

MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT RELICENSING
WATER QUALITY TECHNICAL WORKING COMMITTEE**

**SCE&G Training Center
February 21, 2006**

Final csb 03/21/2006

ATTENDEES:

Alan Stuart, Kleinschmidt**
Alison Guth, Kleinschmidt
Amanda Hill, USF&WS**
Andy Miller, SCDHEC**
Bill Argentieri, SCE&G
Dan Tufford, USC**
Dick Christie, SCDNR
George Duke, LMHC
Gerrit Jobsis, SCCCL & Am. Rivers**

Gina Kirkland, SC DHEC**
Jennifer Summerlin, Kleinschmidt
Reed Bull, Midlands Striper Club**
Richard Kidder, LMA**
Ron Ahle, SCDNR**
Roy Parker, LMA**
Shane Boring, Kleinschmidt*,**
Tom Bowles, SCE&G**

*Facilitator

**Water Quality TWC member

ACTION ITEMS:

- Provide historical information pertaining to the fish kills on Lake Murray
Ron Ahle
- Obtain stocking rates of striped bass in Lake Murray
Ron Ahle
- Provide data on water chemistry profiles on Lake Murray
Tom Bowles
- Make arrangements for Jim Ruane to present information on TMDL and acoustic Doppler methods.
Alan Stuart
- Provide more information about the status of cove water quality study plan
Lake Murray Association
- Prepare a study plan on the effects of project operations on temperature in the Lower Saluda River (LSR)
Shane Boring

DATE OF NEXT MEETING:

**March 6, 2006 at 2:00 p.m.
Conference call**

**March 24, 2006 at 9:30 a.m.
Lake Murray Training Center**

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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.

Shortly after the water quality RCG meeting, the group agreed to proceed with the Water Quality Technical Working Committee meeting. Shane Boring opened the meeting at approximately 2:30 PM, noting that the purpose of the meeting was to begin evaluating and prioritizing the study requests assigned to the Water Quality TWC.

Cove water quality

Roy Parker noted that Lake Murray Association (LMA) is currently preparing a study plan to examine cove water quality, which has potential to assist with addressing this issue. Roy Parker noted that they have selected cove types, but have not selected specific locations. Roy also explained that they will be monitoring coves that are planned to be developed in the future and monitor after development has occurred. He added that septic system drain fields systems and marinas located around these coves are among the LMA's main concerns. He also explained they want to examine phosphorus and fecal coliform. Dick Christie suggested to LMA that a simulation model, such as those used for land use planning, should be considered. Dick noted that he was familiar with these guidelines and would help LMA figure out what is needed. Alan Stuart suggested that LMA's study plan include timing and location of proposed sampling, as well as the parameters to be sampled, to ensure that LMA and SCE&G do not duplicate efforts. Tom Bowles noted that SCE&G samples twice a year, March and September, to obtain a representation of the best and worst water conditions. Tom noted that his sample locations include Shull Island, Hollow Creek, the forebay near the intake towers, Bear Creek, Camping Creek, the Little Saluda River and Turner's Cove. LMA noted they would have more information in about two weeks and would forward information to the group as it becomes available. Roy noted that he would like to send the study plan to Gina Kirkland and then on to the Water Quality TWC following her review.

Effects of project operations on dissolved oxygen (DO) in Lake Murray and the LSR

The group briefly discussed the issue of periodic low dissolved oxygen levels in the forebay. Gina Kirkland noted that she would like to see Lake Murray at its normal (water) level before any DO study is conducted. Several group members expressed a need to further understand the impact of project operations on DO in the forebay and how it may be impacting the striped bass population. Ron noted that it would be important to look at the conditions present for each of the significant fish kills to date, such as operations, weather, and stocking rates. Ron agreed to provide the group with information on historic fish kills in the lake. The group decided that a acoustic Doppler study may

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be appropriate to evaluate the impact of operations on striped bass habitat during the late summer/early fall “crunch” period; Alan suggested setting up a date and time for Jim Ruane or other staff to come in and discuss this issue.

Briefly, the group discussed the unit upgrade study and specifically it was noted that hub baffle tests were performed on units one and five. It was also noted that units two through four could not be tested due to seal failure. A report is being prepared on the unit one and five testing, and the seals on units two through four will be repaired by July and tested this fall.

Gerrit Jobsis noted that data regarding current DO conditions below Saluda Hydro are needed to provide an adequate baseline for relicensing studies. He added that data showing the percentage of time the new site-specific DO standard is being met would be particularly useful. Alan Stuart noted that the result of the hub baffle effectiveness study (see discussion above) will likely provide much of the information referenced by Gerrit. He added that the hub baffles were installed to increase aeration potential of the turbines and to help ensure that the standard is being met. Bill Argentieri noted that if any modifications to operations or equipment (i.e. auto-venting turbine runners, etc) are needed to improve DO conditions, SCE&G would like to ensure that they provide generation as well. Gina Kirkland noted these modifications should be installed and in place by the application deadline. Bill noted that any such modification would certainly be included as an enhancement in the license application, but it is unlikely that they could be installed before the license application is filed.

While the group agreed that DO conditions in the lake and LSR are of extreme importance to relicensing, it was determined that the remainder of the meeting should focus on the proposed temperature study in the LSR and Congaree as it would need to be implemented as soon as possible to capture temperature dynamics associated with the onset of spring.

Effects of project operations on temperature in the Lower Saluda(LSR) and Congaree Rivers

Amanda Hill noted temperature profiles in the LSR and Congaree are high priority for USFWS. Ron Ahle noted there needs to be some baseline data established, which will help measure success for future studies. After a brief discussion, the group agreed that a temperature study on the LSR and Congaree was appropriate.

The group then discussed areas in the LSR and Congaree where water temperature should be measured¹. It was suggested, and the group agreed, that the USGS gages at Alston and below Saluda Hydro could be used to provide data for the Broad and Saluda, respectively, and that paired

¹ Locations were discussed during the March 6, 2006 Water Quality TWC conference call. Final TidbiT placement locations will be as identified in the final study plan and 3/6/06 conference call minutes.

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Tidbit temperature sensors (left and right bank) should be deployed downstream at 10 mile intervals thereafter. The group agreed that gathering data at 15 minute intervals would be adequate if the instrumentation will allow. After some discussion, it was determined that TidbiTs should be deployed at the following locations²:

- The Saluda upstream of the confluence with the Broad;
- the Congaree in the vicinity of the USGS gage near Gervais St. Bridge;
- the Congaree near the I-77 bridge;
- the Congaree near the upstream extent of the Congaree National Park;
- the Congaree near the downstream extent of the Congaree National Park; and
- the Congaree midway of the Congaree National Park.

The group then requested a brief report summarizing the study status be issued at 6-month intervals during the study period, with a final report upon completion. Shane Boring agreed to have a study plan draft and distributed for review within approximately one week.

Shane Boring closed the meeting at approximately 4:00 PM, noting that the next meeting would be via conference call on March 6th at 2:00pm to review the water temperature study plan. The group also agreed that the next face-to-face meeting will be on March 24, 2006, and the group agreed to wait until that time to discuss the TMDL issue. Alan noted that he will attempt to have Jim Ruane present at the March 24th meeting to participate in the TMDL discussion. Roy Parker noted LMA would have more information about their study plan for the March 24 meeting.

² Locations were discussed during the March 6, 2006 Water Quality TWC conference call. Final TidbiT placement locations will be as identified in the final study plan and 3/6/06 conference call minutes.