **To Report an Accident:**

Accident reporting is vital to American Whitewater's mission. But more importantly, it's a sure antidote to the rumor, gossip, and innuendo that always follows a serious accident. AW's Accident Database works with individuals who were on the scene and is thus able to set the record straight.

The Accident Database contains reports of fatal accidents, serious injuries, and near-misses. A serious injury is one requiring hospitalization; a near miss is an event which could easily have been fatal. The Safety Committee examines all submissions prior to the final posting and decides which incidents will be added to the database.

#### **There are several ways to report an accident:**

- 1) Each witness can post their own account to the AW web site and the Safety Committee will create a report.
- 2) Groups or individuals can create their own report and post it. If you would like help in crafting your report, contact Charlie Walbridge, AW Safety Editor, at [ccwalbridge@cs.com](mailto:ccwalbridge@cs.com) or by phone at 304-379-9002.
- 3) You can post emails, message board and chat room postings, and newspaper articles here. In addition to providing a link, please cut and paste the text from the article. The links may be dead when someone from Safety Committee follows it up. Always be sure that the SOURCE and DATE is clearly indicated.
- 4) If you want to pass on information that you DON'T want the public to see, please specify on the report form that the material is private. If so designated, it will not be released without your OK.

If you have corrections, questions or comments about any accident please email Charlie Walbridge at [ccwalbridge@cs.com](mailto:ccwalbridge@cs.com).

The recent improvements and updates of the AW Accident Database were made possible by the Andy Banach Memorial Safety Fund. AW thanks the family and friends of Andy Banach.

**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
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**ATTENDEES:**

Bill Argentieri, SCE&G	Alan Stuart, Kleinschmidt Associates
Alison Guth, Kleinschmidt Associates	Steve Bell, Lake Watch
Dave Anderson, Kleinschmidt Associates	Bret Hoffman, Kleinschmidt Associates
Randy Mahan, SCANA Services	Ken Uschelbec, U.S. Coast Guard Auxiliary
Gerrit Jobsis, SCCCL & Am. Rivers	Aaron Small, U.S. Coast Guard Auxiliary
Dick Christie, SCDNR	Jerry Wise, Lake Murray Power Squadron
David Price, Lake Murray Power Squadron	Bill Mathias, LMA & LMPS
Kenneth Fox, LMA	David Hancock, SCE&G
George Duke, LMHOC	Lee Barber, LMA
Karen Kustafik, City of Cola. Parks & Rec.	Charlene Coleman, American Whitewater
Norman Ferris, Saluda Trout Unlimited	Tommy Boozer, SCE&G
Bill Marshall, SCDNR & LSSRAC	

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**HOMEWORK ITEMS:**

- Each organization is to come up with a description of its organization and background information on its organization to present to the group – forward to Dave Anderson
- Each entity will list the issues and goals they feel are valuable and important – forward to Dave Anderson
- Review the ICD

**PARKING LOT ITEMS:**

- Cover operational procedures

**DATE OF NEXT MEETING:**

**January 10, 2006 at 9:30 a.m.  
Located at the Lake Murray Training Center**

**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
SAFETY RESOURCE GROUP**

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**MEETING NOTES:**

*These notes serve to be a summary of the major points presented during the meeting and are not intended to be a transcript or analysis of the meeting.*

Alan Stuart opened the meeting and noted that this group was formed as an ad-hoc group at the request of many individuals. There was brief discussion on the possibility of the Safety group continuing to meet after Relicensing. SCE&G explained that there was a committee in the late 80's that met to discuss safety issues around the lake. Alan explained that he expected that the role of this group would be to discuss project related safety issues.

The group then began to discuss the operating procedures and Alan was asked to discuss the format of the TWC. He noted that once an issue comes up, and a study is required, a technical working committee is formed out of those individuals that are knowledgeable of those particular subjects.

In a discussion on some of the particular safety issues associated with the reservoir, Randy noted that SCE&G was working to develop a system to provide as much information to individuals as was reasonably possible. However, he explained that because the Project is used as reserve there was going to be the need to release at a moments notice which could change what they may have originally projected. Randy pointed out that it was important that people did not function completely on the assumption that any projected flows that may be given do not have the possibility of changing. He further noted that if any projected flows were given, it did not take away the need for personal responsibility.

A stakeholder noted that he believed that during Relicensing the group would look at a wide range of operations not excluding run of the river. SCE&G replied that safety was a major concern for them but it would not be possible to operate the project run of river due to the huge reservoir. SCE&G explained that a run of river project generally has little to no storage and is more like Columbia Canal or Neal Shoals.

***Operations Presentation***

Lee began his presentation on the operation of Saluda Hydro. The group discussed several questions that came up during the course of the presentation.

One discussion centered around the role that weather events have on lake levels. The group considered that SCE&G does not control inflow to the lake. It was pointed out that through operation they could decrease the lake a couple feet in a few days, however they could not let the lake fill up in a few days without a rainfall event. Lee Xanthakos pointed out that because the

**MEETING NOTES**

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project was operated for reserve, if a plant trips and Saluda is needed for 90 minutes, the impact on the Lake is miniscule. Lee further pointed out that sometimes more than one plant trips and, hypothetically, if Saluda is fully loaded for a 24 hour period of time the Lake would only drop about 6 inches.

Discussions turned to the external factors that cause lake levels to drop other than generation. It was noted that certain times of year necessitate an intentional lake level drop to accommodate a potential storm. It was also noted that evaporation takes large quantities of water out of the lake on a hot summer afternoon. Lee noted that in the summer they typically lose about 6 inches a week in evaporation

In a discussion on hurricanes and the release of water from the lake, questions arose as to why a drawdown is necessary if you could open the spillway gates in an emergency. SCE&G noted that they are required to use the resource in a prudent manner according to the Public Service Commission and FERC; and discharging water through the spillway is not a prudent use of the resource.

***Mission Statement & Other Discussions***

Alan Stuart noted that the group would now begin to discuss the mission statement and come up with issues. He added that they have put together a draft mission statement for consideration and they have listed goals and issues as a group. He noted that he would like everyone to read the draft and note any changes that need to be made. As the group considered the mission statement there were several topics brought up for discussion. Randy Mahan noted that the scope of this group has the potential to be very broad, however it may be important to focus on what would be involved in Relicensing and what will be addressed in the application. Eventually, the group could focus on broader issues as it continues on after Relicensing. Tommy Boozer noted that he believed that the safety issues on the lake will mainly focus on the public use of the Lake and recreational facilities. Gerrit Jobsis reiterated that he believed that the group needs to let SCE&G coordinate and discuss with safety agencies on those non-relicensing situations but focus on relicensing issues for now.

The group began to briefly discuss the Emergency Action Plan and discussions turned to the option of merging the safety and recreation groups. The group also discussed the option of combining the recreation and safety groups but separating the Lake and River issues into two separate groups. It was concluded that a decision regarding this issue would be made at a later date; however, the group did note that it may be beneficial to split up the agenda and discuss River related safety issues in the morning and Lake safety issues in the afternoon.

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The group began to discuss the mission statement in more detail and some word changes were made. Lee Barber noted that he understood that there was a degree at which people had exercise personal responsibility and judgment, although added education may be helpful or necessary, which in turn might be mentioned in the mission statement. The group did note however that there could be numerous more sirens put in place and it still may not effect how some individuals choose to act. It was also asked as to where the project boundary extended to on the LSR. It was noted that it extends to the transmission lines at the rapids just upstream from the Zoo.

Steve Bell asked what would happen to a safety plan once the group came to a consensus on it. The group replied that it would go in as an element of the comprehensive PM&E agreement. If agreement was not reached on it then SCE&G would have to state their reasons for not including it in the application and individuals could submit letters to the FERC separately. Dick Christie pointed out that by his definition, the only way you could have consensus as a group is if it is something that everyone can live with, maybe not love, but live with. He noted that if it is something that SCE&G disagrees with then it is not going to be a consensus. Randy Mahan also noted that one should not always assume that the public interests and SCE&G's interests are completely different, and that the goal is to go through the interests and come up with a balance.

Bill Marshall expressed concern as to whether what was being accomplished in the group would ultimately be vetoed by SCE&G management and noted that he believed it was incumbent that SCE&G note what they could not live with during the group sessions. Randy Mahan agreed and noted that it was also the responsibility of the individuals in the group to let the group know if it was something that they could not live with as well.

Alan briefly noted that Kleinschmidt Associates and SCE&G were coming up with a Workplan that will be based on the mission statement of the group. He noted that it will identify items that need to be accomplished in the group and how the group is going to go about accomplishing the items.

Discussions then turned to presentations and one individual questioned whether or not any participating member would have the ability to make presentations to the group. Alan noted that they would have the opportunity to place the topic item on an agenda for the next meeting. Alan also began to discuss the "Parking Lot" and noted that all of the parking lot issues would be addressed at the appropriate time. He noted that the Parking Lot was in place in order to promote the flow through the agenda.

The group then began to briefly discuss confidentiality as it has to do with settlement negotiations. A group member noted concern as to compromised issues, and noted that if concessions had to be made it was important that confidentiality was in place. Randy agreed that that was fair and it would be looked into. One individual asked if they could bring a tape recorder into group meetings.

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Consequently, the group decided that tape recorders should not be allowed in part because it may discourage individuals from speaking freely.

The group then began to discuss the need for more county representatives and local law enforcement officials at the group meetings. It was noted that a special invitation may be necessary. Aaron Small noted that he would contact the resident deputy of Lake Murray and Tommy Boozer noted that he would contact Skeet Mills and the DNR law enforcement. The group also noted that it may be beneficial to include the Lexington County Sheriff and West Columbia Rescue.

Alan noted that comments were received on the Operating Procedures and Kleinschmidt Associates and SCE&G are working on a second version.

As a homework item the group decided that a representative from each of the participating organizations should present a list of their interests to the group at the next meeting. It was also requested that enough copies be provided so that they can be passed out to the group. The group also decided that each entity represented would provide a group description and background that would be sent to Dave Anderson at Kleinschmidt Associates with a deadline of December 7<sup>th</sup>.

The agenda for this meeting is attached below.

**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
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SAFETY RESOURCE GROUP**

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**Saluda Hydro Relicensing  
Safety Resource Conservation Group**

**Meeting Agenda**

**November 16, 2005  
9:30 AM  
Lake Murray Training Center**

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- **9:35 to 9:45** Introduction
    - SCE&G and KA Staff
    - Resource Agency Representatives
    - NGO Representatives
    - Individuals
  - **9:45 to 10:00** Purpose of Resource Groups
  - **10:00 to 11:00** **Presentation – Saluda Hydro Operations – Lee Xanthakos  
SCANA Services**
  - **11:00 to 11:45** Develop Safety RCG Mission Statement
  - **11:45 to 12:45** Lunch
  - **1:00 to 2:00** Discuss Safety RCG procedures
  - **2:00 to 2:30** Develop List of Homework Assignments
  - **2:30 to 2:45** Develop an Agenda for Next Meeting
  - **2:45 to 3:00** Set Next Meeting Date
- Adjourn