

**MEETING NOTES**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY  
SALUDA HYDRO PROJECT RELICENSING  
WATER QUALITY TWC**

**SCE&G Training Center  
March 24, 2006**

Final ACG 4-27-06

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**ATTENDEES:**

Alan Stuart, Kleinschmidt Associates  
Alison Guth, Kleinschmidt Associates  
Bill Argentieri, SCE&G  
Steve Summer, SCANA Services  
Dan Tufford, USC  
Richard Kidder, LMA

Andy Miller, SCDHEC  
Reed Bull, Midlands Striper Club  
Ron Ahle, SCDNR  
Jim Ruane, REMI  
Tom Bowles, SCE&G  
Gina Kirkland, SCDHEC

**DATE:** March 24, 2006

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**HOMEWORK ITEMS:**

- Ron Ahle – to acquire size/length distributions of striped bass in die-offs
- Reed Bull – to research anecdotal data regarding the 1996 fish kill
- Bill Argentieri – Review record of July 2005 reports to acquire information on how often and why unit 5 was run.
- Dan Tufford, Andy Miller, Jim Ruane – convene meeting to discuss the suitability of the information that is available and what information is needed in regards to performing a TMDL

**DATE OF NEXT MEETING:** **May 23, 2006 at 9:30 a.m.**  
**Located at the Lake Murray Training Center**

**INTRODUCTIONS AND DISCUSSION**

Alan opened the meeting and noted that Ron Ahle would first be discussing striped bass die offs on Lake Murray. Ron distributed a memorandum on this issue (will be posted to web 4-13-06) to the group and began discussions. The group discussed the history of the striped bass die offs and Ron Ahle noted that evidence shows that fish kills have occurred less frequently, shorter in duration, and later in the season since unit 5 has been operated “last on, first off”. He also noted that drawdowns can suspend nutrients in the water that also seem to worsen fish kills. Ron asked what happens at the oxygen gage when unit 5 is turned on. Jim Ruane replied that it typically stays the same with a few fluctuations, Jim also noted that wet years and dry years will also effect the oxygen in the lake. Alan asked Ron if it was possible to acquire size-length distributions of the fish that had died off.

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Ron agreed and noted that they had good data for 1991. Reed Bull also noted that he would research anecdotal data regarding the 1996 fish kill.

Alan began to give a presentation on Acoustic Doppler Technology (will be posted to web 4-13-06). The group discussed performing an acoustic doppler study to determine what area of the lake unit 5 pulls water from. The group noted that any doppler studies should be run in the June time frame to avoid fish kills. Ron Ahle noted that one of the questions of interest would be how much water is being taken from the thermocline. Steve Summer also noted that another question to be answered would be how a unit will impact critical habitat as well as the entrainment issue. Jim Ruane added that the W2 model will show how the unit impacts critical habitat. Tom Bowles noted that the fish start to congregate around Unit 5 usually in the 3<sup>rd</sup> or 4<sup>th</sup> week of August.

In a discussion on how this study would be performed, Gina Kirkland suggested that a wet year, a dry year and a normal year be studied. There was also a recommendation of studying it on a February, Summer, and Fall time frame. Ron Ahle noted that during testing, Unit 5 should be run along with the other units, as it would under typical operations of the plant. The group concluded that although the study will not be performed this year due to the repair work on the units, that they would start to draft a study plan. The group also noted that they would coordinate with the Fish and Wildlife TWCs and DNR to discuss fish entrainment issues and coordinate the studies.

During continuing discussion on a the doppler study, it was noted that unit 5 was used a number of times in June and July. Bill Argentieri noted that he would look into this and also send out a reminder email that Unit 5 is last on, first off, starting July 1<sup>st</sup>. Steve Summer noted that he believes this was due in part to the large amount of rainfall coming into the basin.

After lunch the group began to discuss the topic of TMDL. Alan noted that if a TMDL was performed that it may run concurrent to Relicensing, however it should not hold up the process by being directly tied to Relicensing. Andy Miller explained that although they would be happy for SCE&G to perform the studies, that he does not believe that it should be required of SCE&G. Andy Miller acknowledged that responsibility to develop TMDLs was the State's (DHEC) responsibility. He expressed hope that a Lake Murray TMDL would come about as a result of the Stakeholder process of the FERC relicensing but didn't believe that the two were necessarily linked. Andy also remarked that most of the stakeholders at the table probably have an interest in a phosphorus TMDL. Gina further noted that as long as the TMDL was scientifically defensible, SCE&G may want to consider it for potential mitigation. Randy Mahan agreed that although a TMDL may be beneficial, that there was only a limited amount of things that SCE&G could do about the issue. He also expressed concern about the length of time in which it would take for the benefits of a TMDL to exhibit themselves, and the possibilities that SCE&G may be required to put in oxygen injection in during that time period. Gina agreed that that is a factor that SCE&G would have to consider.

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Gina explained that the department has taken on several TMDL's in the past and they can take a considerable amount of time to accomplish. She explained that part of the reason for this is because concerns vary by areas and the dischargers also have concerns that lengthen the process. Dan Tufford explained that what we need to focus on is not the TMDL as an implementation of regulation. Rather that given the mission of the WQ RCG and the fact that several areas in Lake Murray and the LSR are already impaired for one or more constituents, the most reasonable water quality study to undertake will use the tools and methods of a TMDL analysis so that the work will be usable for subsequent implementation. He also stated that he believes it is possible that this analysis can be completed in the timeframe of the relicensing process. He also pointed out that a substantial amount of work has already been done on Lake Greenwood and Lake Murray that can be leveraged for TMDL analysis, thus helping reduce time and cost. Ron pointed out that much of what was talked about in the morning would be directly affected by water quality improvements. Gina noted that although the initial capital expense of oxygen injectors is unavoidable, it is possible that as their useful life ends there may not be a need to refurbish all of them. Both Ron and Gina's comments were not agency decisions but were intended to illustrate dollar benefits from TMDL implementation that potentially could be realized by SCE&G during the life of a 30-50 year license. The group agreed that a TMDL would be beneficial, however there was no decision made on whether it would be performed concurrently with Relicensing, or in the future by SCDHEC. Dan Tufford proposed that Andy Miller and Jim Ruane join him in determining the suitability of the information that is available and what else may be needed and subsequently to make a proposal to the group on a TMDL. Jim Ruane noted that there has been several improvements that could be made to the W2 model since it was first run. Randy and Bill noted that Jim should add in the additional work arounds, including refractory organic data. It was decided that Jim Ruane, Dan Tufford, and Andy Miller would meet at the end of April, while the entire TWC would meet again on May 23 in the Lake Murray Training Center. At the request of Dan Tufford and Andy Miller, Jim Ruane noted he would send a provisional copy of the W2 model to them for review. He noted that he would first send them a "gentlemen's agreement" to be signed before they received the W2 that specified that the draft should not be circulated. He said the agreement was intended to protect SCE&G's investment in the model; identify the needs for an orderly process for relicensing; present a process for conflict resolution; and other information about the modeling process used by REMI.

Before the adjournment of the meeting Richard Kidder briefly described the water quality monitoring program being undertaken by LMA. He noted that there would be a focus on the water quality in coves especially. Rich continued to explain that there would be fecal coliform and phosphorus testing. He also mentioned that there would be testing performed around commercial arenas in order to develop data that will be helpful to SCE&G on multi-slip dock issues. Rich noted that they would begin the testing in May and continue until October.