

**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 Bebbber	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**

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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

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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

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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**

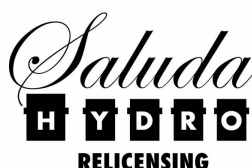
**October 24, 2006**

**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





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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.

