

Stacia Hoover

From: Alison Guth
Sent: Friday, December 23, 2005 10:46 AM
To: Alan Stuart; 'rammarell@scana.com'; BARGENTIERI@scana.com; 'XANTHAKOS, PANDELIS N'; 'Gina Kirkland'; 'msummer@scana.com'; 'sbwofford@scana.com'; RMAHAN@scana.com; Kristina Massey; 'bellsteve9339@bellsouth.net'; 'mark_leao@fws.gov'; 'Elymay2@aol.com'; 'truple@sc.rr.com'; 'dchristie@infoave.net'; 'BadrB@dnr.sc.gov'; 'tohunter@scbar.org'; 'marshallb@dnr.sc.gov'; 'kayakduke@bellsouth.net'; 'bill_hulslander@nps.gov'; 'PatrickM@scccl.org'
Subject: Final Operations Meeting Notes

Good Morning Operations Group,

I have attached the final copy of the Nov. 1st meeting notes to this email. I am also posting a copy to the website as well. Thanks to all for your involvement in this and for all of your comments. I hope everyone has a wonderful holiday weekend.
~ Alison



November 1st
Operations Notes....

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MEETING NOTES

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

**SCE&G Training Center
November 1, 2005**

final 12-23 ACG

ATTENDEES:

Alan Stuart, Kleinschmidt Associates
Alison Guth, Kleinschmidt Associates
Ray Ammarell, SCE&G
Bill Argentieri, SCE&G
Lee Xanthakos, SCE&G
Gina Kirkland, SCDHEC
Mike Summer, SCE&G
Sally Wofford, SCE&G
Randy Mahan, SCANA Services
Kristina Massey, Kleinschmidt Associates
Steve Bell, Lake Murray Watch
Mark Leao, USFWS
Joy Downs, LMA
Tom Ruple, LMA

Dick Christie, SCDNR
Bud Badr, SCDNR
Parkin Hunter, Columbia Audubon
Bill Marshall, LSSRAC
George Duke, LMHOC
Bill Hulslander, Congaree National Park
Patrick Moore, SCCCL\Am. Rivers

DATE: November 1, 2005

ACTION ITEMS:

- Draft Mission Statement:
Randy Mahan

HOMEWORK ITEMS:

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- Think about what information needs to be presented in this group for educational purposes

AGENDA TOPICS FOR NEXT MEETING:

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- Discussion on the content of a Model
- Review of stakeholder interests
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**DATE OF NEXT MEETING: December 6, 2005 at 9:30 a.m.
Located at the Lake Murray Training Center**

INTRODUCTIONS AND PURPOSE

Alan Stuart opened the meeting and everyone introduced themselves.

He introduced Lee Xanthakos as the presentation speaker and noted that the purpose of the RCG would be to try to identify resource specific issues. Alan noted that because SCE&G was using the TLP it would be a cooperative process. He mentioned that the difference between cooperative and collaborative had been a topic of confusion.

DISCUSSION

Lee began his presentation on how and why Saluda Hydro operates the way it does.

He noted that he manages the system control room in the Palmetto center downtown.

Lee began to discuss the grid and noted that it was a constant balancing act and they had to work together with other utilities. He mentioned that what SCE&G does is very important to other power companies and vice versa. Lee explained that an example of the grid was the large towers with power lines that you see crossing the highway. He explained that electricity travels at the speed of light and noted that if you have a "hiccup" in power anywhere in the country, SCE&G feels it.

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Lee showed that SCE&G was connected to 5 other control areas.

Bud Badr asked: "How are you connected"?

Lee replied: "Our plants are connected directly to their plant by lines."

Lee began to explain how the grid works. He noted that when customers turn on their appliances, and a demand surfaces, it is important for SCE&G to supply the power. He noted that there were three ways to supply power:

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- Fossil fuel plants
- Nuclear power plants
- Hydro – noted that there is Fairfield Pumped Storage, Saluda, and a few run of the river plants such as Parr and Neal Shoals

George Duke asked what the capacity of Fairfield was.

Lee explained that it was 560 MW. Lee began to explain the meaning of peak demand. He noted that in the summer the peak is late in the day and in the winter the peak is in the morning. In the summer you pump in the early morning. In the winter you pump at noon, although it varies from day to day.

George asked if this depended on weather cycles and Lee replied: “Very much, if there is flooding we cannot run Fairfield.” He noted that it was a license requirement that Fairfield cannot generate if the river flow is over 40,000 cfs.

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George Duke asked: “When you are over-generating where does it go?”

Lee explained that in a situation where demand is 4000 and generation is 4000 MW SCE&G is balanced and there is no energy flowing across the lines. If demand is greater than generation, for example, if they did not plan well that morning or a plant went offline, SCE&G will take in electricity from neighboring utilities.

Lee noted that they have a meter called “inadvertent” and they try to keep it as close to zero as possible. He noted that if they see they have a negative number of inadvertent they will pump more on the grid...to bring it back to zero. He pointed out that it was called “payback in kind”. He noted that if you had everyone putting out or taking in you have a problem.

Lee noted that an ACE stood for Area Control Error. He noted that a lack of balance causes flow between control areas.

George Duke asked: “When you plan do you plan at some percent capacity?.”

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Lee Xanthakos replied: “If a plant is on line we get a report on dependable capability, and we run at that number. If you have a problem then you have contingency reserves. And Saluda is an important reserve.”

Lee continued to explain that not all power plants are the same. The nuclear plant is on all the time, if it trips it comes on at 1MW a min, and it would take an hour for it to get to 60MW. Natural gas is the same way because it needs to warm up. Lee mentioned that Parr Gas Turbines can come on quickly but can not always reliably do so in the time required to serve reserves. Lee explained that another option was to buy power.

Lee noted that the energy from Saluda stays on the grid. He explained that Saluda stays offline until an emergency, In order to be considered reserves it has to be offline and ready. During unbalanced short periods of time other systems supply deficiency in generations.

Steve Bell asked, “Are TVA and Corps lakes tied to you?”

Lee replied, “TVA and Corps lakes are not directly connected to us but are connected to SEPA SOCO, etc, our VACAR partners.”

Lee explained that imbalances in the system are caused by such things like power plants breaking down, fuel problems, power line problems etc. He noted that SCE&G could return balance by increasing generation or reducing demand by approved programs.

Reducing demand could include a load curtailment program, can choose a plan depending on the scenario.

Scenario 1 – Tomorrow is going to be cold and a large number of plants are offline, SCE&G would do public appeals through the media, large industrial customers will come offline that SCE&G has interruptible service contracts with.

Scenario 2 – The grid is balanced, but a nuclear station comes offline, He noted that then there is a voltage reduction.

Joy Downs asked, “What if we didn’t have Saluda, what would we do?”

Lee responded that there were several ways to do this, you could use Fairfield Pumped Storage, but it has limitations...they could keep all the coal fired plants at a reduced load. They could find alternate generation which would require them to build some other sort of quick start plant.

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Gina Kirkland pointed out that hydro was one of the cleanest powers you could have in terms of what is good for the environment.

Lee began to discuss the rules that they operate by. He pointed out that it could be broken down into the NERC, the SERC and then finally VACAR. Lee continued to discuss the grid rules as presented in the presentation. He noted in order for each utility to avoid carrying 1000 MW in reserve, which is what SCE&G would have to do to stay in compliance with BAL-002-0, which is their most severe single contingency (loss of a nuclear unit), SCE&G joined with other utilities to form a reserve sharing group. SCE&G's requirement is thus to carry 200 MW.

He pointed out that just because Saluda is running doesn't mean that SCE&G directly needs the power; it could mean another member of their reserve sharing group had an outage. He noted that for their problems they usually call Duke because they have hydro and that is the most reliable.

He noted that in the VACAR contract, if they have to call on another company for reserves we pay the price to generate the power +10%.

Joy Downs – “How can you be sure that they actually have an emergency and they are not just buying the power off of the grid?.”

Lee Xanthakos - we write up compliance reports and Duke, or the power plant that we receive power from, also writes up report and compliance is reported quarterly to SERC .

Lee went through a few examples with the group.

Lee began to explain why Saluda was used for reserves.

He noted that they don't always just use Saluda, but may use Fairfield if it is available. If you don't have hydro you have to have other options like turbine farms that are loud, expensive, and only 50 percent reliable, so you have to have reserves for your reserves.

Saluda is the reliable solution for keeping the system online.

Parkin Hunter asked, “Have you ever had the instance of drought, and the lake is down and you cannot generate?”

Lee replied, “No because even with an hour of generation, it won't affect level of lake very much.”

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Randy Mahan noted that one of the reasons why SCE&G needs to have the minimum lake level of 345' in the license is because SCE&G needs to be able to bring it down to 345' for maintenance of the dam.

Dick Christie asked if you could re-agree with VACAR that you would only carry 100 MW in reserves instead of 200.

Lee replied that, "We need VACAR as much as they need us, they may find another partner if they are unhappy with us, it is a load/generation ratio, as we grow; the collective ratio grows as well."

Gina Kirkland asked, "I know SRS is not available, but is there actually thought to use it?"

Randy Mahan responded that there are thoughts toward that, but that is still not solving the contingency reserve issue that you need Saluda for.

George Duke noted that he had a completely different perspective about Saluda coming into this meeting than he has after hearing the presentation. He noted that he had always assumed that SCE&G used Saluda to supply low cost power that they in turn sold high, which is absolutely not the case.

Lee concluded the presentation and the group then began to discuss the mission statement.

Randy Mahan pointed out that there were a lot of ways to develop mission statement, they could be worked on separately and melded together or they could brainstorm as a group.

Patrick Moore noted that many stakeholders have addressed the formation of a process group.

Randy Mahan replied, "I don't think that is necessary, if there is a procedural issue that needs to be resolved, we will create an ad hoc group. But I believe that creating one now is a solution waiting for a problem."

Joy Downs noted that LMA does not necessarily see that there is a need for a procedural group but there are some questions that LMA has.

Steve Bell noted that if some individuals feel that they need to meet aside, informally, they could do so to develop recommendations.

Randy Mahan replied, "I think we tried to make it clear that if you have recommendations you can submit them; however, Saluda Relicensing is not a democratic process, it is a cooperative process."

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Gina Kirkland noted that not everyone is going to be completely happy, but you have to come to a consensus as a group.

Randy Mahan noted that SCE&G has a responsibility to take a recommendation and try to achieve consensus on a topic. He also noted that anyone can submit comments to the FERC on their own, as well.

Dick Christie pointed out that consensus is a decision that everyone can live with. It may benefit one individual more than another but it is a decision that most people can live with.

Gina Kirkland added that there is always someone who is not happy and cannot live with it, there are extremes that are unhappy but you can usually get consensus from “almost everyone”.

Steve Bell asked, “What happens if the group agreed, for example, that the lake levels should be a certain height.”

Randy replied that a consensus guides what SCE&G puts in the application packet and in turn goes to the FERC. If a consensus is reached and SCE&G disagrees, then SCE&G states that they disagree and why they do so, then the FERC will decide the outcome. He noted that individuals also have the option of filing a comment on this separately.

Alan noted that if everyone came to an agreement that a settlement agreement would be the end result.

Dick Christie noted that as far as communication between the groups goes, in other processes they have combined meetings and issues when facilitators decided to do so.

Alan Stuart noted that if this presents itself, they may see the need to combine a meeting.

Bud Badr noted that he believed the function of an Operations RCG would be to get with the other RCGs, take what everyone wants, balance input and needs, and develop a model. Bud continued to note that he has hired 2 more individuals to work primarily with the FERC relicensing issues and will be able to help SCE&G when they need something from DNR.

Alan began to discuss the issue of the “Parking Lot” as presented in the operating procedures. He noted that from a few comments that he has read that he believes there is a misunderstanding about the “Parking Lot”. He noted that the parking lot is used for items that are irrelevant to the topic at

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hand and disrupt the flow of the agenda. He noted that that particular item would then be placed in the parking lot to be discussed at the end of the meeting or placed on the next meetings agenda.

Randy Mahan then discussed the evolution of an issue. He gave Recreational Flows as an example and noted that you need to first decide what you need to know in order to discuss whether recreational flows are going to occur. Then you take the information and decide whether or not and how to address the issues. Then you decide what info is needed to address the issue, and what you need to know in order to make a reasonable recommendation.

Bud Badr pointed out that you need to make sure you support your issue.

Randy continued to note that they want decisions to be scientifically driven. He also noted that disagreement may arise on whether or not a study needs to be done because there may already be information available. It was also noted that some studies may be combined in order to answer as many questions as possible with one study.

On the topic of a mission statement, Gina Kirkland noted that she thought that a scope of the group needed to be better defined. She noted that she felt that a group could potentially get bogged down with issues that belong in other groups. She pointed out that maybe KA or SCE&G could offer a draft starting point and let the group put meat to it.

The group decided that SCE&G would develop a “strawman” before the next meeting and then discuss it from there.

Alan noted that a homework item would be to take the study requests, read through them, and make recommendations from there.

Randy noted that the long, in-depth studies need to be flushed out first, as they will take more time to accomplish.

Bill Hulslander asked, “Who will conduct the studies and who will decide who will conduct the studies.”

Randy replied that the RCG will develop the scope and the TWC will determine the best way to conduct a study.

Alan then brought up the subject of the media; He noted that there was a rule in the operating procedures that a person who is an active member of the media cannot be an active member of an RCG. He noted that there were some individuals who were contributing writers to various

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newspapers and if there were problems where information came up in the media, then it will be dealt with. He noted that people need to be able to express themselves without being afraid that what they say will be written about. He noted that if you want to speak to the media afterwards, please do not say that you represent the RCG. However, you may represent your own agency or NGO.

Steve Bell asked if they could have closed meetings.

Randy replied that nothing should arise that would warrant a closed meeting.

Alan noted that they would be taking the operating procedures and revising them per comments submitted.

The group began to discuss homework items. Alan noted that one item for the group to think about would be what sort of presentation or information needed to be presented to the group.

Dick Christie noted that they needed to give thought to the product they would like from a meeting. He noted that different needs could arise and the group should try to pin them down. He continued to note that products are items needed to address in the model, low inflow protocol, operations protocol. He noted that he thought that they needed to make a decision on how recommendations were used.

The group began to discuss the use of the hydraulic model and Bud Badr noted that he would be able to help with this model and give information. He noted that this model would help to make value judgments.

Ray Ammarell noted that he would like to see a presentation that discusses operational requirements, system requirements and such. It was also mentioned that information on the flow forecasting model and Probable Maximum Flood was needed.

Steve Bell asked about standard license articles and Alan noted that he would find these and send them to Steve.

The group closed by outlining the agenda for the next meeting.

In closing, Bill Marshall asked the group if a compromise time could be established, possibly halfway through the day in order to benefit those who are working.

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Gina Kirkland responded that an occasional group meeting with all the resource groups in the evening would be okay.

Bill noted that his suggestion would be that they start around 3:00

The group noted that this was a difficult issue. It was discussed that an occasional evening meeting may be okay, however if they started at 3:00 in the afternoon the meeting may last until late at night.

Dick Christie noted that in his experience there will be a critical mass of people who are essential to the meeting. He noted that he doesn't mind going from around 1:00 to 7:00 if those individuals who you would be meeting later for could come every time.

Alan Stuart noted that it may be best that Bill Marshall meet separately with those individuals who cannot attend and keep them up to speed. He noted that he plans to have updates at quarterly Public Meetings.

Bill Argentieri asked if it would be beneficial to start at 1:00 in the afternoon.

Gina Kirkland responded that it would not be beneficial if they wanted to get through all of the agenda items. She noted that if the group is going to cover a lot of stuff and you are resource limited then the group needs to try to get as much accomplished at one meeting as possible.

It was also noted that if the meeting was started later in the afternoon, those traveling from out of town would have to drive back late as well.

The group concluded to keep the next meeting at the 9:30 schedule.

Stacia Hoover

From: Alison Guth
Sent: Wednesday, December 21, 2005 1:45 PM
To: Alison Guth
Subject: FW: Draft Operations Meeting Notes

-----Original Message-----

From: Alison Guth
Sent: Wednesday, November 30, 2005 10:11 AM
To: Alan Stuart; 'AMMARELL, RAYMOND R'; 'bargentieri@scana.com'; 'pxanthakos@scana.com'; 'Gina Kirkland'; 'msummer@scana.com'; 'sbwofford@scana.com'; 'rmahan@scana.com'; Kristina Massey; 'bellsteve9339@bellsouth.net'; 'mark_Leao@fws.gov'; 'Elymay2@aol.com'; 'truple@sc.rr.com'; 'Dick Christie'; 'BadrB@dnr.sc.gov'; 'tohunter@scbar.org'; 'marshallb@dnr.sc.gov'; 'kayakduke@bellsouth.net'; 'bill_hulslander@nps.gov'; 'PatrickM@scccl.org'
Subject: Draft Operations Meeting Notes

Good Morning,

Attached is a copy of the draft November 1st Operations RCG Meeting Notes for your review. Please have comments back to me by December 15th for revisions. You may also present any comments you have on the meeting notes to me before or after the Operations RCG next Tuesday. Thanks for your time.

Regards,
Alison



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Draft 11-30 ACG

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Bill Argentieri asked if it would be beneficial to start at 1:00 in the afternoon.

Gina Kirkland responded that it would not be beneficial if they wanted to get through all of the agenda items. She noted that if the group is going to cover a lot of stuff and you are resource limited then the group needs to try to get as much accomplished at one meeting as possible.

It was also noted that if the meeting was started later in the afternoon, those traveling from out of town would have to drive back late as well.

The group concluded to keep the next meeting at the 9:30 schedule.

Stacia Hoover

From: Alison Guth
Sent: Wednesday, December 21, 2005 1:54 PM
To: Alan Stuart; 'rammarell@scana.com'; BARGENTIERI@scana.com; 'Gina Kirkland'; 'msummer@scana.com'; 'sbwofford@scana.com'; RMAHAN@scana.com; Kristina Massey; 'bellsteve9339@bellsouth.net'; 'mark_leao@fws.gov'; 'Elymay2@aol.com'; 'truple@sc.rr.com'; 'dchristie@infoave.net'; 'BadrB@dnr.sc.gov'; 'tohunter@sbar.org'; 'marshallb@dnr.sc.gov'; 'kayakduke@bellsouth.net'; 'bill_hulslander@nps.gov'; 'PatrickM@sccl.org'
Subject: Draft Operations Meeting Notes

Hello All,

Comments on the draft Operations meeting Notes from November 1st were due on December 15th. I would like to have these notes posted to the website this week so please forward any comments that you may have on them to me by tomorrow morning. Thanks to those of you who have already provided comment. Happy Holidays, Alison



November 1st
Operations Notes ...

Attached is an original copy of the draft meeting notes, no changes have yet been made:

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
101 Trade Zone Drive
Suite 21A
West Columbia, SC 29170
P: (803) 822-3177
F: (803) 822-3183

MEETING NOTES

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ATTENDEES:

Alan Stuart, Kleinschmidt Associates
Alison Guth, Kleinschmidt Associates
Ray Ammarell, SCE&G
Bill Argentieri, SCE&G
Lee Xanthakos, SCE&G
Gina Kirkland, SCDHEC
Mike Summer, SCE&G
Sally Wofford, SCE&G
Randy Mahan, SCANA Services
Kristina Massey, Kleinschmidt Associates
Steve Bell, Lake Murray Watch
Mark Leao, USFWS
Joy Downs, LMA
Tom Ruple, LMA

Dick Christie, SCDNR
Bud Badr, SCDNR
Parkin Hunter, Columbia Audubon
Bill Marshall, LSSRAC
George Duke, LMHOC
Bill Hulslander, Congaree National Park
Patrick Moore, SCCCL\Am. Rivers

DATE: November 1, 2005

ACTION ITEMS:

- Draft Mission Statement:
Randy Mahan

HOMEWORK ITEMS:

- Review ICD and Study Requests
- Think about what information needs to be presented in this group for educational purposes

AGENDA TOPICS FOR NEXT MEETING:

- Develop mission statement
- Discussion on the content of a Model
- Review of stakeholder interests
- Presentation on Saluda
- Review of requested studies and a determination of what information already exists

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**DATE OF NEXT MEETING: December 6, 2005 at 9:30 a.m.
Located at the Lake Murray Training Center**

INTRODUCTIONS AND PURPOSE

Alan Stuart opened the meeting and everyone introduced themselves.

He introduced Lee Xanthakos as the presentation speaker and noted that the purpose of the RCG would be to try to identify resource specific issues. Alan noted that because SCE&G was using the TLP it would be a cooperative process. He mentioned that the difference between cooperative and collaborative had been a topic of confusion.

DISCUSSION

Lee began his presentation on how and why Saluda Hydro operates the way it does.

He noted that he manages the system control room in the Palmetto center downtown.

Lee began to discuss the grid and noted that it was a constant balancing act and they had to work together with other utilities. He mentioned that what SCE&G does is very important to other power companies and visa versa. Lee explained that an example of the grid was the large towers that you see crossing the highway. He explained that electricity travels at the speed of light and noted that if you have a "hiccup" in power anywhere in the country, SCE&G feels it.

Lee presented a map representing the NERC (North American Electric Reliability Council) and noted that each company connects to one another which, in turn, provides a balance of authority.

Lee showed that SCE&G was connected to 5 other control areas.

Bud Badr asked: "How are you connected".

Lee replied: "Our plants are connected directly to their plant by lines."

Lee began to explain how the grid works. He noted that when customers turn on their appliances, and a demand surfaces, it is important for SCE&G to supply the power. He noted that there were three ways to supply power:

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- Fossil fuel plants
- Nuclear power plants
- Hydro – noted that there is Fairfield pump storage, Saluda, and a few run of the river plants such as Parr and Neil Shoals

George Duke asked what the capacity of Fairfield was.

Lee explained that it was 560 MW. Lee began to explain the meaning of peak demand. He noted that in the summer the peak is late in the day and in the winter the peak is in the morning. In the summer you pump in the early morning. In the winter you pump at noon, although it varies from day to day.

George asked if this depended on weather cycles and Lee replied: “Very much, if there is flooding we cannot run Fairfield.” He noted that it was a license requirement that the river cannot be over 40,000 cfs.

Lee continued to discuss balancing the grid and noted that balance means that there is enough electricity flowing from the generators to meet the Customer’s demand. He noted that balance was measured in real time. He pointed out that if SCE&G is over-generating they will call a plant and tell them to cut back and visa versa. He noted that there was a certain order in which plants were taken off and online.

George duke asked: “When you are over generating where does it go?”

Lee explained that in a situation where demand is 4000 and generation is 4000 MW SCE&G is balanced and there is no energy is flowing across the lines. If demand is greater than generation, for example they did not plan well that morning or a plant went offline, SCE&G will take in electricity from neighboring utilities.

Lee noted that they have a meter called “inadvertent” and they try to keep it as close to zero as possible. He noted that if they see they have a negative number of inadvertent they will pump more on the grid...to bring it back to zero. He pointed out that it was called “payback in kind”. He noted that if you had everyone putting out or taking in you have a problem.

Lee noted that an ACE stood for Area of Control Error. He noted that a lack of balance causes flow between control areas.

George Duke asked: “When you plan do you plan at some percent capacity.

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Lee Xanthakos replied: “If a plant is online we get a report on dependable capability, and we run at that number. If you have a problem then you have contingency reserves. And Saluda is an important reserve.”

Lee continued to explain that not all power plants are the same. Nuclear plants are on all the time, if it trips it comes on at 1MW a min, it would take an hour for it to get to 60MW. Natural gas is the same way because it needs to warm up. Lee mentioned that Parr can come on quickly but is not very reliable. Lee explained that another option was to buy power.

Lee noted that the energy from Saluda stays on the grid. He explained that Saluda stays offline until an emergency, In order to be considered reserves it has to be offline and ready. During unbalanced short periods of time other systems supply deficiency in generations.

Steve Bell asked, “Are TVA and Core lakes tied to you?”

Lee replied, “TVA and core lakes are not directly connected to us but are connected to SEPA SOCO etc, our VACAR partners.”

Lee explained that imbalances in the system are caused by such things like power plants breaking down, fuel problems, power line problems etc. He noted that SCE&G could return balance by increasing generation or reducing demand by approved programs.

Reducing demand could include a load curtailment program, can choose a plan depending on the scenario.

Scenario 1 – Tomorrow is going to be cold and a large number of plants are offline, SCE&G would do public appeals through the media, large industrial customers will come offline that SCE&G has contracts with to do so.

Scenario 2 – The grid is balanced, but a nuclear station comes offline, He noted that then there is a voltage reduction.

Joy Downs asked, “What if we didn’t have Saluda, what would we do.”

Lee responded that there were several ways to do this...they could load up all the plants until a plant tripped. They could find alternate generation which would require them to build some other sort of quick start plant.

Gina Kirkland pointed out that hydro was one of the cleanest powers you could have in terms of what is good for the environment.

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Lee began to discuss the rules that they operate by. He pointed out that it could be broken down into the NERC, the SERC and then finally VACAR. Lee continued to discuss the grid rules as presented in the presentation. He noted in order to avoid carrying 1000 MW in reserve, which is what they would have to do to stay in compliance with BAL-002-0, which is their most severe single contingency, they have formed a reserve sharing group meaning they are going to carry 200 MW.

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Alan Stuart noted that it may be best that Bill Marshall meet separately with those individuals who cannot attend and keep them up to speed. He noted that he plans to have updates at quarterly Public Meetings.

Bill Argentieri asked if it would be beneficial to start at 1:00 in the afternoon.

Gina Kirkland responded that it would not be beneficial if they wanted to get through all of the agenda items. She noted that if the group is going to cover a lot of stuff and you are resource limited then the group needs to try to get as much accomplished at one meeting as possible.

It was also noted that if the meeting was started later in the afternoon, those traveling from out of town would have to drive back late as well.

The group concluded to keep the next meeting at the 9:30 schedule.

From: Alison Guth
Sent: Friday, February 17, 2006 5:11 PM
To: Alan Stuart; Alison Guth; 'bill_hulslander@nps.gov';
'cheetahtk@yahoo.com'; 'dlandis1@sc.rr.com'; 'dchristie@infoave.net';
'kayakduke@bellsouth.net'; 'KIRKLAGL@dhec.sc.gov'; 'Bkawasi@sc.rr.com';
'Jeff_Duncan@NPS.gov'; 'Elymay2@aol.com'; 'dvklmass@bellsouth.net';
'lmichalec@aol.com'; 'parkin@parkinhunter.com'; 'PatrickM@scccl.org';
'crafton@usit.net'; 'rjernigan@scfbins.com'; 'bellsteve9339@bellsouth.net';
'suzrhodes@juno.com'; 'truple@sc.rr.com';
'Stonecypher@isteamconsulting.com'; 'gjobsis@americanrivers.org';
'rammarell@scana.com'; BARGENTIERI@scana.com;
'msummer@scana.com'; RMAHAN@scana.com; Kristina Massey;
'mark_leao@fws.gov'; 'amanda_hill@fws.gov'; 'BadrB@dnr.sc.gov';
'tohunter@sbar.org'; 'marshallb@dnr.sc.gov'; 'mwaddell@esri.sc.edu';
'r1shealy@aol.com'; 'tbeber@scprt.com'; Bret Hoffman; Mike Schimpff
Subject: Final Operations Meeting Notes
Hello Operations Group

Attached is the Final set of meeting notes from the Dec. 6th Meeting. The draft Jan 26th meeting notes should be out next week. Have a wonderful weekend. Alison



2005-12-06 Final
Meeting Notes...

A [Alison Guth](#)
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MEETING NOTES

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

**SCE&G Training Center
December 6, 2005**

Final 2-17 ACG

ATTENDEES:

Alan Stuart, Kleinschmidt Associates
Alison Guth, Kleinschmidt Associates
Ray Ammarell, SCE&G
Bill Argentieri, SCE&G
Gina Kirkland, SCDHEC
Mike Summer, SCE&G
Randy Mahan, SCANA Services
Kristina Massey, Kleinschmidt Associates
Steve Bell, Lake Murray Watch
Amanda Hill, USFWS
Joy Downs, LMA
Tom Ruple, LMA
Bud Badr, SCDNR

Parkin Hunter, Columbia Audubon
George Duke, LMHOC
Bill Hulslander, Congaree National Park
Patrick Moore, SCCCL\Am. Rivers
Jeff Duncan, NPS
Michael Waddell, TU
Bill Cutler, Lake Watch

DATE: December 6, 2005

ACTION ITEMS:

- Hydrologic Model Presentation
SCE&G\Kleinschmidt Associates

HOMEWORK ITEMS:

- Think about what information needs to be presented in this group for educational purposes

AGENDA TOPICS FOR NEXT MEETING:

- Presentation on Hydrologic Models
- Discussion

DATE OF NEXT MEETING: January 26, 2006 at 9:30 a.m.

MEETING NOTES

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

**SCE&G Training Center
December 6, 2005**

Final 2-17 ACG

Located at the Saluda Shoals Park Rivers Center

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 opened the meeting and introduced Bill Argentieri as the speaker for the presentation on the “Nuts and Bolts of Saluda Operations.” Bill began his presentation, and several questions about definitions came up during the course of the discussion. After a cross-section of a general hydropower plant was shown, several questions arose about the penstocks and the towers. It was noted that the penstocks are the pipes that let the water from the lake flow through the turbines, and the penstocks are inspected on a periodic basis. A question arose on whether or not the towers require maintenance and Bill replied that most of the maintenance on the towers has to do with the mechanical components such as the gates.

Mike Waddell asked how Saluda Hydro efficiency is affected by lake levels. Kristina replied that as the Lake drops the efficiency drops as well. There was some discussion on the water intake from the towers and the restrictions associated with Unit 5, including those restrictions caused by the congregation of blueback herring around the Unit 5 tower during certain times of the year. It was noted that SCE&G has hydro-acoustic equipment that monitor the presence of fish in the vicinity of the intake, including the blueback herring.

Bill began to give the group some background on the Project and some of the specifics about the plant were noted. He pointed out that first four units can generate 3000 cfs of water flow per unit at full load and Unit 5, being about twice the size, can generate 6000 cfs at full load. George Duke asked how old the generators were, to which Bill replied that they are 75 years old. From a maintenance standpoint, Mike Summer added that a few of the units have been rewound.

Discussions then turned to turbine venting. Patrick Moore asked if the hub baffles allowed all of the units to be equally effective at venting. Alan Stuart explained that all of the units vent at different efficiencies, with a major contributor to this being the condition of the seals on the units.

The group briefly discussed the maintenance on the units. It was noted that the units are frequently inspected and electrical testing is performed routinely. When asked if there was a life span on the units, Mike Summer noted that it is more cost effective to maintain a unit over a period of time as opposed to replacing the whole unit. Kristina Massey added that units 1-4 had major overhauls in the late 70’s to early 80’s. Bill noted that SCE&G is looking at the potential for upgrading the units

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and KA is doing a study to provide SCE&G with some options for upgrading. Bill added that this study takes into account many issues, including the environmental issues.

Bill began to discuss Unit 5 and noted that because it does not have an isolation valve on the unit itself, the gate has to be closed at the tower. He added that Unit 5 was “bought off of the shelf” in the late 60’s, as opposed to being specifically designed for the location, water flows, head, etc. where it is. It went into operation in ’71.

The group then began to discuss the emergency spillway. Bill explained that in the event that the dam were in danger of being overtopped, the spillway gates could be opened for the emergency release of water, hence the name “emergency spillway.” This is the only operational function of the emergency spillway. Bill pointed out that the spillway channel is not the original Saluda River channel but rather a manmade channel. Amanda Hill asked if the natural streambed was where the powerhouse is now. Bill replied that it was between the towers and the spillway. There was some discussion on the Probable Maximum Flood and also on the black start capabilities of the plant. Bill noted that if there were a blackout, Saluda was one of the few plants on SCE&G’s system that could start from scratch. The group also briefly discussed the Flow Forecasting Model.

Mike Waddell asked what SCE&G uses for reserves if they were running Saluda due to rainfall. Bill replied that they either use another plant, such as the Monticello Pumped Storage Project, or they buy power from another system. One group member inquired as to whether SCE&G anticipated Lake Murray being required to operate as a flood control lake and how that might impact inundation at the Congaree National Park. Randy noted that he believed it was imprudent for anyone to count on Saluda for flood control when 2/3 of the flow into the Congaree comes from the Broad rather than the Saluda.

The group began to discuss the operational warning sirens on the LSR, as well as the sirens that are activated in the event of a dam failure. Bill noted that emergency action brochures that explain what people should do should they be alerted to a potential dam failure are mailed out to those individuals who reside in the zip code areas below the dam and drills are performed on a regular basis.

Discussions began to center around the maintenance work on the dam and the upcoming placement of rip-rap on the upstream face of the dam. Bill noted that they were waiting until the north bound lanes were complete so that traffic could be re-routed, otherwise the existing south bound lane section of Hwy 6 would have to be shut down.

Bill concluded his presentation and the group began to discuss the mission statement. It was agreed that the goal of the group would be to develop a hydrologic operations model.

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The group began to discuss what they would like to see come out of a model. It was discussed that the model needs to be user friendly. There were several models that were mentioned, including Hec 5 and Oasis. Bill Hulslander noted that it was important to make sure the model was able to take inputs or outputs from other RCGs. Bud Badr explained his view that the model would actually be a water allocation model that would take into account how much water was in the Lake, how much water was coming into the Lake and how much water was flowing out of the Lake. He noted that it would look at what the interests would be upstream, as well as downstream interests and SCE&G's interests. Bud continued to explain that each interest would be converted into a number value and while the system is being run it will show how many times a certain interest is infringed upon during different scenarios. He noted that the model can be worked to show how many interests "violations" will occur over a span of time. Bud mentioned that everyone is given equal consideration in the model.

Patrick Moore noted that a few years ago American Rivers and the National Heritage Institute started to model the entire Santee Basin. He added that this model would be ready in the next few months. Bud noted that it was a very good model but that it did not substitute for the model that was needed here.

Parkin Hunter asked if the model would be stochastic. Bud replied that it would be deterministic because it is going to use actual measurements and limitations from the Lake.

In a further explanation of his expectations for the model, Bud noted that the first step would be to get the inflows for an extended period of time. He then explained that you need such data as daily rainfall and the daily capacity to develop the baseline. He pointed out that the modeler has to establish relationships between certain demands and interests and lake level elevations. Bud added that evaporation also has to be considered. With respect to downstream interests, he noted that water quality can be reflected in terms of a certain flow or height. He added that the same idea applies to fisheries and navigation. He explained that the modeler will run the scenario and the baseflow for the last fifty years or so. Bud noted that once the model has been built, it will be a tool to mimic the real system, and can be calibrated for high flow, average flow and low flow.

There was some discussion on how floods and droughts would be incorporated into the model. It was noted that the model was going to be calibrated to the last 30 years of climate data. Bud noted that in 2002 there was a very extreme drought and added that he did not believe that extreme drought events, such as that one, should drive the allocations of the model. He pointed out that that event should probably be excluded and put under a low flow protocol. George Duke inquired that if the model was going to exclude the extreme drought cases, then shouldn't it exclude the extreme flooding cases as well. Bud replied that problems arose when there was not enough water in the

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Lake, such as in drought situations, and too much water was not a worry in regards to water allocations.

The group decided that at the next meeting SCE&G would give a presentation on potential models that could be used for Lake Murray and that also could interface into SCE&G's computer system. George Duke suggested that it may be good to show the presentation to the other groups as well so that they will know what is needed from them. Alan agreed.

Bud noted that it would be beneficial to the state agencies to have access to the model and noted that they could sign a contract stating that they would not share it with any outside groups.

Through an interactive discussion the group gave suggestions as to what they would like the model outputs to be; they are listed below:

Outputs of the model

Lake Levels

LSR Flows

Inflows

Generation

Lake Capacity, storage

Frequency, magnitude and duration of demand satisfaction

Graphic Ability

Interactive Model Front

The group then agreed on the mission statement, which is listed below.

“The Mission of the Operations Resource Conservation Group (ORCG) is to oversee the development of a robust hydrologic model for the Saluda Project which will establish a baseline of current hydrologic, hydraulic, and operational conditions, and aid in analyzing and understanding the potential upstream and downstream effects of potential changes to project operations, in support of the missions and goals of all other Saluda Hydroelectric Relicensing RCGs. The objective is to fairly consider those impacts, to include low-flow conditions as a part of developing consensus-based, operations focused recommendations for the FERC license application. Model results are to be presented in readily understandable terms and format. A key measure of success in achieving the mission and goals will be a published Protection, Mitigation, and Enhancement (PM&E) Agreement.”

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The group decided that the next meeting would occur on January 26 at 9:30. The training center was booked for that date but after the meeting Alison was able to secure a room at the Saluda Shoals Park Rivers Center for the meeting location.

Stacia Hoover

From: Alison Guth
Sent: Thursday, December 01, 2005 9:21 AM
To: 'Parkin Hunter'
Subject: FW: Draft Operations Meeting Notes

-----Original Message-----

From: Alison Guth
Sent: Wednesday, November 30, 2005 10:11 AM
To: Alan Stuart; 'AMMARELL, RAYMOND R'; 'bargentieri@scana.com'; 'pxanthakos@scana.com'; 'Gina Kirkland'; 'msummer@scana.com'; 'sbwofford@scana.com'; 'rmahan@scana.com'; Kristina Massey; 'bellsteve9339@bellsouth.net'; 'mark_Leao@fws.gov'; 'Elymay2@aol.com'; 'truple@sc.rr.com'; 'Dick Christie'; 'BadrB@dnr.sc.gov'; 'tohunter@scbar.org'; 'marshallb@dnr.sc.gov'; 'kayakduke@bellsouth.net'; 'bill_hulslander@nps.gov'; 'PatrickM@scccl.org'
Subject: Draft Operations Meeting Notes

Good Morning,

Attached is a copy of the draft November 1st Operations RCG Meeting Notes for your review. Please have comments back to me by December 15th for revisions. You may also present any comments you have on the meeting notes to me before or after the Operations RCG next Tuesday. Thanks for your time.

Regards,
Alison



November 1st
Operations Notes ...

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MEETING NOTES

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

**SCE&G Training Center
November 1, 2005**

Draft 11-30 ACG

ATTENDEES:

Alan Stuart, Kleinschmidt Associates
Alison Guth, Kleinschmidt Associates
Ray Ammarell, SCE&G
Bill Argentieri, SCE&G
Lee Xanthakos, SCE&G
Gina Kirkland, SCDHEC
Mike Summer, SCE&G
Sally Wofford, SCE&G
Randy Mahan, SCANA Services
Kristina Massey, Kleinschmidt Associates
Steve Bell, Lake Murray Watch
Mark Leao, USFWS
Joy Downs, LMA
Tom Ruple, LMA

Dick Christie, SCDNR
Bud Badr, SCDNR
Parkin Hunter, Columbia Audubon
Bill Marshall, LSSRAC
George Duke, LMHOC
Bill Hulslander, Congaree National Park
Patrick Moore, SCCCL\Am. Rivers

DATE: November 1, 2005

ACTION ITEMS:

- Draft Mission Statement:
Randy Mahan

HOMEWORK ITEMS:

- Review ICD and Study Requests
- Think about what information needs to be presented in this group for educational purposes

AGENDA TOPICS FOR NEXT MEETING:

- Develop mission statement
- Discussion on the content of a Model
- Review of stakeholder interests
- Presentation on Saluda
- Review of requested studies and a determination of what information already exists

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***SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT RELICENSING
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***SCE&G Training Center
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**DATE OF NEXT MEETING: December 6, 2005 at 9:30 a.m.
Located at the Lake Murray Training Center**

INTRODUCTIONS AND PURPOSE

Alan Stuart opened the meeting and everyone introduced themselves.

He introduced Lee Xanthakos as the presentation speaker and noted that the purpose of the RCG would be to try to identify resource specific issues. Alan noted that because SCE&G was using the TLP it would be a cooperative process. He mentioned that the difference between cooperative and collaborative had been a topic of confusion.

DISCUSSION

Lee began his presentation on how and why Saluda Hydro operates the way it does.

He noted that he manages the system control room in the Palmetto center downtown.

Lee began to discuss the grid and noted that it was a constant balancing act and they had to work together with other utilities. He mentioned that what SCE&G does is very important to other power companies and visa versa. Lee explained that an example of the grid was the large towers that you see crossing the highway. He explained that electricity travels at the speed of light and noted that if you have a "hiccup" in power anywhere in the country, SCE&G feels it.

Lee presented a map representing the NERC (North American Electric Reliability Council) and noted that each company connects to one another which, in turn, provides a balance of authority.

Lee showed that SCE&G was connected to 5 other control areas.

Bud Badr asked: "How are you connected".

Lee replied: "Our plants are connected directly to their plant by lines."

Lee began to explain how the grid works. He noted that when customers turn on their appliances, and a demand surfaces, it is important for SCE&G to supply the power. He noted that there were three ways to supply power:

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- Fossil fuel plants
- Nuclear power plants
- Hydro – noted that there is Fairfield pump storage, Saluda, and a few run of the river plants such as Parr and Neil Shoals

George Duke asked what the capacity of Fairfield was.

Lee explained that it was 560 MW. Lee began to explain the meaning of peak demand. He noted that in the summer the peak is late in the day and in the winter the peak is in the morning. In the summer you pump in the early morning. In the winter you pump at noon, although it varies from day to day.

George asked if this depended on weather cycles and Lee replied: “Very much, if there is flooding we cannot run Fairfield.” He noted that it was a license requirement that the river cannot be over 40,000 cfs.

Lee continued to discuss balancing the grid and noted that balance means that there is enough electricity flowing from the generators to meet the Customer’s demand. He noted that balance was measured in real time. He pointed out that if SCE&G is over-generating they will call a plant and tell them to cut back and visa versa. He noted that there was a certain order in which plants were taken off and online.

George duke asked: “When you are over generating where does it go?”

Lee explained that in a situation where demand is 4000 and generation is 4000 MW SCE&G is balanced and there is no energy is flowing across the lines. If demand is greater than generation, for example they did not plan well that morning or a plant went offline, SCE&G will take in electricity from neighboring utilities.

Lee noted that they have a meter called “inadvertent” and they try to keep it as close to zero as possible. He noted that if they see they have a negative number of inadvertent they will pump more on the grid...to bring it back to zero. He pointed out that it was called “payback in kind”. He noted that if you had everyone putting out or taking in you have a problem.

Lee noted that an ACE stood for Area of Control Error. He noted that a lack of balance causes flow between control areas.

George Duke asked: “When you plan do you plan at some percent capacity.

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Lee Xanthakos replied: “If a plant is online we get a report on dependable capability, and we run at that number. If you have a problem then you have contingency reserves. And Saluda is an important reserve.”

Lee continued to explain that not all power plants are the same. Nuclear plants are on all the time, if it trips it comes on at 1MW a min, it would take an hour for it to get to 60MW. Natural gas is the same way because it needs to warm up. Lee mentioned that Parr can come on quickly but is not very reliable. Lee explained that another option was to buy power.

Lee noted that the energy from Saluda stays on the grid. He explained that Saluda stays offline until an emergency, In order to be considered reserves it has to be offline and ready. During unbalanced short periods of time other systems supply deficiency in generations.

Steve Bell asked, “Are TVA and Core lakes tied to you?”

Lee replied, “TVA and core lakes are not directly connected to us but are connected to SEPA SOCO etc, our VACAR partners.”

Lee explained that imbalances in the system are caused by such things like power plants breaking down, fuel problems, power line problems etc. He noted that SCE&G could return balance by increasing generation or reducing demand by approved programs.

Reducing demand could include a load curtailment program, can choose a plan depending on the scenario.

Scenario 1 – Tomorrow is going to be cold and a large number of plants are offline, SCE&G would do public appeals through the media, large industrial customers will come offline that SCE&G has contracts with to do so.

Scenario 2 – The grid is balanced, but a nuclear station comes offline, He noted that then there is a voltage reduction.

Joy Downs asked, “What if we didn’t have Saluda, what would we do.”

Lee responded that there were several ways to do this...they could load up all the plants until a plant tripped. They could find alternate generation which would require them to build some other sort of quick start plant.

Gina Kirkland pointed out that hydro was one of the cleanest powers you could have in terms of what is good for the environment.

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Lee began to discuss the rules that they operate by. He pointed out that it could be broken down into the NERC, the SERC and then finally VACAR. Lee continued to discuss the grid rules as presented in the presentation. He noted in order to avoid carrying 1000 MW in reserve, which is what they would have to do to stay in compliance with BAL-002-0, which is their most severe single contingency, they have formed a reserve sharing group meaning they are going to carry 200 MW.

He pointed out that just because Saluda is running doesn't mean that SCE&G directly needs the power; it could mean another member of their reserve sharing group had an outage. He noted that for their problems they usually call Duke because they have hydro and that is the most reliable.

He noted that in the VACAR contract, if they have to call on another company for reserves it is the price is the cost of the power +10%.

Joy Downs – “How can you be sure that they actually have an emergency and they are not just buying the power off of the grid.”

Lee Xanthakos - we write up compliance reports and Duke, or the power plant that we receive power from, also writes up report and compliance is reported quarterly to FERC.

Lee went through a few examples with the group.

Lee began to explain why Saluda was used for reserves.

He noted that they don't always just use Saluda may use Fairfield too, but Saluda will give you power the fastest. If you don't have hydro you have to have other options like turbine farms that are loud, expensive, and only 50 percent reliable, so you have to have reserves for your reserves.

Saluda is the reliable solution for keeping the system online.

Parkin Hunter asked, “Have you ever had the instance of drought, and the lake is down and you cannot generate?”

Lee replied, “No because even with an hour of generation, it won't affect level of lake very much.”

Randy Mahan noted that one of the reasons why SCE&G needs to have 345' in the license is because SCE&G needs to be able to bring it down to 345' for maintenance of the dam.

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Dick Christie asked if you could re-agree with VACAR that you would only carry 100 MW in reserves instead of 200.

Lee replied that, "We need VACAR as much as they need us, they may find another partner if they are unhappy with us, it is a load/generation ratio, as we grow; the collective ratio grows as well."

Gina Kirkland asked, "I know SRS is not available, but is there actually thought to use it?"

Randy Mahan responded that there are thoughts toward that, but that is still not solving the contingency reserve issue that you need Saluda for.

George Duke noted that he had a completely different perspective about Saluda coming into this meeting than he has after hearing the presentation. He noted that he had always assumed that SCE&G used Saluda to supply low cost power that they in turn sold high, which is absolutely not the case.

Lee concluded the presentation and the group then began to discuss the mission statement.

Randy Mahan pointed out that there were a lot of ways to develop mission statement, they could be worked on separately and melded together or they could brainstorm as a group.

Patrick Moore noted that many stakeholders have addressed the formation of a process group.

Randy Mahan replied, "I don't think that is necessary, if there is a procedural issue that needs to be resolved, we will create an ad hoc group. But I believe that creating one now is a solution waiting for a problem."

Joy Downs noted that LMA does not necessarily see that there is a need for a procedural group but there are some questions that LMA has.

Steve Bell noted that if some individuals feel that they need to meet aside, informally, they could do so to develop recommendations.

Randy Mahan replied, "I think we tried to make it clear that if you have recommendations you can submit them, however it is not a democratic process, this is a cooperative process."

Gina Kirkland noted that not everyone is going to be completely happy, but you have to come to a consensus as a group.

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Randy Mahan noted that SCE&G has a responsibility to take a recommendation and try to achieve consensus on a topic. He also noted that anyone can submit comments to the FERC on their own, as well.

Dick Christie pointed out that consensus is a decision that everyone can live with. It may benefit one individual more than another but it is a decision that most people can live with.

Gina Kirkland added that there is always someone who is not happy and cannot live with it, there are extremes that are unhappy but you can usually get consensus from “almost everyone”.

Steve Bell asked, “What happens if the group agreed, for example, that the lake levels should be a certain height.”

Randy replied that a consensus guides what SCE&G puts in the application packet and in turn goes to the FERC. If a consensus is reached and SCE&G disagrees, then SCE&G states that they disagree and why they do so, then the FERC will decide the outcome. He noted that individuals also have the option of filing a comment on this separately.

Alan noted that if everyone came to an agreement that a settlement agreement would be the end result.

Dick Christie noted that as far as communication between the groups goes, in other processes they have combined meetings and issues when facilitators decided to do so.

Alan Stuart noted that if this presents itself, they may see the need to combine a meeting.

Bud Badr noted that he believed the function of an Operations RCG would be to get with the other RCGs, take what everyone wants, balance input and needs, and develop a model. Bud continued to note that he has hired 2 more individuals to work primarily with the FERC relicensing issues and will be able to help SCE&G when they need something from DNR.

Alan began to discuss the issue of the “Parking Lot” as presented in the operating procedures. He noted that from a few comments that he has read that he believes there is a misunderstanding about the “Parking Lot”. He noted that the parking lot is used for items that are irrelevant to the topic at hand and disrupt the flow of the agenda. He noted that that particular item would then be placed in the parking lot to be discussed at the end of the meeting or placed on the next meetings agenda.

Randy Mahan then discussed the evolution of an issue. He gave Recreational Flows as an example and noted that you need to first decide what you need to know in order to discuss whether

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recreational flows are going to occur. Then you take the information and decide whether or not and how to address the issues. Then you decide what info is needed to address the issue, and what you need to know in order to make a reasonable recommendation.

Bud Badr pointed out that you need to make sure you support your issue.

Randy continued to note that they want decisions to be scientifically driven. He also noted that disagreement may arise on whether or not a study needs to be done because there may already be information available. It was also noted that some studies may be combined in order to answer as many questions as possible with one study.

On the topic of a mission statement, Gina Kirkland noted that she thought that a scope of the group needed to be better defined. She noted that she felt that a group could potentially get bogged down with issues that belong in other groups. She pointed out that maybe KA or SCE&G could offer a draft starting point and let the group put meat to it.

The group decided that SCE&G would develop a “strawman” before the next meeting and then discuss it from there.

Alan noted that a homework item would be to take the study requests, read through them, and make recommendations from there.

Randy noted that the long, in-depth studies need to be flushed out first, as they will take more time to accomplish.

Bill Hulslander asked, “Who will conduct the studies and who will decide who will conduct the studies.”

Randy replied that the RCG will develop the scope and the TWC will determine the best way to conduct a study.

Alan then brought up the subject of the media; He noted that there was a rule in the operating procedures that a person who is an active member of the media cannot be an active member of an RCG. He noted that there were some individuals who were contributing writers to various newspapers and if there were problems where information came up in the media, then it will be dealt with. He noted that people need to be able to express themselves without being afraid that what they say will be written about. He noted that if you want to speak to the media afterwards, please do not say that you represent the RCG. However, you may represent your own agency or NGO.

MEETING NOTES

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

***SCE&G Training Center
November 1, 2005***

Draft 11-30 ACG

Steve Bell asked if they could have closed meetings.

Randy replied that nothing should arise that would warrant a closed meeting.

Alan noted that they would be taking the operating procedures and revising them per comments submitted.

The group began to discuss homework items. Alan noted that one item for the group to think about would be what sort of presentation or information needed to be presented to the group.

Dick Christie noted that they needed to give thought to the product they would like from a meeting. He noted that different needs could arise and the group should try to pin them down. He continued to note that products are items needed to address in the model, low inflow protocol, operations protocol. He noted that he thought that they needed to make a decision on how recommendations were used.

The group began to discuss the use of the hydraulic model and Bud Badr noted that he would be able to help with this model and give information. He noted that this model would help to make value judgments.

Ron Ahle noted that he would like to see a presentation that discusses operational requirements, system requirements and such. It was also mentioned that information on the flow forecasting model and Probable Maximum Flood was needed.

Steve Bell asked about standard license articles and Alan noted that he would find these and send them to Steve.

The group closed by outlining the agenda for the next meeting.

In closing, Bill Marshall asked the group if a compromised time could be established, possibly halfway through the day in order to benefit those who are working.

Gina Kirkland responded that an occasional group meeting with all the resource groups in the evening would be okay.

Bill noted that his suggestion would be that they start around 3:00

MEETING NOTES

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

***SCE&G Training Center
November 1, 2005***

Draft 11-30 ACG

The group noted that this was a difficult issue. It was discussed that an occasional evening meeting may be okay, however if they started at 3:00 in the afternoon the meeting may last until late at night.

Dick Christie noted that in his experience there will be a critical mass of people who are essential to the meeting. He noted that he doesn't mind going from around 1:00 to 7:00 if those individuals who you would be meeting later for could come every time.

Alan Stuart noted that it may be best that Bill Marshall meet separately with those individuals who cannot attend and keep them up to speed. He noted that he plans to have updates at quarterly Public Meetings.

Bill Argentieri asked if it would be beneficial to start at 1:00 in the afternoon.

Gina Kirkland responded that it would not be beneficial if they wanted to get through all of the agenda items. She noted that if the group is going to cover a lot of stuff and you are resource limited then the group needs to try to get as much accomplished at one meeting as possible.

It was also noted that if the meeting was started later in the afternoon, those traveling from out of town would have to drive back late as well.

The group concluded to keep the next meeting at the 9:30 schedule.

Kacie Jensen

From: John Davis [johned44@earthlink.net]
Sent: Monday, September 19, 2005 11:57 AM
To: Alison Guth
Subject: Please Post MSC Comments

Dear Ms. Guth:

Upon checking the stakeholder comments page, I did not see Midlands Striper Club listed. We sent the attached letter via email at 4:23PM on the afternoon of August 15, 2005, stating our position on water quality in Lake Murray. Our intent in doing so was to officially register as a stakeholder in the upcoming Saluda Hydro Relicensing Process.

Please add our name and comments to the stakeholders comment page as soon as possible. We will be participating in the upcoming process and look forward to meeting and working with others, including SCE&G and your organization.

We thank you for your assistance.

Sincerely,

John E. Davis, VP, MSC

--- John Davis

--- johned44@earthlink.net

--- EarthLink: The #1 provider of the Real Internet.

August 15, 2005

Mr. James Landreth, Vice President, Fossils and Hydro Operation
SCANA
Columbia, SC

Dear Sir:

Midlands Striper Club, the largest striped bass fishing club in South Carolina and the oldest inland striper fishing club in the nation, is extremely concerned about the maintenance of adequate dissolved oxygen levels needed to sustain the Lake Murray striped bass fishery during late summer. For this reason, we unanimously oppose the use of turbine five to pull water from the 50'-55' depths at the Lake Murray Dam during months when daytime air temperatures approach or exceed 90 degrees. Such temperatures are usually reached between late June and early September.

Our club and its family members have worked diligently through the years to promote a healthy striped bass fishery in Murray. The most important element in maintaining such a fishery during the summer months is maintaining dissolved oxygen levels at the 50-55 foot level in the big pool surrounding and in front of the power turbines. Stripers from throughout the lake system stage at this level during mid to late summer, seeking a critical combination of adequate oxygen and cool temperatures. If this water is pumped through the turbines, there is no way to replace it, as water from up-lake is typically oxygen poor during summer.

In 1991 MSC members saw the disastrous effects of a hot summer and running turbine five -- massive die-offs of large stripers evident throughout the big pool. Since that time, with SCE&G's cooperation in not pulling from this level and the efforts of DNR and clubs like MSC, our striper fishery has prospered.

Murray is now the state's premier striper fishery, with more fishing hours devoted to stripers than any other species and more fishing hours devoted to stripers on Murray than any other SC lake. It has been estimated that the economic impact of the Murray striper fishery is in the neighborhood of \$12 million annually.

The current die off of large striped bass over the past two weeks further illustrates the results of using turbine five at this time. It is MSC's fear that our striper has again been damaged and such damage is likely to occur annually, causing the ultimate collapse of this great fishery and the recreation and economic impact it brings to SC and the Midlands.

The citizens and anglers of South Carolina support the continued stocking and growth of striped bass in Lake Murray through their tax dollars, license fees and through their adherence to restricted daily size and creel limits. For SCE&G to fail to develop and act on a plan that will safeguard this fishery would be tantamount to wanton waste of these valuable resources. We urge SCE&G to find ways to eliminate the use of turbine five during July and August. We also strongly request that some type of oxygen injection

system be installed on the turbine intake towers for use at this critical 50'-55' level during summer.

Respectfully Submitted,

John E. Davis, Vice President and acting Conservation Chair, Midlands Striper Club

August 14, 2005

Midlands Striper Club

--- John Davis

--- johned44@earthlink.net

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Stacia Hoover

From: Alison Guth
Sent: Tuesday, May 24, 2005 1:13 PM
To: BARGENTIERI@scana.com; 'Hal Beard'; 'knowlesc@dhec.sc.gov'; 'gerritj@sccl.org'; 'Prescott Brownell'; 'dchristie@infoave.net'; 'bjmcmanus@jonesday.com'; 'Carlton D Wood'; RMAHAN@scana.com; 'rammarell@scana.com'; 'teppink@SCANA.com'; 'msummer@scana.com'; 'ssummer@scana.com'; 'Gina Kirkland'; Alan Stuart
Subject: Final Meeting notes from 3/21

Hello Folks,

Attached is the final copy of the meeting notes for the March 21 Saluda Hydro Operations meeting. Thanks to all of you for your comments and take care.

Sincerely,
Alison Guth
Licensing Coordinator
Kleinschmidt Associates
101 Trade Zone Drive
Suite 21A
West Columbia, SC 29170
P: (803) 822-3177
F: (803) 822-3183



Water Quality
Operation Report...

Saluda Hydro
Meeting Regarding the Preliminary Annual Report on Water Quality and Aeration
Operations and Saluda Hydro Operation Guidelines

March 21, 2005

Attendees:

Gina Kirkland	SCDHEC	Ray Ammarell	SCE&G
Alan Stuart	Kleinschmidt	Randy Mahan	SCANA Services
Alison Guth	Kleinschmidt	Carlton Wood	USGS
Bill Argentieri	SCE&G	Brian McManus	Jones Day
Steve Summer	SCANA Services	Dick Christie	SCDNR
Mike Summer	SCE&G	Prescott Brownell	NOAA Fisheries
Tom Eppink	SCANA Services	Gerrit Jobsis	CCL/Am. Rivers
Sally Knowles	SCDHEC	Hal Beard	SCDNR
Richard Roos-Collins	NHI		

Action Items:

Due Date:

- Prepare and distribute meeting notes from March 21 meeting
Alison Guth *April 30, 2005*
- Incorporate revisions into the Annual Report on Water Quality and Aeration Operations and the 2005 Operation Guidelines
Alan Stuart *April 4, 2005*
- Arrange for a tour of the operations facility at the Palmetto Building downtown, at the request of SCDHEC
SCE&G and KA *June 2005*
- Acquire DO monitor testing criteria from Ted Cooney of USGS and distribute to SCDHEC
Steve Summer *May 1, 2005*
- Send a schedule on hub baffle installation and the USGS monitoring plan to Gerrit Jobsis
Alan Stuart *May 21, 2005*

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 opened the meeting at approximately 9:25 and stated that the purpose of the meeting was to review the 2004 Aeration Report based on operation guidelines, as well as to prepare the 2005 Operation Report. Alan mentioned that Jim Ruane did the final

Saluda Hydro
Meeting Regarding the Preliminary Annual Report on Water Quality and Aeration
Operations and Saluda Hydro Operation Guidelines

March 21, 2005

analyses on the Annual Water Quality and Aeration Operations Report, and although he was unable to attend this meeting today, that he could be contacted with questions.

Review of the Preliminary Annual Report on Water Quality and Aeration Operations:

The group began to discuss the Annual Water Quality and Aeration Report. Gerrit mentioned that on the second page of the report, first paragraph, it discusses SCE&G's reserve obligations, he asked where he could get a copy of the regional VACAR contract in order to gain a better understanding of what it says. Bill noted that it was his understanding that it was a public document, and can be found as an appendix to the Interconnection Agreement with other utilities. The group discussed VACAR member responsibilities and it was explained that SCE&G was a part of the southeastern system. It was noted that SCE&G had to prioritize their needs first and then the needs of the system. Dick asked SCE&G why they could not use a different hydro unit to provide reserve capacity other than Saluda Hydro. SCE&G explained that the only other operating system they have like Saluda Hydro is Fairfield and it is not available at all times. Bill continued to explain that if a coal fired plant trips off there needs to be a system capable of meeting that type of demand.

Richard noted that in the annual report, it might be conducive to better understanding to place background considerations into their own subsection. SCE&G noted that this could be done very easily. He also asked, in reference to section 1.1 of the report, for what % of the time was the site D.O standard maintained. Gerrit noted that there were 4 occasions on which data indicates that the DO standard was not met, one of which was a 24 hour period where there appears to be low/no DO.

Gina questioned whether or not the USGS data used was entirely accurate and there was no fouling. SCE&G noted that they used USGS provisional data in their analyses. To which Carlton noted that provisional data was not QAQC'd by USGS. He mentioned that the meters were checked every two weeks; Steve added that he would occasionally find fouling and would consequently call USGS to inform them of his findings. Due to these fouling issues, Carlton informed the group that the Hydrolab meters were changed in November to YSI meters which do not require a stirrer, so he expects improvements in data accuracy. He continued to note that they are tested by the Hydrologic Instrumentation Facility (HIF). Gina then inquired as to if she could get the testing criteria. It was decided that Ted Cooney would be the best individual from which to get the criteria and Steve Summer mentioned that he would work on acquiring this data.

The group continued to discuss the accuracy of the meters, SCE&G noted that they go out frequently and spot check the DO, especially during the "DO crunch" period. When Carlton was there, they noted that they would compare their data with his. Carlton added that each unit typically had a variability of 0.2 mg/l in either direction. He continued to

Saluda Hydro
Meeting Regarding the Preliminary Annual Report on Water Quality and Aeration
Operations and Saluda Hydro Operation Guidelines

March 21, 2005

note that this variability was increased when comparing two units. Both Alan and Steve noted that they have on different occasions observed significant differences between the readings of two different meters.

Carlton continued to state that USGS processed the DO data every 2 weeks, in an effort to turn provisional data into nearly-final data, applying corrections to the information on the internet. Subsequently, he noted that the real-time data may look different than data from two weeks before because it has been corrected. Sally questioned Carlton as to whether he typically saw data vary or if he excluded data. Carlton replied that they are not allowed to change individual unit values; however, they can delete them if there are significant departures from what the data would be. They can then apply the corrections to the whole period or part of the period.

The group began to confer on other options for obtaining the most accurate reading of DO. Carlton noted that since the DO typically varies across the stream, optimal data would be best achieved by sampling from the center of the river, however due to recreation constraints, USGS was typically not allowed to place a meter in such a location. He pointed out that monitoring could be enhanced if the platform could be lengthened to extend the gage further out into the channel.

Discussions turned to the lower Saluda River fishery. Hal noted in reference to the trout fishery, that comparatively speaking, the size and abundance of fish caught during last year's sampling efforts has decreased. However, he continued to note that it was not fair to say that the populations were decimated, decreased numbers could be due to anglers and factors other than water quality.

Tom pointed out, in reference to water quality, the Project was not the sole source for DO impact, what is coming into the Lake has a great impact on the water quality. Sally replied that SCDHEC does not expect the Project to bring the water quality of the river up if the river is naturally low. Gina noted that the release of water from the dam is not a natural phenomenon, releasing cold but low DO waters. She continued to state that subsequently, she believes SCE&G does have the responsibility to meet the standard. Sally suggested that perhaps SCE&G and SCDHEC should jointly develop an assessment methodology for determining standards attainment at hydro projects. The methodology should recognize that one excursion for a short duration does not necessarily indicate non compliance. SCE&G replied that they were willing to do whatever was reasonable to help the DO as long as they could maintain the Project for reserve capacity. However, they continued to state that they believe that water quality issues should also be addressed at their upstream sources, especially the Bush River area. Gina stated that DHEC will address point sources, but the buffer areas around the lake are SCE&G's responsibility. Randy replied that SCE&G only owned 1/3 of the lake, however have significantly promoted best management practices around the lake.

Saluda Hydro
Meeting Regarding the Preliminary Annual Report on Water Quality and Aeration
Operations and Saluda Hydro Operation Guidelines

March 21, 2005

Richard Roos-Collins mentioned that he would like to see the figures and tables in the report summarized in terms of exceedences and compliances. Steve replied that it will be done with the updated QAQC'd USGS data. Alan noted that in talking with Jim Ruane, Jim thought the performance was better at the flow outputs and the look up tables are representative of a conservative estimate.

Gerrit questioned as to why there was a need to release large flows for a short amount of time as opposed to lower flows over a longer period of time. SCE&G replied that many times they have very short notice as to how much the reservoirs above Lake Murray will release. Consequently, they must release what is necessary in the amount of time that they are given.

The group continued to discuss goals for 2005. Gerrit noted that he would like to see measures enacted that help to avoid extended periods of time with low DO and have an extended outlook to make estimates for more moderate flows. Randy noted that they would look into doing that however it was hard to predict all circumstances.

Richard noted that in sections 3.1 through 3.3 of the Preliminary annual report that he would like to see a brief summary of scale of the exceedance and how many days the minimum DO occurred, placing more emphasis on the frequency and the duration of the exceedances.

Sally inquired as to where the operation center was for the dam. Randy replied that it was in the Palmetto Building downtown. Sally mentioned that she would like a tour of that facility, and the others agreed.

The group then began to discuss hub baffles and the time frame for their installation. Mike Summer noted that there were a lot of things to consider when choosing an optimal time for installation, such as safety issues and the renting of plugs. Gerrit noted that it may be beneficial to reference the subsequent water quality study plan in the agreement for 2005. Gina mentioned that she would also like to see a growth study performed after the hub baffles were installed and running for a year. Gerrit requested a schedule on hub baffle installation as well as a schedule on the USGS monitoring plan.

Review of the Guidelines for Operation of the Saluda Project for Dissolved Oxygen Management in 2005:

After a short break for lunch, the group re-convened to discuss the 2005 Guidelines for Operation. Alan noted that as discussed previously he took out all of the references to refilling activities and added a point to conduct the monthly training of operators. Gerrit noted that it would be helpful if maximum flow training was incorporated in order to help promote more gradual flows to better meet water quality standards. Sally requested that hub baffle installation be added in as an action into the plan.

Saluda Hydro
Meeting Regarding the Preliminary Annual Report on Water Quality and Aeration
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March 21, 2005

Mike began to explain how SCE&G was working through Kleinschmidt Associates to acquire the help of a consultant to work on installing the hub baffles which take several days to install. Gerrit mentioned that he would like some kind of commitment to get this done on SCE&G's part. Bill noted that SCE&G was trying to get Jim Carter to come in and work with the hub baffles. Sally requested that SCE&G send out a progress report on the hub baffle installation by June 1, 2005. Gerrit requested that if the installation of hub baffles is not possible then a change in operations needs to be considered. He also requested that new testing be performed and new look up tables be compiled after the hub baffles have been installed.

Richard requested that monthly technical meetings be arranged on the application of the look-up tables. The group concluded that these could be arranged on an as-needed basis. Sally noted that it would be helpful if the weekly operation reports included an explanation of any excursions that may have occurred, and that this item was recorded as an amendment to the plan on pg. 2 of the 2005 plan.

The group began discussing what flows could be expected during 2005. Steve noted that they could expect a minimum flow greater than 400 cfs, close to 500 cfs. While conversing on the 2005 plan, Gerrit requested that SCE&G track change the edits in the appendix of the 2005 plan. Bill concluded noting that the final revised draft needs to be out to the FERC by June 1, 2005 and the draft with new revisions would be back out by April 4, 2005.

The meeting adjourned at approximately 1:45.

From: [Alison Guth](#)
To: ["Bud Badr";](#)
Subject: RE:
Date: Tuesday, October 18, 2005 9:02:02 AM

Bud,

In the end we decided to have it on the 1st. Thanks though. I sent out an email yesterday with all the final dates on it. Let me know if you didn't receive it and I will send it again. Thanks!

-----Original Message-----

From: Bud Badr [mailto:BadrB@dnr.sc.gov]
Sent: Tuesday, October 18, 2005 8:59 AM
To: Alison Guth
Subject: RE:

Hi Alison,

I can make the 14th.

Thanks,

Bud Badr

-----Original Message-----

From: Alison Guth [mailto:Alison.Guth@KleinschmidtUSA.com]
Sent: Monday, October 17, 2005 10:31 AM
To: Bud Badr
Subject: RE:

Importance: High

Hello Bud,

I am in the process of finalizing all of the dates for the Resource Conservation Groups, however I have run into an issue. The majority of individuals on the Operations resource group prefer the 14th.

However, we would really like to have your participation on this group. I know that the 1st would be best for you, but would it still be possible for you to attend if it was on the 14th? Thanks, and just let me know. Alison

-----Original Message-----

From: Bud Badr [mailto:BadrB@dnr.sc.gov]
Sent: Friday, September 23, 2005 1:38 PM
To: Dick Christie
Cc: Alison Guth
Subject: RE:

November 1st is good for me.

Thanks,

Bud Badr

-----Original Message-----

From: Dick Christie [mailto:dchristie@InfoAve.Net]
Sent: Friday, September 23, 2005 10:36 AM
To: Bud Badr
Cc: Alison Guth
Subject:

Importance: High

Hi Bud - the original meeting date for Operations has been changed! The Operations meeting, originally scheduled for September 26, will be changed to November 1 or November 14. Please let Alison Guth, with Kleinschmidt, know if you have a preference. Thanks.

Stacia Hoover

From: Alison Guth
Sent: Monday, November 13, 2006 4:51 PM
To: Winward point Yacht Club ; Aaron Small; Alan Axson; Alan Stuart; Alison Guth; Amanda Hill; Amy Bennett; Andy Miller; Bertina Floyd; Bill Argentieri; Bill Brebner ; Bill East; Bill Green (BGreen@smeinc.com); Bill Hulslander; Bill Marshall; Bill Mathias; Bob Olsen; Bob Seibels (bseibels@yahoo.com); Brandon Stutts ; Bret Hoffman; Brett Bursey; btrump@scana.com; Bud Badr; Buddy Baker ; Charlene Coleman; Charles Floyd; Charlie Compton; Charlie Rentz; Chris Judge; Chris Page; Daniel Tufford; Dave Anderson; Dave Landis; David Allen; David Hancock; David Jones; David Price; Dick Christie; Don Tyler; Donald Eng; Ed Diebold; Ed Duncan (duncane@mrd.dnr.state.sc.us); Edward Schnepel; Feleke Arega (aregaf@dnr.sc.gov); George Duke; Gerrit Jobsis (American Rivers); Gina Kirkland; Guy Jones; Hal Beard; Hank McKellar; Irvin Pitts (ipitts@scprt.com); Jeff Duncan; Jennifer O'Rourke; Jennifer Price ; Jennifer Summerlin; Jerry Wise; Jim Devereaux; Jim Glover; Jim Goller; Jim Ruane ; JoAnn Butler; Joe Logan; Joel Huggins ; John and Rob Altenberg; John Davis (johned44@bellsouth.net); John Frick (jsfrick@mindspring.com); Jon Leader; Joy Downs; Karen Kustafik; Keith Ganz-Sarto; Ken Styer ; Ken Uschelbec; Kenneth Fox; Kim Westbury; Kristina Massey; Larry Turner (turnerle@dhec.sc.gov); Lee Barber; Linda Lester ; Linda Schneider ; Malcolm Leaphart; Marianne Zajac; Mary Kelly; Michael Murrell; Mike Duffy; Mike Sloan; Mike Summer (msummer@scana.com); Mike Waddell; Miriam Atria; Norm Nicholson; Norman Ferris; Parkin Hunter; Patricia Wendling; Patrick Moore; Phil Hamby ; Prescott Brownell; Randal Shealy; Randy Mahan; Ray Ammarell; Rebekah Dobrasko; Reed Bull (rbull@davisfloyd.com); Rhett Bickley; Richard Kidder; Richard Mikell; Robert Keener (SKEENER@sc.rr.com); Robert Lavisky; Roger Hovis ; Ron Ahle; Ronald Scott; Roy Parker; Russell Jernigan; ryanity@scana.com; Sandra Reinhardt; Sean Norris; Shane Boring; Skeet Mills ; Steve Bell; Steve Summer; Suzanne Rhodes; Theresa Powers (tpowers@newberrycounty.net); Theresa Thom; Tim Vinson; Tom Bowles (tbowles@scana.com); Tom Eppink; Tom Ruple; Tom Stonecypher; Tommy Boozer; Tony Bebbler; Valerie Marcil; Van Hoffman; Wade Bales (balesw@dnr.sc.gov); Wenonah Haire; Mike Schimpff

Subject: Final Meeting Notes - All RCG's Meeting

Hello All,

Attached is the final set of meeting notes from the October 12th All RCG's Meetings. Thanks, Alison



2006-10-12 final
Meeting Minut...

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
101 Trade Zone Drive
Suite 21A
West Columbia, SC 29170
P: (803) 822-3177
F: (803) 822-3183

MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT RELICENSING
All RCGs Operations Meeting**

**Saluda Shoals Park
October 12, 2006**

Final acg 11-13-06

ATTENDEES:

Alison Guth, Kleinschmidt Associates	Shane Boring, Kleinschmidt Associates
Alan Stuart, Kleinschmidt Associates	Dave Anderson, Kleinschmidt Associates
David Price, LM Power Squadron	Amy Bennett, SCDHEC
Kim Westbury, Saluda County	Jim Ruane, REMI
Bret Hoffman, Kleinschmidt Associates	Trisha Priester, Lexington County
Ronald Scott, Lexington County	Andy Miller, SCDHEC
Patrick Moore, CCL, AR	Reed Bull, Midlands Striper Club
Ron Ahle, SCDNR	Brandon Stutts, SCANA Services
Kristina Massey, Kleinschmidt Associates	Mike Schimpff, Kleinschmidt Associates
Bob Olson, NRE	Tom Bowles, SCE&G
Jenn O'Rourke, SCWF	Richard Mikell, Adventure Carolina
Dick Christie, SCDNR	Bob Perry, SCDNR
Jeff Duncan, NPS	Theresa Thom, NPS
Tony Bebber, SCPRT	Ed Schnepel, LMA
Tom Ruple, LMA	Ed Diebold, Riverbanks Zoo
Bob Seibels, Riverbanks Zoo	Jon Quebbeman, Kleinschmidt Associates
Bill Argentieri, SCE&G	Mike Waddell, Saluda TU
Karen Kustafik, CoC Parks & Rec	Amanda Hill, USFWS
Bill Brebner, YCOA	Kenneth Fox, LMA
Roy Parker, LMA	Bob Keener, LMA & LMSCA
Steve Summer, SCANA Services	Bud Badr, SCDNR
Randy Mahan, SCANA Services	Bob Keener, LMA
Ray Ammarell, SCE&G	

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 of Kleinschmidt Associates welcomed the group and noted that the purpose of this meeting was to introduce two items to the RCG members, a presentation on the research SCE&G has done on Alternative Energy Sources, and secondly to discuss the HEC-ResSim Operations Model. Alan noted that in order to aid in the understanding of hydrology when discussing the model, Dr. Bud Badr would also be providing the group with a hydrology 101 presentation. Subsequent to Alan's introduction, the following presentations were given (click below to view)

MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT RELICENSING
All RCGs Operations Meeting**

**Saluda Shoals Park
October 12, 2006**

Final acg 11-13-06

Alternative Energy Source Presentation – *Carl Hoadley & Skip Smith SCE&G:*
<http://www.saludahydrorelicense.com/documents/ALTERNATIVEGENERATION.pdf>

An Understanding Of Hydrology – *Dr. Bud Badr : Coming Soon*

Discussion On The HEC-ResSim Operations Model – *Mike Schmipff & Jon Quebbeman – Kleinschmidt Associates :* <http://www.saludahydrorelicense.com/documents/SaludaProject10-12a.pdf>

Following the presentation on Alternative Generation, the floor was opened up for questions. One individual asked how the reliability numbers presented in the presentation were calculated. Carl H. replied that in order to calculate those numbers, they looked at forced outage rates, routine maintenance, as well as industry numbers. Bill A. also explained that many of the equipment cost numbers come from recent numbers that the vendors supplied. The group also briefly discussed how future demands will be fulfilled. One individual asked if SCE&G has evaluated how Saluda may be used in the future. Steve S. replied that SCE&G is looking at fulfilling future capacity needs through a nuclear station. There was also brief discussion regarding the use of Saluda over the past year. Bill A. explained that last year SCE&G tried to keep the lake level up around 358' and because of this, they had to get rid of the rainwater that entered the system rapidly to avoid exceeding the normal high water level. Due to problems with some of the other units at Saluda, Unit 5 was run to expel the excess rainwater. Reed B. also asked if there was any way to look at how Saluda was used for reserve in the past in order to predict how Saluda may be used for reserve in the future. Randy M. noted that because of the unpredictable nature of reserve calls, it would be difficult to forecast how often they may be called upon for reserve in the future. Patrick Moore asked if the alternatives analysis had considered partial replacement of only 50 or 100 MW because the most problematic impacts occurred at high flows. Bill A. replied that the Code of Fed. Regulations only required the full replacement cost analysis and that no partial analysis had been done. Later in the meeting Patrick commented that the 34 million dollar relicensing cost cap was an internal, SCE&G figure and that it in no way limited what SCE&G would be required to spend to address project impacts. He cited a recent court of appeals case that stated FERC has no obligation to issue an economically viable license.

After a short break, Dr. Bud Badr gave a presentation on hydrology to the group. There were no questions following Dr. Badr's presentation.

The next presentation was given by Mike Schmipff and Jon Quebbeman on the HEC-ResSim model developed for Saluda. The presentation can be viewed from the link above. Mike S. explained that the HEC-ResSim model was used for Lake Murray and was incorporated with the HEC-Ras model for the lower Saluda River. The floor was open for questions throughout the presentation. Tony B. noted that in the last 16 years he doesn't believe there have been any major flood events, and asked if something was built into the model to account for this. Mike S. explained that this being a water

MEETING NOTES

***SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT RELICENSING
All RCGs Operations Meeting***

***Saluda Shoals Park
October 12, 2006***

Final acg 11-13-06

allocation model, he was not as concerned about the high flow times because water can be allocated for all the needs. He noted that the concern lies in the low flow times. Jeff D. asked if data from the Catawba Wateree model could be integrated into the Saluda model. Jon Q. noted that it was possible to add in other data to the model, however he noted that he did not believe it would be necessary or appropriate to add the Catawba data in.

The group began to discuss in a little more detail the constraints to be developed by the Resource Conservation Groups. Dave A. asked if the flows in the lower Saluda River can be calculated at the gage by the Zoo. Jon Q. replied that it could. Dave A. also asked if the model could predict what would happen when Saluda is used for reserve. Jon Q. explained that they were going to handle this by adding in, for example, 200 MW, 1 day a month, for 24 hours. Dave A. asked how the constraints will be obtained from the Resource Conservation Groups. Jon Q. noted that it depended on the RCGs time schedule, once an RCG makes a recommendation for the model, he could input the data. Ron A. added that he believed that instream flows would be the last input to the model. Mike S. and Jon Q. concluded their presentation and the group adjourned.

Stacia Hoover

From: Alison Guth
Sent: Thursday, May 11, 2006 3:50 PM
To: Alan Stuart; BARGENTIERI@scana.com; 'Bill Marshall'; 'Mike Waddell'; 'Patrick Moore'; 'bellsteve9339@bellsouth.net'; 'theresa_thom@nps.gov'; 'Jennifer O'Rourke'; 'Bigbillcutler@aol.com'; RMAHAN@scana.com
Subject: April 6th TWC meeting notes

Hello all,

Attached are the draft meeting notes from the April 6th Operations and Safety TWC meeting. Please have any comments back to me by May 24th for finalization. Thanks, Alison



2006-04-06 draft
Meeting Minut...

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Licensing Coordinator
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MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT RELICENSING
OPERATIONS & SAFETY TWC**

**Saluda Shoals Park
April 6, 2006**

5-11-06 draft acg

ATTENDEES:

Alan Stuart, Kleinschmidt Associates
Alison Guth, Kleinschmidt Associates
Bill Argentieri, SCE&G
Bill Marshall, DNR, LSSRAC
Michael Waddell, TU
Patrick Moore, SCCCL, Am. Rivers
Steve Bell, Lake Watch

Theresa Thom, Congaree National Park
Jennifer O'Rourke, SC Wildlife Federation
Bill Cutler, Lake Watch, LM Homeowners
Coalition

DATE: April 6, 2006

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

After the April 6th Combined Safety and Recreation meeting, the TWC members began the technical meeting. Bill Argentieri opened the meeting by asking what info the group felt that it needed and he would check to see if that information was available. Patrick Moore noted that he would like to see information on the operation of Saluda from a wet year, a dry year, and a normal year. He also noted that it would be beneficial to obtain operations information from a normal, wet, and dry year from the time in which Saluda was used for peaking.

Steve Bell asked if weekly generation reports were available for all plants on SCE&G's system. Bill Argentieri replied that they were available for Saluda because they are being sent out as part of the settlement agreement. Steve further explained that they would like to see reports from the entire system in order to see if Saluda was run for reserve or for some other reason. Patrick further noted that he would like to see if Saluda truly was the last option for reserve. Mike Waddell explained that it was his interest to expand the range of options and to better grasp how the system operates.

The group began discussing what date ranges of information was needed. Mike Waddell suggested that the group begin by looking at information from January of 2005 to the following January, with the understanding that there may be more questions once the group is able to look at the information. Bill Argentieri explained that the generation reports alone would not explain why

MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT RELICENSING
OPERATIONS & SAFETY TWC**

**Saluda Shoals Park
April 6, 2006**

5-11-06 draft acg

other plants were or were not operated. The group began to go over options for deciphering why a particular plant was run. Mike Waddell suggested looking at Broad River flows in order to see how many times it was flowing over 40,000 cfs.

Steve Bell noted that his goal for the committee would be to have a specific report that was part of the record and that other groups could refer to. The group also requested a round table discussion with Lee Xanthakos to discuss in more detail how he uses Saluda as well as the other facilities.

Bill Marshall mentioned that he also would be interested in learning different scenarios for the use of Saluda and Fairfield and asked if that would be a part of what was brought to the table in an alternatives analysis. Bill Argentieri replied that it was not a part of the alternative analysis which would look at the alternatives for replacing Saluda all together.

The group continued to discuss the uses of Saluda and Fairfield. Patrick Moore requested to see information on rate ranges for the purchase of power. Alan noted that this information could not be disseminated in the presence of Lee Xanthakos according to FERC guidelines.

Steve Bell noted that he would also like to see information on the drawdowns for hurricane season. He continued to explain that he would be interested to see what time of day or month SCE&G began to take the lake down, and to what level. Steve also asked what was done if there was an emergency downstream where someone's life was at risk, and if they could stop generation in that case. Bill Argentieri replied that they have received a call of that nature before and the generation was shut down.

After more brief discussion on the use of Saluda the group compiled a list of requested information. Bill noted that he would meet with Lee Xanthakos in order to compile the answers to these questions.

List of Requested Information:

- Weekly generation reports for all plants on SCE&G's system between January and December of 2005 (The group will start this process by looking at one weeks worth of information and decide what more is needed)
- Reasons why certain plants on the system were operated.
- Time periods during which Broad River flows were greater than 40,000 cfs
- How and when the gas turbines are used on the system

MEETING NOTES

***SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT RELICENSING
OPERATIONS & SAFETY TWC***

***Saluda Shoals Park
April 6, 2006***

5-11-06 draft acg

- How Fairfield is used
- Ranges of costs for the purchase of megawatt hours.
- Reserves that were requested in 2005 by other utilities and the amounts of megawatts that were called upon.

Stacia Hoover

From: Alison Guth
Sent: Wednesday, October 25, 2006 3:50 PM
To: Winward point Yacht Club ; Aaron Small; Alan Axson; Alan Stuart; Alison Guth; Amanda Hill; Amy Bennett; Andy Miller; Bertina Floyd; Bill Argentieri; Bill Brebner ; Bill East; Bill Green (BGreen@smeinc.com); Bill Hulslander; Bill Marshall; Bill Mathias; Bob Olsen; Bob Seibels (bseibels@yahoo.com); Brandon Stutts ; Bret Hoffman; Brett Bursey; btrump@scana.com; Bud Badr; Buddy Baker ; Charlene Coleman; Charles Floyd; Charlie Compton; Charlie Rentz; Chris Judge; Chris Page; Daniel Tufford; Dave Anderson; Dave Landis; David Allen; David Hancock; David Jones; David Price; Dick Christie; Don Tyler; Donald Eng; Ed Diebold; Ed Duncan (duncane@mrd.dnr.state.sc.us); Edward Schnepel; Feleke Arega (aregaf@dnr.sc.gov); George Duke; Gerrit Jobsis (American Rivers); Gina Kirkland; Guy Jones; Hal Beard; Hank McKellar; Irvin Pitts (ipitts@scprt.com); Jeff Duncan; Jennifer O'Rourke; Jennifer Price ; Jennifer Summerlin; Jerry Wise; Jim Devereaux; Jim Glover; Jim Goller; Jim Ruane ; JoAnn Butler; Joe Logan; Joel Huggins ; John and Rob Altenberg; John Davis (johned44@bellsouth.net); John Frick (jsfrick@mindspring.com); Jon Leader; Joy Downs; Karen Kustafik; Keith Ganz-Sarto; Ken Styer ; Ken Uschelbec; Kenneth Fox; Kim Westbury; Kristina Massey; Larry Turner (turnerle@dhec.sc.gov); Lee Barber; Linda Lester ; Malcolm Leaphart; Marianne Zajac; Mary Kelly; Michael Murrell; Mike Duffy; Mike Sloan; Mike Summer (msummer@scana.com); Mike Waddell; Miriam Atria; Norm Nicholson; Norman Ferris; Parkin Hunter; Patricia Wendling; Patrick Moore; Phil Hamby ; Prescott Brownell; Randal Shealy; Randy Mahan; Ray Ammarell; Rebekah Dobrasko; Reed Bull (rbull@davisfloyd.com); Rhett Bickley; Richard Kidder; Richard Mikell; Robert Keener (SKEENER@sc.rr.com); Robert Lavisky; Roger Hovis ; Ron Ahle; Ronald Scott; Roy Parker; Russell Jernigan; ryanity@scana.com; Sandra Reinhardt; Sean Norris; Shane Boring; Skeet Mills ; Steve Bell; Steve Summer; Suzanne Rhodes; Theresa Powers (tpowers@newberrycounty.net); Theresa Thom; Tim Vinson; Tom Bowles (tbowles@scana.com); Tom Eppink; Tom Ruple; Tom Stonecypher; Tommy Boozer; Tony Bebbler; Valerie Marcil; Van Hoffman; Wade Bales (balesw@dnr.sc.gov); Wenonah Haire; Mike Schimpff

Subject: All RCG's Draft Meeting Notes

Hello All,

Attached are the draft meeting notes from the All RCG's Meeting on October 12. The sign in sheets did not make it all the way around the room so if you were left off the attendance list let me know. Please let me know of any changes or additions to the notes by November 8th. Thanks, Alison



2006-10-12 draft
Meeting Minut...

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Suite 21A
West Columbia, SC 29170
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MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT RELICENSING
All RCGs Operations Meeting**

**Saluda Shoals Park
October 12, 2006**

Draft acg 10-25-06

ATTENDEES:

Alison Guth, Kleinschmidt Associates	Shane Boring, Kleinschmidt Associates
Alan Stuart, Kleinschmidt Associates	Dave Anderson, Kleinschmidt Associates
David Price, LM Power Squadron	Amy Bennett, SCDHEC
Kim Westbury, Saluda County	Jim Ruane, REMI
Bret Hoffman, Kleinschmidt Associates	Trisha Priester, Lexington County
Ronald Scott, Lexington County	Andy Miller, SCDHEC
Patrick Moore, CCL, AR	Reed Bull, Midlands Striper Club
Ron Ahle, SCDNR	Brandon Stutts, SCANA Services
Kristina Massey, Kleinschmidt Associates	Mike Schimpff, Kleinschmidt Associates
Bob Olson, NRE	Tom Bowles, SCE&G
Jenn O'Rourke, SCWF	Richard Mikell, Adventure Carolina
Dick Christie, SCDNR	Bob Perry, SCDNR
Jeff Duncan, NPS	Theresa Thom, NPS
Tony Bebber, SCPRT	Ed Schnepel, LMA
Tom Ruple, LMA	Ed Diebold, Riverbanks Zoo
Bob Seibels, Riverbanks Zoo	Jon Quebbeman, Kleinschmidt Associates
Bill Argentieri, SCE&G	Mike Waddell, Saluda TU
Karen Kustafik, CoC Parks & Rec	Amanda Hill, USFWS
Bill Brebner, YCOA	Kenneth Fox, LMA
Roy Parker, LMA	Bob Keener, LMA & LMSCA
Steve Summer, SCANA Services	Bud Badr, SCDNR
Randy Mahan, SCANA Services	Bob Keener, LMA
Ray Ammarell, SCE&G	

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 of Kleinschmidt Associates welcomed the group and noted that the purpose of this meeting was to introduce two items to the RCG members, a presentation on the research SCE&G has done on Alternative Energy Sources, and secondly to discuss the HEC-ResSim Operations Model. Alan noted that in order to aid in the understanding of hydrology when discussing the model, Dr. Bud Badr would also be providing the group with a hydrology 101 presentation. Subsequent to Alan's introduction, the following presentations were given (click below to view)

MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
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October 12, 2006**

Draft acg 10-25-06

Alternative Energy Source Presentation – *Carl Hoadley & Skip Smith SCE&G:*
<http://www.saludahydrorelicense.com/documents/ALTERNATIVEGENERATION.pdf>

An Understanding Of Hydrology – *Dr. Bud Badr : Coming Soon*

Discussion On The HEC-ResSim Operations Model – *Mike Schmipff & Jon Quebbeman – Kleinschmidt Associates :* <http://www.saludahydrorelicense.com/documents/SaludaProject10-12a.pdf>

Following the presentation on Alternative Generation, the floor was opened up for questions. One individual asked how the reliability numbers presented in the presentation were calculated. Carl H. replied that in order to calculate those numbers, they looked at forced outage rates, routine maintenance, as well as industry numbers. Bill A. also explained that many of the equipment cost numbers come from recent numbers that the vendors supplied. The group also briefly discussed how future demands will be fulfilled. One individual asked if SCE&G has evaluated how Saluda may be used in the future. Steve S. replied that SCE&G is looking at fulfilling future capacity needs through a nuclear station. There was also brief discussion regarding the use of Saluda over the past year. Bill A. explained that last year SCE&G tried to keep the lake level up around 358' and because of this, they had to get rid of the rainwater that entered the system rapidly to avoid flooding. Due to problems with some of the other units at Saluda, Unit 5 was run to expel the excess rainwater. Reed B. also asked if there was any way to look at how Saluda was used for reserve in the past in order to predict how Saluda may be used for reserve in the future. Randy M. noted that because of the unpredictable nature of reserve calls, it would be difficult to forecast how often they may be called upon for reserve in the future.

After a short break, Dr. Bud Badr gave a presentation on hydrology to the group. There were no questions following Dr. Badr's presentation.

The next presentation was given by Mike Schmipff and Jon Quebbeman on the HEC-ResSim model developed for Saluda. The presentation can be viewed from the link above. Mike S. explained that the HEC-ResSim model was used for Lake Murray and was incorporated with the HEC-Ras model for the lower Saluda River. The floor was open for questions throughout the presentation. Tony B. noted that in the last 16 years he doesn't believe there has been any major flood events, and asked if something was built into the model to account for this. Mike S. explained that this being a water allocation model, was not as concerned about the high flow times because water can be allocated for all the needs. He noted that the concern lies in the low flow times. Jeff D. asked if data from the Catawba Wateree model could be integrated into the Saluda model. Jon Q. noted that it was possible to add in other data to the model, however he noted that he did not believe it would be necessary or appropriate to add the Catawba data in.

MEETING NOTES

***SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT RELICENSING
All RCGs Operations Meeting***

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October 12, 2006***

Draft acg 10-25-06

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Stacia Hoover

From: Bret Hoffman
Sent: Monday, October 02, 2006 4:39 PM
To: 'Tony Bebbler'; Alan Stuart; Alison Guth; 'Amanda Hill'; 'Bill Argentieri'; 'Bill Hulslander'; 'Bill Marshall'; 'Bud Badr'; 'Charlene Coleman'; 'Dave Landis'; 'Dick Christie'; 'Feleke Arega (aregaf@dnr.sc.gov)'; 'George Duke'; 'Gerrit Jobsis (American Rivers)'; 'Gina Kirkland'; 'Hank McKellar'; 'Jeff Duncan'; 'Jennifer O'Rourke'; 'Joy Downs'; 'Kristina Massey'; 'Larry Turner (turnerle@dhec.sc.gov)'; 'Mark Leao'; 'Mike Summer (msummer@scana.com)'; 'Mike Waddell'; 'Parkin Hunter'; 'Patrick Moore'; 'Randal Shealy'; 'Randy Mahan'; 'Ray Ammarell'; 'Russell Jernigan'; 'Steve Bell'; 'Suzanne Rhodes'; 'Theresa Thom'; 'Tom Ruple'; 'Tom Stonecypher'; Jon Quebbeman; Bret Hoffman; 'Bob Olsen'; Bret Hoffman; Mike Schimpff
Subject: August 24 Operations TWC meeting notes

Good afternoon,

The final meeting notes from the August 24, 2006 Operations TWC meeting are attached.

Bret Hoffman, P.E.
Mechanical Engineer
Kleinschmidt
Energy & Water Resource Consultants
101 Trade Zone Drive, Suite 21A
West Columbia, SC 29170
(803) 822-3177
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Bret.Hoffman@KleinschmidtUSA.com



2006-08-24 Op
TWC Meeting Note..

MEETING NOTES

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

***Saluda Hydro Training Center
August 24, 2006***

ATTENDEES:

Bob Olsen, NRE
Bret Hoffman, Kleinschmidt
Bud Badr, SCDNR
Jon Quebbeman, Kleinschmidt
Feleka Arega, SCDNR

Larry Turner, SC DHEC
Michael Waddell, TU
Mike Schimpff, Kleinschmidt
Ray Ammarell, SCE&G

ACTION ITEMS:

- Refine model inputs for inflows and evaporation; if necessary, consider longer period of input from Chappells gage.
Jon Quebbeman, Mike Schimpff
- Update members of improvements/changes to the model using hydrographs (via email).
Jon Quebbeman, Mike Schimpff
- Contact USGS for verification of data used in model during joint RCG meeting.
Ray Ammarell
- Check with SCE&G management about posting the model for downloading.
Ray Ammarell

DATE OF NEXT MEETING: October 12, joint meeting with all RCG's

MEETING NOTES

SOUTH CAROLINA ELECTRIC & GAS COMPANY SALUDA HYDRO PROJECT RELICENSING OPERATIONS TECHNICAL WORKING COMMITTEE

**Saluda Hydro Training Center
August 24, 2006**

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.

Mike S. opened the meeting and stated the objective was to review and finalize, or make recommendations to finalize, the base model structure. Using a projector, Jon and Mike displayed numerous screenshots from the HEC-ResSim program, explaining the various inputs and simulations of the model.

Input for Model

The watershed map was displayed, and gauged inputs for the model were pointed out. Jon and Mike then showed the un-gauged inputs and illustrated their respective basin areas on the map. These four un-gauged inputs were prorated from the Bush River gage. Mike noted that the rainfall directly onto the lake was part of one of these un-gauged inflows. Outflows are measured from a gage on the lower Saluda River near the tailrace; contributions from the Broad River are calculated by subtracting Saluda flows from those measured at the nearby Congaree River gage, which is just downstream of the confluence.

The reservoir stage – storage data was provided by SCE&G, and a reservoir guide curve was derived by averaging 16 years of observed lake level data (from 1990 to 2006). The hydrologic data for inflows corresponded with this 16-year period, chosen because it is the total combined period of record for all inflow gages used in the model. Reservoir evaporation was calculated using a formula incorporating average monthly temperatures. Bob mentioned the evaporation could be examined annually versus monthly. Ray explained that there are two possible calculation method for evaporation, pan and free-surface; he also presented the idea of using NOAA Atlas evaporation data. Mike and Jon agreed to revise evaporation from the reservoir.

The total 16-year period was used to check the accuracy of the model by two methods: 1) matching the outflow of the model to the observed outflows and comparing the calculated reservoir stage versus the actual recorded stage, and (2) matching the model's reservoir stage with the observed stage and comparing the calculated versus recorded outflows. Most years modeled extremely well for the stage matching, with the exception of two heavy inflow years. During those years, the reservoir elevation was calculated higher than actually occurred, even reaching El. 360'. This triggered the model to simulate flood control (opening spillway gates); in reality, the reservoir did not reach that elevation during those years; the spillway gates have not been operated since before Unit-5 was added (1971). Bob noted that the sudden increases during the heavy inflow years that triggered flood control did not readily return the reservoir to acceptable levels (below El. 360'). It

MEETING NOTES

SOUTH CAROLINA ELECTRIC & GAS COMPANY SALUDA HYDRO PROJECT RELICENSING OPERATIONS TECHNICAL WORKING COMMITTEE

**Saluda Hydro Training Center
August 24, 2006**

was realized that this is probably due to the flood control mode overriding the stage matching and switching the model to matching outflows. It was suggested that one of the more significant un-gauged inflows may need adjustment to account for direct lake precipitation, and Larry also proposed doing a volume comparison.

Discussion was held regarding the possibility of eliminating the Little River and Bush River gage contributions because they have a limiting period of available data for inflows. Using only the Chappells gage would allow inflow data dating back to 1965, when the gage was relocated. This would mean changing the Little River and Bush River watershed contributions to un-gauged inflows by following the Chappells rating. Mike and Jon will try to fine-tune the model with all current contributions (including Little River and Bush River gages) to better simulate the recorded stage conditions. If this does not work, the option of removing these two gages and just using the Chappells gage (capturing a longer period of inflow records) will be used. As they make adjustments and refine the model, Mike and Jon will email hydrographs showing comparative modifications to the TWC members. Bud suggested using a back-calculated method of known discharge and stage to determine the inflow hydrograph. This method is preferred as it eliminates uncertainty with respect to evaporation, local basin inflow, and inflow from direct precipitation onto the reservoir.

Lower Saluda River

For the lower Saluda River, 22 cross-sections were used to develop a 1D flow profile model using HEC-RAS. Jon showed graphs of several cross-sections, and noted that roughness coefficients are used for calibration of the model to several steady state calibration points. Cross-sections for the Congaree were also developed to route flows through and determine stages near the Congaree National Park. Flows were calibrated to the USGS curve at the gage near Columbia. The calculated flows from the model were very close to the recorded flows, with calculated flows being slightly higher at the upper end of the flow range and slightly below recorded flows at the lower end.

The question of flow contributions from tributaries on the lower Saluda River arose; the model does not individually address those flows because they are not related to operations. However, overall contributions from the watershed for the USGS gage near Columbia are included, and tributaries are part of that inflow. Since the model treats tributaries as part of the river's cross-section, the calculated velocities in reaches containing tributaries are drastically reduced; predictions in these reaches thus would not be representative of actual flow in the main river channel, and would affect calculated flow travel times. To eliminate these artificial velocity reductions, theoretical levees were placed across the mouths of tributaries entering the main river channel.

MEETING NOTES

SOUTH CAROLINA ELECTRIC & GAS COMPANY SALUDA HYDRO PROJECT RELICENSING OPERATIONS TECHNICAL WORKING COMMITTEE

**Saluda Hydro Training Center
August 24, 2006**

Constraints and Prioritization

Since the purpose of the model is to balance stakeholder interests with hydrologic and physical lake operation limitations, the question arose on how to prioritize constraints within the model. It was agreed that the TWC's purpose was to build an accurate model, and the stakeholders and RCG's would determine the prioritization of constraints. Ray noted that priorities will be alluded to in a low-flow protocol (drought contingency plan). In a typical (simple) low-flow situation, this protocol gives priority to municipal water supply, then environmental constraints (such as minimum flows), then other interests (generation, recreation, etc.). While Lake Murray provides some municipal water supply, this is not expected to be an issue because all supply intakes are below El. 345'. Ray reiterated SCE&G's interest is using Saluda for reserve capacity, then for reservoir management via a guide curve.

Another constraint discussed was the winter drawdown limitation; the purpose of the drawdown is to create reservoir storage for spring rains, and a higher winter reservoir elevation reduces this available storage. Inflows greater than the capacity of Saluda (~18,000 cfs) cause the reservoir to rise; once the lake reaches El. 360', spillway gates are opened in an attempt to match inflows and stabilize the reservoir level. Ray explained that SCE&G considers operating the spillway gates a failure to manage the reservoir as well as a waste of a resource. The Probable Maximum Flood (PMF) was also discussed, which Ray explained can be routed through Saluda without overtopping the dam; this requires that the reservoir is at or below the starting elevation for the PMF event. The FERC will require SCE&G to maintain the ability to route the PMF. The starting elevation for the PMF event, as well as the potential for reaching El. 360' (spillway operation threshold), will be determining factors in the model for the drawdown limitation.

Model Availability

The group held a discussion about whether or not the actual model would be available to stakeholders. The program is readily available for anyone to download from the Corps of Engineers website, and the watershed data can also be obtained online. Jon noted that the file size of the Saluda base model was thirty to forty megabytes, without the operating software. It was agreed that making the model available would not be of any harm, as it would likely only be used by the few people who understand the HEC software. Since SCE&G is paying for the services to develop the model, Ray will ask management for their approval prior to it being available for downloading. If the model data is made available, the one used for relicensing will not be open for changes other than RCG-submitted inputs; a statement to this affect will be posted on the website with the download link. The sole purpose of the TWC is to create the base model, which will not be open for change by outside interests.

MEETING NOTES

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

***Saluda Hydro Training Center
August 24, 2006***

Next Step

As the meeting closed, it was agreed that the base model structure was good, and Mike and Jon agreed to fine-tune inputs in attempts to more closely match calculated results with recorded conditions; their progress will be communicated to other TWC members via emails of hydrograph screenshots. The group agreed that the base model can be finalized without another TWC meeting, and considered it appropriate to present the model to all RCG's in a joint meeting.

Cheryl Balitz

From: Bret Hoffman
Sent: Monday, October 02, 2006 4:39 PM
To: 'Tony Bebber'; Alan Stuart; Alison Guth; 'Amanda Hill'; 'Bill Argentieri'; 'Bill Hulslander'; 'Bill Marshall'; 'Bud Badr'; 'Charlene Coleman'; 'Dave Landis'; 'Dick Christie'; 'Feleke Arega (aregaf@dnr.sc.gov)'; 'George Duke'; 'Gerrit Jobsis (American Rivers)'; 'Gina Kirkland'; 'Hank McKellar'; 'Jeff Duncan'; 'Jennifer O'Rourke'; 'Joy Downs'; 'Kristina Massey'; 'Larry Turner (turnerle@dhec.sc.gov)'; 'Mark Leao'; 'Mike Summer (msummer@scana.com)'; 'Mike Waddell'; 'Parkin Hunter'; 'Patrick Moore'; 'Randal Shealy'; 'Randy Mahan'; 'Ray Ammarell'; 'Russell Jernigan'; 'Steve Bell'; 'Suzanne Rhodes'; 'Theresa Thom'; 'Tom Ruple'; 'Tom Stonecypher'; Jon Quebbeman; Bret Hoffman; 'Bob Olsen'; Bret Hoffman; Mike Schimpff
Subject: August 24 Operations TWC meeting notes

Good afternoon,

The final meeting notes from the August 24, 2006 Operations TWC meeting are attached.

Bret Hoffman, P.E.
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2006-08-24 Op
TWC Meeting Note..

MEETING NOTES

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

***Saluda Hydro Training Center
August 24, 2006***

ATTENDEES:

Bob Olsen, NRE
Bret Hoffman, Kleinschmidt
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Ray Ammarell, SCE&G

ACTION ITEMS:

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Jon Quebbeman, Mike Schimpff
- Update members of improvements/changes to the model using hydrographs (via email).
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- Contact USGS for verification of data used in model during joint RCG meeting.
Ray Ammarell
- Check with SCE&G management about posting the model for downloading.
Ray Ammarell

DATE OF NEXT MEETING: October 12, joint meeting with all RCG's

MEETING NOTES

SOUTH CAROLINA ELECTRIC & GAS COMPANY SALUDA HYDRO PROJECT RELICENSING OPERATIONS TECHNICAL WORKING COMMITTEE

**Saluda Hydro Training Center
August 24, 2006**

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.

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MEETING NOTES

SOUTH CAROLINA ELECTRIC & GAS COMPANY SALUDA HYDRO PROJECT RELICENSING OPERATIONS TECHNICAL WORKING COMMITTEE

**Saluda Hydro Training Center
August 24, 2006**

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MEETING NOTES

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Another constraint discussed was the winter drawdown limitation; the purpose of the drawdown is to create reservoir storage for spring rains, and a higher winter reservoir elevation reduces this available storage. Inflows greater than the capacity of Saluda (~18,000 cfs) cause the reservoir to rise; once the lake reaches El. 360', spillway gates are opened in an attempt to match inflows and stabilize the reservoir level. Ray explained that SCE&G considers operating the spillway gates a failure to manage the reservoir as well as a waste of a resource. The Probable Maximum Flood (PMF) was also discussed, which Ray explained can be routed through Saluda without overtopping the dam; this requires that the reservoir is at or below the starting elevation for the PMF event. The FERC will require SCE&G to maintain the ability to route the PMF. The starting elevation for the PMF event, as well as the potential for reaching El. 360' (spillway operation threshold), will be determining factors in the model for the drawdown limitation.

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MEETING NOTES

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Next Step

As the meeting closed, it was agreed that the base model structure was good, and Mike and Jon agreed to fine-tune inputs in attempts to more closely match calculated results with recorded conditions; their progress will be communicated to other TWC members via emails of hydrograph screenshots. The group agreed that the base model can be finalized without another TWC meeting, and considered it appropriate to present the model to all RCG's in a joint meeting.

Stacia Hoover

From: Alison Guth
Sent: Tuesday, October 03, 2006 11:33 AM
To: Bret Hoffman; 'Tony Bebber'; Alan Stuart; Alison Guth; 'Amanda Hill'; 'Bill Argentieri'; 'Bill Hulslander'; 'Bill Marshall'; 'Bud Badr'; 'Charlene Coleman'; 'Dave Landis'; 'Dick Christie'; 'Feleke Arega (aregaf@dnr.sc.gov)'; 'George Duke'; 'Gerrit Jobsis (American Rivers)'; 'Gina Kirkland'; 'Hank McKellar'; 'Jeff Duncan'; 'Jennifer O'Rourke'; 'Joy Downs'; 'Kristina Massey'; 'Larry Turner (turnerle@dhec.sc.gov)'; 'Mark Leao'; 'Mike Summer (msummer@scana.com)'; 'Mike Waddell'; 'Parkin Hunter'; 'Patrick Moore'; 'Randal Shealy'; 'Randy Mahan'; 'Ray Ammarell'; 'Russell Jernigan'; 'Steve Bell'; 'Suzanne Rhodes'; 'Theresa Thom'; 'Tom Ruple'; 'Tom Stonecypher'; Jon Quebbeman; 'Bob Olsen'; Bret Hoffman; Mike Schimpff
Subject: Operations TWC meeting notes correction

Hello all,

Bret asked me if I could re-issue these notes to you as he will be out in the field. The meeting actually occurred on August 23rd, not the 24th as was previously listed. I have attached a final copy of the notes that includes the correct meeting date. No other changes were made to the notes. Thanks, Alison



2006-08-23 Op
TWC Meeting Note..

-----Original Message-----

From: Bret Hoffman
Sent: Monday, October 02, 2006 4:39 PM
To: Tony Bebber; Alan Stuart; Alison Guth; Amanda Hill; Bill Argentieri; Bill Hulslander; Bill Marshall; Bud Badr; Charlene Coleman; Dave Landis; Dick Christie; Feleke Arega (aregaf@dnr.sc.gov); George Duke; Gerrit Jobsis (American Rivers); Gina Kirkland; Hank McKellar; Jeff Duncan; Jennifer O'Rourke; Joy Downs; Kristina Massey; Larry Turner (turnerle@dhec.sc.gov); Mark Leao; Mike Summer (msummer@scana.com); Mike Waddell; Parkin Hunter; Patrick Moore; Randal Shealy; Randy Mahan; Ray Ammarell; Russell Jernigan; Steve Bell; Suzanne Rhodes; Theresa Thom; Tom Ruple; Tom Stonecypher; Jon Quebbeman; Bret Hoffman; Bob Olsen; Bret Hoffman; Mike Schimpff
Subject: August 24 Operations TWC meeting notes

Good afternoon,

The final meeting notes from the August 24, 2006 Operations TWC meeting are attached.

Bret Hoffman, P.E.
Mechanical Engineer
Kleinschmidt
Energy & Water Resource Consultants
101 Trade Zone Drive, Suite 21A
West Columbia, SC 29170
(803) 822-3177
FAX (803) 822-3183
Bret.Hoffman@KleinschmidtUSA.com

<< File: 2006-08-24 Op TWC Meeting Notes final.pdf >>

MEETING NOTES

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

**Saluda Hydro Training Center
August 23, 2006**

Final brh 10-2-06

ATTENDEES:

Bob Olsen, NRE
Bret Hoffman, Kleinschmidt
Bud Badr, SCDNR
Jon Quebbeman, Kleinschmidt
Feleka Arega, SCDNR

Larry Turner, SC DHEC
Michael Waddell, TU
Mike Schimpff, Kleinschmidt
Ray Ammarell, SCE&G

ACTION ITEMS:

- Refine model inputs for inflows and evaporation; if necessary, consider longer period of input from Chappells gage.
Jon Quebbeman, Mike Schimpff
- Update members of improvements/changes to the model using hydrographs (via email).
Jon Quebbeman, Mike Schimpff
- Contact USGS for verification of data used in model during joint RCG meeting.
Ray Ammarell
- Check with SCE&G management about posting the model for downloading.
Ray Ammarell

DATE OF NEXT MEETING: October 12, joint meeting with all RCG's

MEETING NOTES

SOUTH CAROLINA ELECTRIC & GAS COMPANY SALUDA HYDRO PROJECT RELICENSING OPERATIONS TECHNICAL WORKING COMMITTEE

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MEETING NOTES

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SALUDA HYDRO PROJECT RELICENSING
OPERATIONS TECHNICAL WORKING COMMITTEE**

**Saluda Hydro Training Center
August 23, 2006**

Final brh 10-2-06

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Stacia Hoover

From: Alison Guth
Sent: Monday, July 17, 2006 2:44 PM
To: Theresa Thom; Alan Stuart; Alison Guth; Bill Argentieri; Bill Cutler; Bill Marshall; Jennifer O'Rourke; Karen Kustafik; Mike Waddell; Patrick Moore; Steve Bell
Cc: Tony Bebbler; Amanda Hill; Bill Hulslander; Bud Badr; Charlene Coleman; Dave Landis; Dick Christie; Feleke Arega (aregaf@dnr.sc.gov); George Duke; Gerrit Jobsis (American Rivers); Gina Kirkland; Hank McKellar; Jeff Duncan; Joy Downs; Kristina Massey; Larry Michalec; Larry Turner (turnerle@dhec.sc.gov); Mark Leao; Mike Summer (msummer@scana.com); Parkin Hunter; Ralph Crafton; Randal Shealy; Randy Mahan; Ray Ammarell; Russell Jernigan; Suzanne Rhodes; Tom Ruple; Tom Stonecypher; Bret Hoffman
Subject: Saluda Generation Review Draft Notes

Hello all,

Attached is the draft set of notes from the Saluda Generation Review TWC that was held July 11th. Please have any comments to me by July 31st. Thanks, Alison



2006-07-11 draft
Meeting Minut...

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
101 Trade Zone Drive
Suite 21A
West Columbia, SC 29170
P: (803) 822-3177
F: (803) 822-3183

MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT RELICENSING
GENERATION REVIEW TWC**

**Lake Murray Training Center
July 11, 2006**

7-15-06 draft acg

ATTENDEES:

Alan Stuart, Kleinschmidt Associates
Alison Guth, Kleinschmidt Associates
Bill Argentieri, SCE&G
Bill Marshall, DNR, LSSRAC
Michael Waddell, TU
Patrick Moore, SCCCL, Am. Rivers
Steve Bell, Lake Watch

Randy Mahan, SCANA Services
Tom Eppink, SCANA Services
Karen Kustafik, City of Columbia Parks
Theresa Thom, Congaree National Park

DATE: July 11, 2006

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.

HOMEWORK

- Send Mike Waddell the FERC form for the other ¾ of 2005 – *Bill Argentieri*
- Arrange for Lee Xanthakos to attend the next RCG meeting – *Bill Argentieri*
- Prior to next RCG meeting, email Bill A. dates from which information is requested on how plants were operated – *TWC members*

DISCUSSION

Alan Stuart welcomed the group and noted that the meeting had been convened at the request of stakeholders, and the primary purpose was to review the information distributed by Bill Argentieri (listed in blue) after the April meeting. The group decided to review each of the items and discuss questions as they came up.

1. Provide a weekly generation report for all of the plants on the SCE&G system. At this time the group would like to see one of these reports, let's say the week of August 28, 2005. If it provides the group with the information we are looking for,

MEETING NOTES

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I will obtain a copy of each week from January 1, 2005 through December 31, 2005.

Response: The data requested regarding prior operation of all plants on our system is not maintained in the manner requested. We do not keep a weekly aggregate of generation for our plants. Thus, this information is not readily available. In addition, generation information at this level of detail is business-confidential and market-sensitive information. Disclosure of this information could result in substantial damage to SCE&G's position as both a purchaser and seller of energy in unregulated regional energy markets. Once information of this nature is disclosed to the market, there is no practical way to undo damage to SCE&G and its customers.

Nevertheless, in an effort to give you all available non-confidential material, attached are excerpts from the FERC Form - 1 annual filing made by SCE&G at the Federal Energy Regulatory Commission for the calendar year ending December 31, 2005. These excerpts include the annual generation for each of SCE&G's facilities.

After the group reviewed the first question Steve Bell asked if records were available on how SCE&G operated its system to meet demands for a given day. Bill A. replied that they do not have all that information in one place. He noted that each plant maintains a record of they operate, however it is not all in one form. Bill A. also noted that they do provide some information to the Public Service Commission, however, the detail that the group has requested is not for the general public to have access to. Steve asked if the group could pick out particular days in order to receive information on, and Mike Waddell suggested that the past plant outage in May be used as an example. Bill noted that he had information on the past plant outage in June but not in May. Bill A. briefly reviewed the June 21 occurrence with the group and discussed the logic behind what particular plants were used. It was noted that for that occurrence, many plants on SCE&G's own system, including Saluda, were used and they did not have to call upon VACAR. Bill A. noted that since Saluda was being used in this emergency instance, that they had contacted VACAR to notify them that they were using their reserve and that it would probably not be available for the next hour to hour and a half. This was when SCE&G could purchase power on the market or bring other units online. Steve asked if SCE&G was required to first expend all of their resources before VACAR was called. Bill replied that they would have to first use their 200 in reserve before they called on VACAR or they had the option of meeting the need internally. Bill A. also added that there were advantages to meeting the needs internally.

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The group noted that they had sufficiently discussed the first item and moved to the second question.

2. Provide a write-up on the reason why SCE&G operates their plants in the manner that they are operated.

Response: Describing how the units are operated on any particular day provides information of only limited value, since operations on one day do not necessarily correlate to operations on future days. Actual operations of the plants are subject to an infinitely variable set of conditions. Nevertheless, the general process/protocol (Economic Dispatch) relied upon to determine which plants/units SCE&G at least “plans” to operate is reasonably consistent.

Economic Dispatch is a generation planning tool employed faithfully at SCE&G. Twice each day, SCE&G engineers in the Economic Resource Commitment (ERC) group communicate with employees in the Transmission Services Operation Planning (OPS) group. These two functionally separate groups agree on hourly load forecasts for every hour of the coming 7 days.

Once agreement upon the forecast has been reached, the ERC engineers develop hourly economic dispatch plans to match. The economic dispatch plans that are created project a mix of planned generation from SCE&G units as well as off-system purchases. Units and purchases are economically stacked in every hour (most economically favorable to least economically favorable) to create a plan the system can be controlled by to most economically serve its obligations – including the possibility of serving reserves.

Once the Reliability Coordinators review the economic dispatch plan and make the changes deemed necessary to preserve reliability (remember, reliability trumps economics), the result is a constrained dispatch plan. For example, it may be more economical to generate from Plant A, but the Reliability Coordinators may determine it not to be reliable to do so from a transmission of energy perspective. Conversely, it may not be as economical to generate from Plant B, but it may be necessary to do so in order to serve load in a remote area. Saluda Hydro operations provide a perfect example of this. As one of SCE&G’s most economical plants, it should always be generating from a purely cost-of-generation perspective. Nevertheless, because of reliability factors, it is kept off-line so that it can be available to serve as reserves if emergencies occur. Some

MEETING NOTES

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amount of generation must be available to respond to emergency reserve calls within the fifteen minute time period required by SCE&G's VACAR/SERC/NERC obligations.

The Reliability Coordinators hand-off the constrained dispatch plan to the System Controllers who then use it as a roadmap by which to operate the system. Inevitably, real life conditions do not exactly follow the assumptions the ERC, OPS, and Reliability Coordinators relied upon to create the plan, so the System Controllers make real time adjustments to operate the system.

The group began to discuss the dispatch plan and Randy Mahan explained that there were always real-life factors that could not be predicted. Steve inquired as to whether decisions to run certain plants were made for economical reasons. Bill A. noted that there are environmental issues to be considered that often trump the economic considerations. After this question was sufficiently answered the group moved on to discuss Item number 3.

3. Provide a write-up of how SCE&G uses the other plants in our system when Saluda is not available due to a scheduled outage of the whole plant or just one or two units. Last year could be a good example of the second half of this question since some of the units were not operational the entire year. What did you use for reserve when Unit 4 was not available?

Response: The use of generating units other than Saluda's units for reserves depends on the specific situation. Over time we have seen a variety of situations in which Saluda's units become unavailable to serve reserve requirements. For example, Saluda's units may be unavailable because of maintenance activities at Saluda. Likewise, sometimes it is necessary that divers be in and around the towers. Operations are suspended during this time and the units are made unavailable for use to respond to reserves until this activity is completed. A more subtle example is presented when the units are already fully loaded, perhaps in preparation for inflows from a tropical storm or hurricane or during a time when lake levels are intentionally being reduced for dam or equipment maintenance. In the hurricane example, because the units are generating, they are not offline and available in 15 minutes which are both requirements for being counted as system reserves. And even if not fully loaded, to the extent the units are loaded, we cannot count that already-in-operation capacity towards our reserves obligation.

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Most situations are controllable and planned ahead of time so that the generation plans satisfy both economic and constrained dispatch objectives. For example, if divers need to work on the towers, SCE&G makes sure the work is scheduled when generation from Fairfield Pumped Storage is not needed to serve load. This allows Fairfield Pumped Storage to be dedicated for reserves. Other controllable situations are scheduled maintenance and planned releases, assuming we don't have to deal with high flows down the Broad River at the same time. Canoeing for Kids is a good example of a planned release – it's typically scheduled on a Saturday during an expected low load period. For the 2006 event, Fairfield Pumped Storage was used to carry reserves.

When Saluda units fail or require maintenance and need to be taken off line, the only option is to carry reserves on Fairfield Pumped Storage or on a combination of Fairfield Pumped Storage and quick-start turbines. A combination of the two is most common because individually, they are problematic. Fairfield Pumped Storage has certain constraints such as limited operations when the Broad River is at or above 40,000 cfs. Further discussion about turbine operations appears below in response to questions 4 and 5.

A final alternative is to back down steam generation across multiple units. This is the least desirable method of carrying reserves as well as the most costly for SCE&G customers. Because of the slow response of coal-fired generating units, to achieve the full fifteen minutes reserve requirement obligation, multiple units must be backed off if they are to be replied upon. Also, when using these units, there is a real potential for unit trips. Nevertheless, even if a plan to rely on backing down coal fired generation were to be put in place, this would not fully meet the offline and available definition of VACAR/SERC/NERC. Rather, it more closely resembles a backed down and available situation.

In reference to the third item, Mike asked if SCE&G has enough capacity on its system to handle all of the current demands. Randy noted that they did have enough capacity, and explained that SCE&G does the best that they can to plan to have enough generation to meet the current needs as well as the expected growth. The group cited the construction of the new nuclear plant as an example.

There was brief discussion on the use of Fairfield Pumped Storage Facility. Steve inquired as to how it was used and whether there were certain times of the year in which all of the capacity at that plant was used. Bill replied there were times when the entirety of Fairfield's capacity was used. Karen Kustafik asked if drought conditions could affect

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the use of Fairfield. Bill A. noted that drought conditions could effect the pumping to refill Monticello Reservoir because there is a minimum flow requirement at Parr. It was also discussed that Fairfield could not add to flooding if there was 40,000 or more cfs already in the Broad River.

The group also noted that item 4 (listed below) was sufficiently answered and moved to discuss item 5.

4. Provide a write-up of what SCE&G does in an emergency situation when Saluda is available. How is FFPS used in the equation to meet reserve? Does SCE&G use any other plants on our system to meet this reserve, if so which ones are used? Is Saluda always the first plant used during an emergency? Is Saluda the last plant used in an emergency?

Response: Fairfield Pumped Storage may be available if a base load or other currently generating unit trips. However, if the limited volume of water in Fairfield already is included in the generating plan to serve load later in the day, it may not be used to fulfill the Saluda mission for that day, i.e. to meet a reserves call. At other times however, even though Fairfield Pumped Storage may be planned for later use, if loads turn out not to be as high as forecasted, FFPS may be pressed into service to meet the emergency need. System Controllers must also consider the forecasted need for Fairfield Pumped Storage for the next day, as there may be a need to replenish the water supply for the upcoming day's use. While pumping back, obviously, FFPS cannot be counted on to supply reserves. Finally, there are flooding constraints that can take Fairfield Pumped Storage out of the picture all together. Flows equal to or greater than 40,000 cfs in the Broad River render FFPS unavailable for operation in the generating mode. As the system changes throughout the day, multiple factors continually must be considered. Dependence on a single facility for reserves is not prudent; flexibility of reserve sources is crucial for reliability.

In addition to Fairfield Pumped Storage & Saluda Hydro, the other plants normally used for reserves are the quick-start turbines. Those are Urquhart Unit 4 and Parr units 1, 2, 3, & 4. Together they can generate about 108 MWs.

Saluda is not always the first plant used to serve reserves, nor is it always the last. As described above, there are a variety of factors to consider in determining which unit should be called upon to meet reserves.

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5. How does SCE&G use the gas turbines on our system to meet reserve? Why does SCE&G not use them more than we do now? When does SCE&G use the gas turbines in general, peaking, base load, etc.? How are the gas turbines used, are they started and run for a long period of time or just a few hours a day; started and run just to meet a peak demand then shut off?

Response: See the responses to Questions 2, 3, & 4 above. Gas turbines are used to carry reserves in limited situations because they are not as reliable in meeting the strict NERC 15 minute requirements as Fairfield Pumped Storage and Saluda. Thus they are not used as often.

In general, gas turbines are used in peaking situations and normally run for very short periods of time and then shut off. They are always brought on after all steam units and most of Fairfield Pumped Storage is loaded. They are the least economical generation units and fall very late in the economic dispatch stack. Even though they are not as economical, SCE&G still runs them as peaking plants to serve load while it keeps Saluda off line for reserves. Were SCE&G to use turbines and part of Fairfield Pumped Storage for reserves, then to replace their peaking capacity, Saluda would have to be used as a peaking plant in their stead. This would mean Saluda would be used much more frequently than it is now.

While discussing item 5, Patrick Moore noted that during relicensing the possibility exists that some of the studies being done will produce data that would negate SCE&G's ability to use Saluda for reserve. He continued to ask what would be done for reserve if Saluda is not available. Tom Eppink noted that SCE&G is required to, and currently, looking at all options. He continued to note that this data will be shared with the group as soon as it is ready. Bill A. added that they hope to have a presentation ready sometime in September. Bill A. noted that they would also like to look at meeting environmental requirements by upgrading the units themselves. He explained that they are looking at upgrading the units with more efficient runners.

The group moved to item 6

6. Please provide the date, time, and MW that SCE&G was requested to provide reserve power during 2005. Provide the reason for the reserve usage, i.e. called by other utility, to meet our own emergency situation, etc. if the information is available. Which plants on the SCE&G system were used to meet the reserve request?

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Response: Reports that SCE&G compiles regarding reserves operations have sensitive information belonging to companies other than SCE&G. What can be provided without violating those confidences follows. SCE&G played a role as part of the VACAR Reserve Sharing Group Agreement on 9 occasions during 2005. On 6 of those occasions SCE&G called on reserves from its VACAR Reserve Sharing Group partners. On the other 3 occasions SCE&G supplied reserves to other companies. That makes a total of 9 Reserve Sharing Group events in which SCE&G participated. Except for the information it has shared over the past couple of years (and continues to publish) regarding its operation of Saluda to meet reserve requirements, SCE&G has not compiled reports on its use of Saluda for internal reserve needs.

Steve proposed that the stakeholders choose a certain date that SCE&G could then find out more information on what plants were used and why. Bill A. replied that the situation varies on each day and that he does not believe the information is kept in such detail all in one place. Steve also noted that he believed that there would be questions in the upcoming RCG about why some of this information is kept confidential. Bill A. noted that they would have an attorney present to explain this to the group. Bill A. also noted that he would have Lee Xanthakos come to the next RCG meeting in an effort to try to answer some of the groups questions about how the system was run on certain days. A homework item for the stakeholders was to pick out dates they were interested in and they would be sent to Lee prior to the meeting.

Bill Marshall also noted that he was interested in knowing the Megawatts in percent that were used during the 9 Reserve Sharing Group events as well as the flows in the river during those instances.

The group began to discuss item number 7.

7. Provide a write-up of how SCE&G determines when and at what rate to lower Lake Murray during the annual fall drawdown?

Response: SCE&G considers several factors in determining the appropriate target lake elevation during fall drawdown include current lake elevation, the need to gradually drawdown over several months, expectations and planning for “normal” winter and spring rainfall, predicted or possible severe weather conditions (such as the possibility of tropical storms or hurricanes), and the need and ability to maintain reserves during and after drawdown. Rapid drawdown of the lake always raises the specter of potential detriment to the stability of the dam. This is

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a major reason that SCE&G plans the annual drawdown to occur over several months. The other major issue to consider is Saluda Hydro's availability for reserve generation as discussed in the response to Question 3. To the extent Saluda is operating for other reasons, it cannot be counted as reserves in response to its VACAR/SERC/NERC reserves obligations.

Lake Murray is not a flood storage reservoir and must be operated to allow the lake level to be lowered through plant generation without the use of the emergency spillway gates. As the name implies, the spillway gates are for emergency use, to address circumstances where inflow or expected inflow is greater than the discharge capacity of the plant at a time when the lake level is close to the normal maximum pool elevation. SCE&G goes to great pains to manage the lake level so this situation does not occur. A target water level reduction, usually one to two feet per month, has been considered a "typical" drawdown rate from late August through December in anticipation of normal rainfall from January through April of the following year. Generation during this drawdown period is performed as prudently as possible taking into account the issues described in Question 2

Statistically, the highest probability of a hurricane affecting the Saluda River Basin is in the month of September. Thus the lake level drawdown typically will start around the end of August. If there is a possibility of the approach of a tropical storm or hurricane to the Saluda River Basin area, which may appear to require lowering the lake level in anticipation of the storm, SCE&G will use a Flow Forecasting Model that evaluates data from the National Weather Service and United States Geological Survey to predict the elevation of Lake Murray under various discharge scenarios. Based on the results of specific model analyses, SCE&G will then lower the lake level as necessary to keep the level safely below elevation 360' to maintain compliance with our FERC license. Although hurricane season ends in November, a typical lake level drawdown continues through the end of December in anticipation of winter and spring rains as noted above.

Steve began to ask about the planning behind the lowering of the lake. Bill A. noted that it greatly depends on the weather patterns. He explained that Jim Landreth has been working with the lake groups to keep the level up as high as possible for as long as possible. Bill pointed out that the drawdown's purpose is to prepare for the hurricanes in September and the heavy rains in January. He also added that water balance is part of the

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operations model, and until they receive all of the information, SCE&G is working on keeping the lake level as high as possible, while still being prepared for rains.

On a separate topic, Bill Marshall noted that he understood the steep increase in cfs under emergency situations but inquired as to why there were such steep rises for planned releases. Bill A. noted that there were several reasons behind this, one being that they needed to try to use the water in an economical manner, as well as having the system back offline and ready for use as reserve. Bill A. noted that as part of their last settlement agreement meeting with SCCCL, they were looking into having a more gradual release for planned releases, however, in an emergency situation there will need to be an immediate release.

Question 8 was skipped (listed below) and the group moved to question 9.

8. Provide the times in which the Broad River flows were at or greater than 40,000 cfs in 2005.

Response: The SCE&G system dispatchers use three gages (Broad River near Carlisle (02156500), Tyger River near Delta (02160105), and Enoree River at Whitmire (02160700)) above Parr Hydro to determine when flows are **approaching** 40,000 cfs on the Broad River. The dispatchers will add the flows of these three gages to calculate the total flow in the Broad River at Fairfield Pumped Storage. To determine how many times the Broad River actually achieved flows equal to or in excess of 40,000 cfs, for this report we will look at the Broad River at Alston Gage (02161000) which is downstream of Parr Hydro on the Broad River. When the flows are at or above 40,000 cfs at the Alston Gage, Fairfield Pumped Storage will already have been taken off line in accordance with our FERC license. The attached spreadsheet lists the times the Broad River exceeded 40,000 cfs based on the Broad River at Alston Gage. The items highlighted (in yellow) show the number of times and percent of time for each month that the Broad River was at or above 40,000 cfs. Below are the exact dates/times in 2005 that the Broad River was at or above 40,000 cfs based on the Broad River at Alston Gage. SCE&G cannot validate and does not vouch for the accuracy of the data provided by the USGS gage.

March 29 - From 4 pm to 12 am
March 30 - From 1 am to 10 pm
June 2 - From 1 pm to 10 pm
October 8 - From 6 pm to 10 pm

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October 9 - From 12 pm to 12 am
October 10 - From 1 am to 4 am

9. Provide a range of costs for MWHs of generation that was purchased on the open market for the last two years (2004 & 2005).

Response: This data is business confidential and market sensitive information. Disclosure of this information could result in substantial damage to SCE&G's position as both a purchaser and seller of energy in unregulated regional energy markets. Should power marketers have knowledge of these critical price points, they could adjust their bids accordingly. SCE&G could then be forced to buy energy at less favorable rates. Ultimately, SCE&G system consumers would receive less benefit from energy sales and pay a higher cost for purchased energy if market participants know SCE&G's purchasing history. Once information of this nature is disclosed to the market, there is no practical way to undo the damage to SCE&G and its customers.

Broad River at Alston Gage (02161000) Flows

MONTH			High		Total
			.00 Flows below 40,000 cfs	1.00 Flows equal to or greater than 40,000 cfs	
Jan	Count	744	0	744	
	% within MONTH	100.0%	.0%	100.0%	
	% within High	8.5%	.0%	8.5%	
	% of Total	8.5%	.0%	8.5%	
Feb	Count	672	0	672	
	% within MONTH	100.0%	.0%	100.0%	
	% within High	7.7%	.0%	7.7%	
	% of Total	7.7%	.0%	7.7%	

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Mar	Count	731	13	744
	% within MONTH	98.3%	1.7%	100.0%
	% within High	8.4%	28.9%	8.5%
	% of Total	8.3%	.1%	8.5%
Apr	Count	720	0	720
	% within MONTH	100.0%	.0%	100.0%
	% within High	8.3%	.0%	8.2%
	% of Total	8.2%	.0%	8.2%
May	Count	744	0	744
	% within MONTH	100.0%	.0%	100.0%
	% within High	8.5%	.0%	8.5%
	% of Total	8.5%	.0%	8.5%
Jun	Count	710	10	720
	% within MONTH	98.6%	1.4%	100.0%
	% within High	8.1%	22.2%	8.2%
	% of Total	8.1%	.1%	8.2%
Jul	Count	744	0	744
	% within MONTH	100.0%	.0%	100.0%
	% within High	8.5%	.0%	8.5%
	% of Total	8.5%	.0%	8.5%
Aug	Count	744	0	744
	% within MONTH	100.0%	.0%	100.0%
	% within High	8.5%	.0%	8.5%
	% of Total	8.5%	.0%	8.5%
Sep	Count	720	0	720

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	% within MONTH	100.0%	.0%	100.0%
	% within High	8.3%	.0%	8.2%
	% of Total	8.2%	.0%	8.2%
Oct	Count	722	22	744
	% within MONTH	97.0%	3.0%	100.0%
	% within High	8.3%	48.9%	8.5%
	% of Total	8.2%	.3%	8.5%
Nov	Count	720	0	720
	% within MONTH	100.0%	.0%	100.0%
	% within High	8.3%	.0%	8.2%
	% of Total	8.2%	.0%	8.2%
Dec	Count	744	0	744
	% within MONTH	100.0%	.0%	100.0%
	% within High	8.5%	.0%	8.5%
	% of Total	8.5%	.0%	8.5%
Total	Count	8715	45	8760
	% within MONTH	99.5%	.5%	100.0%
	% within High	100.0%	100.0%	100.0%
	% of Total	99.5%	.5%	100.0%

In conclusion, Patrick Moore asked if there was any way that the group could be provided with a high and a low cost for power paid over the last 10 years with no particular time sequence attached to it. Bill A. noted that he would ask about this. Mike also asked if Bill A. could send him the FERC form for the other ¾ of 2005. The group noted the homework assignments and adjourned.

Stacia Hoover

From: Alison Guth
Sent: Tuesday, August 08, 2006 3:33 PM
To: Theresa Thom; Alan Stuart; Alison Guth; Bill Argentieri; Bill Cutler; Bill Marshall; Jennifer O'Rourke; Karen Kustafik; Mike Waddell; Patrick Moore; Steve Bell
Cc: Tony Bebber; Amanda Hill; Bill Hulslander; Bud Badr; Charlene Coleman; Dave Landis; Dick Christie; Feleke Arega (aregaf@dnr.sc.gov); George Duke; Gerrit Jobsis (American Rivers); Gina Kirkland; Hank McKellar; Jeff Duncan; Joy Downs; Kristina Massey; Larry Michalec; Larry Turner (turnerle@dhec.sc.gov); Mark Leao; Mike Summer (msummer@scana.com); Parkin Hunter; Ralph Crafton; Randal Shealy; Randy Mahan; Ray Ammarell; Russell Jernigan; Suzanne Rhodes; Tom Ruple; Tom Stonecypher; Bret Hoffman
Subject: 7-11-06 Saluda Generation Review notes

Hello all,

Attached are the final meeting notes from the Saluda Generation Review TWC meeting on 7-11-06. Thanks for all of the comments. Alison



2006-07-11 final
Meeting Minut...

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ATTENDEES:

Alan Stuart, Kleinschmidt Associates
Alison Guth, Kleinschmidt Associates
Bill Argentieri, SCE&G
Bill Marshall, DNR, LSSRAC
Michael Waddell, TU
Patrick Moore, SCCCL, Am. Rivers
Steve Bell, Lake Watch
Randy Mahan, SCANA Services
Tom Eppink, SCANA Services
Karen Kustafik, City of Columbia Parks
Theresa Thom, Congaree National Park

DATE: July 11, 2006

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.

HOMEWORK

- Send Mike Waddell the FERC form for the other $\frac{3}{4}$ of 2005 – *Bill Argentieri*
- Arrange for Lee Xanthakos to attend the next RCG meeting – *Bill Argentieri*
- Prior to next RCG meeting, email Bill A. dates from which information is requested on how plants were operated – *TWC members*

DISCUSSION

Alan Stuart welcomed the group and noted that the meeting had been convened at the request of stakeholders, and the primary purpose was to review the information distributed by Bill Argentieri (listed in blue) after the April meeting. The group decided to review each of the items and discuss questions as they came up.

1. Provide a weekly generation report for all of the plants on the SCE&G system. At this time the group would like to see one of these reports, let's say the week of August 28, 2005. If it provides the group with the information we are looking for,

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I will obtain a copy of each week from January 1, 2005 through December 31, 2005.

Response: The data requested regarding prior operation of all plants on our system is not maintained in the manner requested. We do not keep a weekly aggregate of generation for our plants. Thus, this information is not readily available. In addition, generation information at this level of detail is business-confidential and market-sensitive information. Disclosure of this information could result in substantial damage to SCE&G's position as both a purchaser and seller of energy in unregulated regional energy markets. Once information of this nature is disclosed to the market, there is no practical way to undo damage to SCE&G and its customers.

Nevertheless, in an effort to give you all available non-confidential material, attached are excerpts from the FERC Form - 1 annual filing made by SCE&G at the Federal Energy Regulatory Commission for the calendar year ending December 31, 2005. These excerpts include the annual generation for each of SCE&G's facilities.

After the group reviewed the first question Steve Bell asked if records were available on how SCE&G operated its system to meet demands for a given day. Bill A. replied that they do not have all that information in one place. He noted that each plant maintains a record of they operate, however it is not all in one form. Bill A. also noted that they do provide some information to the Public Service Commission, however, the detail that the group has requested is not for the general public to have access to. Steve asked if the group could pick out particular days in order to receive information on, and Mike Waddell suggested that the past plant outage in May be used as an example. Bill noted that he had information on the past plant outage in June but not in May. Bill A. briefly reviewed the June 21 occurrence with the group and discussed the logic behind what particular plants were used. It was noted that for that occurrence, many plants on SCE&G's own system, including Saluda, were used and they did not have to call upon VACAR. Bill A. noted that since Saluda was being used in this emergency instance, that they had contacted VACAR to notify them that they were using their reserve and that it would probably not be available for the next hour to hour and a half. This was when SCE&G could purchase power on the market or bring other units online. Steve asked if SCE&G was required to first expend all of their resources before VACAR was called. Bill replied that they would have to first use their 200 in reserve before they called on VACAR or they had the option of meeting the need internally. Bill A. also added that there were advantages to meeting the needs internally.

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The group noted that they had sufficiently discussed the first item and moved to the second question.

2. Provide a write-up on the reason why SCE&G operates their plants in the manner that they are operated.

Response: Describing how the units are operated on any particular day provides information of only limited value, since operations on one day do not necessarily correlate to operations on future days. Actual operations of the plants are subject to an infinitely variable set of conditions. Nevertheless, the general process/protocol (Economic Dispatch) relied upon to determine which plants/units SCE&G at least “plans” to operate is reasonably consistent.

Economic Dispatch is a generation planning tool employed faithfully at SCE&G. Twice each day, SCE&G engineers in the Economic Resource Commitment (ERC) group communicate with employees in the Transmission Services Operation Planning (OPS) group. These two functionally separate groups agree on hourly load forecasts for every hour of the coming 7 days.

Once agreement upon the forecast has been reached, the ERC engineers develop hourly economic dispatch plans to match. The economic dispatch plans that are created project a mix of planned generation from SCE&G units as well as off-system purchases. Units and purchases are economically stacked in every hour (most economically favorable to least economically favorable) to create a plan the system can be controlled by to most economically serve its obligations – including the possibility of serving reserves.

Once the Reliability Coordinators review the economic dispatch plan and make the changes deemed necessary to preserve reliability (remember, reliability trumps economics), the result is a constrained dispatch plan. For example, it may be more economical to generate from Plant A, but the Reliability Coordinators may determine it not to be reliable to do so from a transmission of energy perspective. Conversely, it may not be as economical to generate from Plant B, but it may be necessary to do so in order to serve load in a remote area. Saluda Hydro operations provide a perfect example of this. As one of SCE&G’s most economical plants, it should always be generating from a purely cost-of-generation perspective. Nevertheless, because of reliability factors, it is kept off-line so that it can be available to serve as reserves if emergencies occur. Some

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amount of generation must be available to respond to emergency reserve calls within the fifteen minute time period required by SCE&G's VACAR/SERC/NERC obligations.

The Reliability Coordinators hand-off the constrained dispatch plan to the System Controllers who then use it as a roadmap by which to operate the system. Inevitably, real life conditions do not exactly follow the assumptions the ERC, OPS, and Reliability Coordinators relied upon to create the plan, so the System Controllers make real time adjustments to operate the system.

The group began to discuss the dispatch plan and Randy Mahan explained that there were always real-life factors that could not be predicted. Steve inquired as to whether decisions to run certain plants were made for economical reasons. Bill A. noted that there are environmental issues to be considered that often trump the economic considerations. After this question was sufficiently answered the group moved on to discuss Item number 3.

3. Provide a write-up of how SCE&G uses the other plants in our system when Saluda is not available due to a scheduled outage of the whole plant or just one or two units. Last year could be a good example of the second half of this question since some of the units were not operational the entire year. What did you use for reserve when Unit 4 was not available?

Response: The use of generating units other than Saluda's units for reserves depends on the specific situation. Over time we have seen a variety of situations in which Saluda's units become unavailable to serve reserve requirements. For example, Saluda's units may be unavailable because of maintenance activities at Saluda. Likewise, sometimes it is necessary that divers be in and around the towers. Operations are suspended during this time and the units are made unavailable for use to respond to reserves until this activity is completed. A more subtle example is presented when the units are already fully loaded, perhaps in preparation for inflows from a tropical storm or hurricane or during a time when lake levels are intentionally being reduced for dam or equipment maintenance. In the hurricane example, because the units are generating, they are not offline and available in 15 minutes which are both requirements for being counted as system reserves. And even if not fully loaded, to the extent the units are loaded, we cannot count that already-in-operation capacity towards our reserves obligation.

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Most situations are controllable and planned ahead of time so that the generation plans satisfy both economic and constrained dispatch objectives. For example, if divers need to work on the towers, SCE&G makes sure the work is scheduled when generation from Fairfield Pumped Storage is not needed to serve load. This allows Fairfield Pumped Storage to be dedicated for reserves. Other controllable situations are scheduled maintenance and planned releases, assuming we don't have to deal with high flows down the Broad River at the same time. Canoeing for Kids is a good example of a planned release – it's typically scheduled on a Saturday during an expected low load period. For the 2006 event, Fairfield Pumped Storage was used to carry reserves.

When Saluda units fail or require maintenance and need to be taken off line, the only option is to carry reserves on Fairfield Pumped Storage or on a combination of Fairfield Pumped Storage and quick-start turbines. A combination of the two is most common because individually, they are problematic. Fairfield Pumped Storage has certain constraints such as limited operations when the Broad River is at or above 40,000 cfs. Further discussion about turbine operations appears below in response to questions 4 and 5.

A final alternative is to back down steam generation across multiple units. This is the least desirable method of carrying reserves as well as the most costly for SCE&G customers. Because of the slow response of coal-fired generating units, to achieve the full fifteen minutes reserve requirement obligation, multiple units must be backed off if they are to be relied upon. Also, when using these units, there is a real potential for unit trips. Nevertheless, even if a plan to rely on backing down coal fired generation were to be put in place, this would not fully meet the offline and available definition of VACAR/SERC/NERC. Rather, it more closely resembles a backed down and available situation.

In reference to the third item, Mike asked if SCE&G has enough capacity on its system to handle all of the current demands. Randy noted that they did have enough capacity, and explained that SCE&G does the best that they can to plan to have enough generation to meet the current needs as well as the expected growth. The group cited the construction of the new nuclear plant as an example.

There was brief discussion on the use of Fairfield Pumped Storage Facility. Steve inquired as to how it was used and whether there were certain times of the year in which all of the capacity at that plant was used. Bill replied there were times when the entirety of Fairfield's capacity was used. Karen Kustafik asked if drought conditions could affect

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the use of Fairfield. Bill A. noted that drought conditions could effect the pumping to refill Monticello Reservoir because there is a minimum flow requirement at Parr. It was also discussed that Fairfield could not add to flooding if there was 40,000 or more cfs already in the Broad River.

The group also noted that item 4 (listed below) was sufficiently answered and moved to discuss item 5.

4. Provide a write-up of what SCE&G does in an emergency situation when Saluda is available. How is FFPS used in the equation to meet reserve? Does SCE&G use any other plants on our system to meet this reserve, if so which ones are used? Is Saluda always the first plant used during an emergency? Is Saluda the last plant used in an emergency?

Response: Fairfield Pumped Storage may be available if a base load or other currently generating unit trips. However, if the limited volume of water in Fairfield already is included in the generating plan to serve load later in the day, it may not be used to fulfill the Saluda mission for that day, i.e. to meet a reserves call. At other times however, even though Fairfield Pumped Storage may be planned for later use, if loads turn out not to be as high as forecasted, FFPS may be pressed into service to meet the emergency need. System Controllers must also consider the forecasted need for Fairfield Pumped Storage for the next day, as there may be a need to replenish the water supply for the upcoming day's use. While pumping back, obviously, FFPS cannot be counted on to supply reserves. Finally, there are flooding constraints that can take Fairfield Pumped Storage out of the picture all together. Flows equal to or greater than 40,000 cfs in the Broad River render FFPS unavailable for operation in the generating mode. As the system changes throughout the day, multiple factors continually must be considered. Dependence on a single facility for reserves is not prudent; flexibility of reserve sources is crucial for reliability.

In addition to Fairfield Pumped Storage & Saluda Hydro, the other plants normally used for reserves are the quick-start turbines. Those are Urquhart Unit 4 and Parr units 1, 2, 3, & 4. Together they can generate about 108 MWs.

Saluda is not always the first plant used to serve reserves, nor is it always the last. As described above, there are a variety of factors to consider in determining which unit should be called upon to meet reserves.

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5. How does SCE&G use the gas turbines on our system to meet reserve? Why does SCE&G not use them more than we do now? When does SCE&G use the gas turbines in general, peaking, base load, etc.? How are the gas turbines used, are they started and run for a long period of time or just a few hours a day; started and run just to meet a peak demand then shut off?

Response: See the responses to Questions 2, 3, & 4 above. Gas turbines are used to carry reserves in limited situations because they are not as reliable in meeting the strict NERC 15 minute requirements as Fairfield Pumped Storage and Saluda. Thus they are not used as often.

In general, gas turbines are used in peaking situations and normally run for very short periods of time and then shut off. They are always brought on after all steam units and most of Fairfield Pumped Storage is loaded. They are the least economical generation units and fall very late in the economic dispatch stack. Even though they are not as economical, SCE&G still runs them as peaking plants to serve load while it keeps Saluda off line for reserves. Were SCE&G to use turbines and part of Fairfield Pumped Storage for reserves, then to replace their peaking capacity, Saluda would have to be used as a peaking plant in their stead. This would mean Saluda would be used much more frequently than it is now.

While discussing item 5, Patrick Moore noted that during relicensing the possibility exists that some of the studies being done will produce data that would negate SCE&G's ability to use Saluda for reserve. He continued to ask what would be done for reserve if Saluda is not available. Tom Eppink noted that SCE&G is required to, and currently, looking at all options. He continued to note that this data will be shared with the group as soon as it is ready. Bill A. added that they hope to have a presentation ready sometime in September. Bill A. noted that they would also like to look at meeting environmental requirements by upgrading the units themselves. He explained that they are looking at upgrading the units with more efficient runners.

The group moved to item 6

6. Please provide the date, time, and MW that SCE&G was requested to provide reserve power during 2005. Provide the reason for the reserve usage, i.e. called by other utility, to meet our own emergency situation, etc. if the information is available. Which plants on the SCE&G system were used to meet the reserve request?

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Response: Reports that SCE&G compiles regarding reserves operations have sensitive information belonging to companies other than SCE&G. What can be provided without violating those confidences follows. SCE&G played a role as part of the VACAR Reserve Sharing Group Agreement on 9 occasions during 2005. On 6 of those occasions SCE&G called on reserves from its VACAR Reserve Sharing Group partners. On the other 3 occasions SCE&G supplied reserves to other companies. That makes a total of 9 Reserve Sharing Group events in which SCE&G participated. Except for the information it has shared over the past couple of years (and continues to publish) regarding its operation of Saluda to meet reserve requirements, SCE&G has not compiled reports on its use of Saluda for internal reserve needs.

Steve proposed that the stakeholders choose a certain date that SCE&G could then find out more information on what plants were used and why. Bill A. replied that the situation varies on each day and that he does not believe the information is kept in such detail all in one place. Steve also noted that he believed that there would be questions in the upcoming RCG about why some of this information is kept confidential. Bill A. noted that they would have an attorney present to explain this to the group. Bill A. also noted that he would have Lee Xanthakos come to the next RCG meeting in an effort to try to answer some of the groups questions about how the system was run on certain days. A homework item for the stakeholders was to pick out dates they were interested in and they would be sent to Lee prior to the meeting.

Bill Marshall also noted that he was interested in knowing the Megawatts in percent that were used during the 9 Reserve Sharing Group events as well as the flows in the river during those instances.

The group began to discuss item number 7.

7. Provide a write-up of how SCE&G determines when and at what rate to lower Lake Murray during the annual fall drawdown?

Response: SCE&G considers several factors in determining the appropriate target lake elevation during fall drawdown include current lake elevation, the need to gradually drawdown over several months, expectations and planning for “normal” winter and spring rainfall, predicted or possible severe weather conditions (such as the possibility of tropical storms or hurricanes), and the need and ability to maintain reserves during and after drawdown. Rapid drawdown of the lake always raises the specter of potential detriment to the stability of the dam. This is

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a major reason that SCE&G plans the annual drawdown to occur over several months. The other major issue to consider is Saluda Hydro's availability for reserve generation as discussed in the response to Question 3. To the extent Saluda is operating for other reasons, it cannot be counted as reserves in response to its VACAR/SERC/NERC reserves obligations.

Lake Murray is not a flood storage reservoir and must be operated to allow the lake level to be lowered through plant generation without the use of the emergency spillway gates. As the name implies, the spillway gates are for emergency use, to address circumstances where inflow or expected inflow is greater than the discharge capacity of the plant at a time when the lake level is close to the normal maximum pool elevation. SCE&G goes to great pains to manage the lake level so this situation does not occur. A target water level reduction, usually one to two feet per month, has been considered a "typical" drawdown rate from late August through December in anticipation of normal rainfall from January through April of the following year. Generation during this drawdown period is performed as prudently as possible taking into account the issues described in Question 2

Statistically, the highest probability of a hurricane affecting the Saluda River Basin is in the month of September. Thus the lake level drawdown typically will start around the end of August. If there is a possibility of the approach of a tropical storm or hurricane to the Saluda River Basin area, which may appear to require lowering the lake level in anticipation of the storm, SCE&G will use a Flow Forecasting Model that evaluates data from the National Weather Service and United States Geological Survey to predict the elevation of Lake Murray under various discharge scenarios. Based on the results of specific model analyses, SCE&G will then lower the lake level as necessary to keep the level safely below elevation 360' to maintain compliance with our FERC license. Although hurricane season ends in November, a typical lake level drawdown continues through the end of December in anticipation of winter and spring rains as noted above.

Steve asked what criteria SCE&G uses to determine what level the lake should be at any given time during the fall and winter to ensure that flood gates would not have to be used. Bill A. noted that it greatly depends on the weather patterns. He explained that Jim Landreth has been working with the lake groups to keep the level up as high as possible for as long as possible. Bill A explained that SCE&G's current policy is to use

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information from the National Weather Service in its Flow Forecasting Model to determine the need to lower the lake in the event of an approaching hurricane or tropical storm. Bill A indicated that at this time SCE&G does lower the lake anticipating heavy rains in January and Spring. He also added that water balance is part of the operations model, and until they receive all of the information, SCE&G is working on keeping the lake level as high as possible, while still being prepared for hurricanes and tropical storms.

On a separate topic, Bill Marshall noted that he understood the steep increase in cfs under emergency situations but inquired as to why there were such steep rises for planned releases. Bill A. noted that there were several reasons behind this, one being that they needed to try to use the water in an economical manner, as well as having the system back offline and ready for use as reserve. Bill A. noted that as part of their last settlement agreement meeting with SCCCL, they were looking into having a more gradual release for planned releases, however, in an emergency situation there will need to be an immediate release.

Question 8 was skipped (listed below) and the group moved to question 9.

8. Provide the times in which the Broad River flows were at or greater than 40,000 cfs in 2005.

Response: The SCE&G system dispatchers use three gages (Broad River near Carlisle (02156500), Tyger River near Delta (02160105), and Enoree River at Whitmire (02160700)) above Parr Hydro to determine when flows are **approaching** 40,000 cfs on the Broad River. The dispatchers will add the flows of these three gages to calculate the total flow in the Broad River at Fairfield Pumped Storage. To determine how many times the Broad River actually achieved flows equal to or in excess of 40,000 cfs, for this report we will look at the Broad River at Alston Gage (02161000) which is downstream of Parr Hydro on the Broad River. When the flows are at or above 40,000 cfs at the Alston Gage, Fairfield Pumped Storage will already have been taken off line in accordance with our FERC license. The attached spreadsheet lists the times the Broad River exceeded 40,000 cfs based on the Broad River at Alston Gage. The items highlighted (in yellow) show the number of times and percent of time for each month that the Broad River was at or above 40,000 cfs. Below are the exact dates/times in 2005 that the Broad River was at or above 40,000 cfs based on the Broad River at Alston Gage. SCE&G cannot validate and does not vouch for the accuracy of the data provided by the USGS gage.

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- March 29 - From 4 pm to 12 am
- March 30 - From 1 am to 10 pm
- June 2 - From 1 pm to 10 pm
- October 8 - From 6 pm to 10 pm
- October 9 - From 12 pm to 12 am
- October 10 - From 1 am to 4 am

9. Provide a range of costs for MWHs of generation that was purchased on the open market for the last two years (2004 & 2005).

Response: This data is business confidential and market sensitive information. Disclosure of this information could result in substantial damage to SCE&G's position as both a purchaser and seller of energy in unregulated regional energy markets. Should power marketers have knowledge of these critical price points, they could adjust their bids accordingly. SCE&G could then be forced to buy energy at less favorable rates. Ultimately, SCE&G system consumers would receive less benefit from energy sales and pay a higher cost for purchased energy if market participants know SCE&G's purchasing history. Once information of this nature is disclosed to the market, there is no practical way to undo the damage to SCE&G and its customers.

Broad River at Alston Gage (02161000) Flows

		High		Total	
		.00 Flows below 40,000 cfs	1.00 Flows equal to or greater than 40,000 cfs		
MONTH	Jan	Count	744	0	744
		% within MONTH	100.0%	.0%	100.0%
		% within High	8.5%	.0%	8.5%
		% of Total	8.5%	.0%	8.5%
	Feb	Count	672	0	672

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	% within MONTH	100.0%	.0%	100.0%
	% within High	7.7%	.0%	7.7%
	% of Total	7.7%	.0%	7.7%
Mar	Count	731	13	744
	% within MONTH	98.3%	1.7%	100.0%
	% within High	8.4%	28.9%	8.5%
	% of Total	8.3%	.1%	8.5%
Apr	Count	720	0	720
	% within MONTH	100.0%	.0%	100.0%
	% within High	8.3%	.0%	8.2%
	% of Total	8.2%	.0%	8.2%
May	Count	744	0	744
	% within MONTH	100.0%	.0%	100.0%
	% within High	8.5%	.0%	8.5%
	% of Total	8.5%	.0%	8.5%
Jun	Count	710	10	720
	% within MONTH	98.6%	1.4%	100.0%
	% within High	8.1%	22.2%	8.2%
	% of Total	8.1%	.1%	8.2%
Jul	Count	744	0	744
	% within MONTH	100.0%	.0%	100.0%
	% within High	8.5%	.0%	8.5%
	% of Total	8.5%	.0%	8.5%
Aug	Count	744	0	744
	% within	100.0%	.0%	100.0%

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	MONTH			
	% within High	8.5%	.0%	8.5%
	% of Total	8.5%	.0%	8.5%
Sep	Count	720	0	720
	% within MONTH	100.0%	.0%	100.0%
	% within High	8.3%	.0%	8.2%
	% of Total	8.2%	.0%	8.2%
Oct	Count	722	22	744
	% within MONTH	97.0%	3.0%	100.0%
	% within High	8.3%	48.9%	8.5%
	% of Total	8.2%	.3%	8.5%
Nov	Count	720	0	720
	% within MONTH	100.0%	.0%	100.0%
	% within High	8.3%	.0%	8.2%
	% of Total	8.2%	.0%	8.2%
Dec	Count	744	0	744
	% within MONTH	100.0%	.0%	100.0%
	% within High	8.5%	.0%	8.5%
	% of Total	8.5%	.0%	8.5%
Total	Count	8715	45	8760
	% within MONTH	99.5%	.5%	100.0%
	% within High	100.0%	100.0%	100.0%
	% of Total	99.5%	.5%	100.0%

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In conclusion, Patrick Moore asked if there was any way that the group could be provided with a high and a low cost for power paid over the last 10 years with no particular time sequence attached to it. Bill A. noted that he would ask about this. Mike also asked if Bill A. could send him the FERC form for the other ¾ of 2005. The group noted the homework assignments and adjourned.

Discussions that occurred after the meeting between Bill Argentieri and Steve Bell:

August 2, 2006 – telephone conversation

Subsequent to the July 11, 2006 Generation Review meeting, Steve Bell and Bill Argentieri had a discussion in an attempt to clarify Response No. 7 on SCE&G's June 14, 2006 email, how does SCE&G determine when and at what rate to lower Lake Murray during the annual fall drawdown. The following are details of our conversation.

Steve was interested in more details of how SCE&G determines what target elevations are aimed for in the fall drawdown months. Bill explained that normally SCE&G will attempt to lower the lake approximately 1 – 2 feet a month starting in late August/ early September in an attempt to target elevation 350 to 352 by the end of December. This is for several reasons; first to provide storage area in Lake Murray in the event of a tropical storm or hurricane which if it is going to occur, typically occurs in the late August to end of September time of year in our watershed basin. Second, this scenario provides for greater flexibility to keep Saluda for reserves during longer periods of each month. We will drawdown the lake in the early part of the month to allow for reserve use in the later part of the month. Third, the idea of lowering Lake Murray to the 350 – 352 range by the end of December provides our system operators with better control of inflows during the late winter and early spring rainy season (January – April). This also provides SCE&G a better opportunity to manage the lake level without having to generate as often during the spring months. In 2005, similar to what we have tried other years in the past, Jim Landreth requested that the minimum lake level during the drawdown not go below elevation 354. We did accomplish this, but because 2005 was more of a typical rain year, we had to use Saluda Hydro to generate more throughout the spring and summer months. This created two situations that we are discussing right now in the Safety RCG and Fish & Wildlife RCG. The Safety RCG is concerned about more generation during the summer months which creates the need for more safety warning systems along the lower Saluda River. The Fish and Wildlife RCG is concerned with the potential to generate more with Unit 5 from June through August when the DO in the lake is the low.

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I will obtain a copy of each week from January 1, 2005 through December 31, 2005.

Response: The data requested regarding prior operation of all plants on our system is not maintained in the manner requested. We do not keep a weekly aggregate of generation for our plants. Thus, this information is not readily available. In addition, generation information at this level of detail is business-confidential and market-sensitive information. Disclosure of this information could result in substantial damage to SCE&G's position as both a purchaser and seller of energy in unregulated regional energy markets. Once information of this nature is disclosed to the market, there is no practical way to undo damage to SCE&G and its customers.

Nevertheless, in an effort to give you all available non-confidential material, attached are excerpts from the FERC Form - 1 annual filing made by SCE&G at the Federal Energy Regulatory Commission for the calendar year ending December 31, 2005. These excerpts include the annual generation for each of SCE&G's facilities.

After the group reviewed the first question Steve Bell asked if records were available on how SCE&G operated its system to meet demands for a given day. Bill A. replied that they do not have all that information in one place. He noted that each plant maintains a record of they operate, however it is not all in one form. Bill A. also noted that they do provide some information to the Public Service Commission, however, the detail that the group has requested is not for the general public to have access to. Steve asked if the group could pick out particular days in order to receive information on, and Mike Waddell suggested that the past plant outage in May be used as an example. Bill noted that he had information on the past plant outage in June but not in May. Bill A. briefly reviewed the June 21 occurrence with the group and discussed the logic behind what particular plants were used. It was noted that for that occurrence, many plants on SCE&G's own system, including Saluda, were used and they did not have to call upon VACAR. Bill A. noted that since Saluda was being used in this emergency instance, that they had contacted VACAR to notify them that they were using their reserve and that it would probably not be available for the next hour to hour and a half. This was when SCE&G could purchase power on the market or bring other units online. Steve asked if SCE&G was required to first expend all of their resources before VACAR was called. Bill replied that they would have to first use their 200 in reserve before they called on VACAR or they had the option of meeting the need internally. Bill A. also added that there were advantages to meeting the needs internally.

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The group noted that they had sufficiently discussed the first item and moved to the second question.

2. Provide a write-up on the reason why SCE&G operates their plants in the manner that they are operated.

Response: Describing how the units are operated on any particular day provides information of only limited value, since operations on one day do not necessarily correlate to operations on future days. Actual operations of the plants are subject to an infinitely variable set of conditions. Nevertheless, the general process/protocol (Economic Dispatch) relied upon to determine which plants/units SCE&G at least “plans” to operate is reasonably consistent.

Economic Dispatch is a generation planning tool employed faithfully at SCE&G. Twice each day, SCE&G engineers in the Economic Resource Commitment (ERC) group communicate with employees in the Transmission Services Operation Planning (OPS) group. These two functionally separate groups agree on hourly load forecasts for every hour of the coming 7 days.

Once agreement upon the forecast has been reached, the ERC engineers develop hourly economic dispatch plans to match. The economic dispatch plans that are created project a mix of planned generation from SCE&G units as well as off-system purchases. Units and purchases are economically stacked in every hour (most economically favorable to least economically favorable) to create a plan the system can be controlled by to most economically serve its obligations – including the possibility of serving reserves.

Once the Reliability Coordinators review the economic dispatch plan and make the changes deemed necessary to preserve reliability (remember, reliability trumps economics), the result is a constrained dispatch plan. For example, it may be more economical to generate from Plant A, but the Reliability Coordinators may determine it not to be reliable to do so from a transmission of energy perspective. Conversely, it may not be as economical to generate from Plant B, but it may be necessary to do so in order to serve load in a remote area. Saluda Hydro operations provide a perfect example of this. As one of SCE&G’s most economical plants, it should always be generating from a purely cost-of-generation perspective. Nevertheless, because of reliability factors, it is kept off-line so that it can be available to serve as reserves if emergencies occur. Some

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amount of generation must be available to respond to emergency reserve calls within the fifteen minute time period required by SCE&G's VACAR/SERC/NERC obligations.

The Reliability Coordinators hand-off the constrained dispatch plan to the System Controllers who then use it as a roadmap by which to operate the system. Inevitably, real life conditions do not exactly follow the assumptions the ERC, OPS, and Reliability Coordinators relied upon to create the plan, so the System Controllers make real time adjustments to operate the system.

The group began to discuss the dispatch plan and Randy Mahan explained that there were always real-life factors that could not be predicted. Steve inquired as to whether decisions to run certain plants were made for economical reasons. Bill A. noted that there are environmental issues to be considered that often trump the economic considerations. After this question was sufficiently answered the group moved on to discuss Item number 3.

3. Provide a write-up of how SCE&G uses the other plants in our system when Saluda is not available due to a scheduled outage of the whole plant or just one or two units. Last year could be a good example of the second half of this question since some of the units were not operational the entire year. What did you use for reserve when Unit 4 was not available?

Response: The use of generating units other than Saluda's units for reserves depends on the specific situation. Over time we have seen a variety of situations in which Saluda's units become unavailable to serve reserve requirements. For example, Saluda's units may be unavailable because of maintenance activities at Saluda. Likewise, sometimes it is necessary that divers be in and around the towers. Operations are suspended during this time and the units are made unavailable for use to respond to reserves until this activity is completed. A more subtle example is presented when the units are already fully loaded, perhaps in preparation for inflows from a tropical storm or hurricane or during a time when lake levels are intentionally being reduced for dam or equipment maintenance. In the hurricane example, because the units are generating, they are not offline and available in 15 minutes which are both requirements for being counted as system reserves. And even if not fully loaded, to the extent the units are loaded, we cannot count that already-in-operation capacity towards our reserves obligation.

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Most situations are controllable and planned ahead of time so that the generation plans satisfy both economic and constrained dispatch objectives. For example, if divers need to work on the towers, SCE&G makes sure the work is scheduled when generation from Fairfield Pumped Storage is not needed to serve load. This allows Fairfield Pumped Storage to be dedicated for reserves. Other controllable situations are scheduled maintenance and planned releases, assuming we don't have to deal with high flows down the Broad River at the same time. Canoeing for Kids is a good example of a planned release – it's typically scheduled on a Saturday during an expected low load period. For the 2006 event, Fairfield Pumped Storage was used to carry reserves.

When Saluda units fail or require maintenance and need to be taken off line, the only option is to carry reserves on Fairfield Pumped Storage or on a combination of Fairfield Pumped Storage and quick-start turbines. A combination of the two is most common because individually, they are problematic. Fairfield Pumped Storage has certain constraints such as limited operations when the Broad River is at or above 40,000 cfs. Further discussion about turbine operations appears below in response to questions 4 and 5.

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the use of Fairfield. Bill A. noted that drought conditions could effect the pumping to refill Monticello Reservoir because there is a minimum flow requirement at Parr. It was also discussed that Fairfield could not add to flooding if there was 40,000 or more cfs already in the Broad River.

The group also noted that item 4 (listed below) was sufficiently answered and moved to discuss item 5.

4. Provide a write-up of what SCE&G does in an emergency situation when Saluda is available. How is FFPS used in the equation to meet reserve? Does SCE&G use any other plants on our system to meet this reserve, if so which ones are used? Is Saluda always the first plant used during an emergency? Is Saluda the last plant used in an emergency?

Response: Fairfield Pumped Storage may be available if a base load or other currently generating unit trips. However, if the limited volume of water in Fairfield already is included in the generating plan to serve load later in the day, it may not be used to fulfill the Saluda mission for that day, i.e. to meet a reserves call. At other times however, even though Fairfield Pumped Storage may be planned for later use, if loads turn out not to be as high as forecasted, FFPS may be pressed into service to meet the emergency need. System Controllers must also consider the forecasted need for Fairfield Pumped Storage for the next day, as there may be a need to replenish the water supply for the upcoming day's use. While pumping back, obviously, FFPS cannot be counted on to supply reserves. Finally, there are flooding constraints that can take Fairfield Pumped Storage out of the picture all together. Flows equal to or greater than 40,000 cfs in the Broad River render FFPS unavailable for operation in the generating mode. As the system changes throughout the day, multiple factors continually must be considered. Dependence on a single facility for reserves is not prudent; flexibility of reserve sources is crucial for reliability.

In addition to Fairfield Pumped Storage & Saluda Hydro, the other plants normally used for reserves are the quick-start turbines. Those are Urquhart Unit 4 and Parr units 1, 2, 3, & 4. Together they can generate about 108 MWs.

Saluda is not always the first plant used to serve reserves, nor is it always the last. As described above, there are a variety of factors to consider in determining which unit should be called upon to meet reserves.

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5. How does SCE&G use the gas turbines on our system to meet reserve? Why does SCE&G not use them more than we do now? When does SCE&G use the gas turbines in general, peaking, base load, etc.? How are the gas turbines used, are they started and run for a long period of time or just a few hours a day; started and run just to meet a peak demand then shut off?

Response: See the responses to Questions 2, 3, & 4 above. Gas turbines are used to carry reserves in limited situations because they are not as reliable in meeting the strict NERC 15 minute requirements as Fairfield Pumped Storage and Saluda. Thus they are not used as often.

In general, gas turbines are used in peaking situations and normally run for very short periods of time and then shut off. They are always brought on after all steam units and most of Fairfield Pumped Storage is loaded. They are the least economical generation units and fall very late in the economic dispatch stack. Even though they are not as economical, SCE&G still runs them as peaking plants to serve load while it keeps Saluda off line for reserves. Were SCE&G to use turbines and part of Fairfield Pumped Storage for reserves, then to replace their peaking capacity, Saluda would have to be used as a peaking plant in their stead. This would mean Saluda would be used much more frequently than it is now.

While discussing item 5, Patrick Moore noted that during relicensing the possibility exists that some of the studies being done will produce data that would negate SCE&G's ability to use Saluda for reserve. He continued to ask what would be done for reserve if Saluda is not available. Tom Eppink noted that SCE&G is required to, and currently, looking at all options. He continued to note that this data will be shared with the group as soon as it is ready. Bill A. added that they hope to have a presentation ready sometime in September. Bill A. noted that they would also like to look at meeting environmental requirements by upgrading the units themselves. He explained that they are looking at upgrading the units with more efficient runners.

The group moved to item 6

6. Please provide the date, time, and MW that SCE&G was requested to provide reserve power during 2005. Provide the reason for the reserve usage, i.e. called by other utility, to meet our own emergency situation, etc. if the information is available. Which plants on the SCE&G system were used to meet the reserve request?

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Response: Reports that SCE&G compiles regarding reserves operations have sensitive information belonging to companies other than SCE&G. What can be provided without violating those confidences follows. SCE&G played a role as part of the VACAR Reserve Sharing Group Agreement on 9 occasions during 2005. On 6 of those occasions SCE&G called on reserves from its VACAR Reserve Sharing Group partners. On the other 3 occasions SCE&G supplied reserves to other companies. That makes a total of 9 Reserve Sharing Group events in which SCE&G participated. Except for the information it has shared over the past couple of years (and continues to publish) regarding its operation of Saluda to meet reserve requirements, SCE&G has not compiled reports on its use of Saluda for internal reserve needs.

Steve proposed that the stakeholders choose a certain date that SCE&G could then find out more information on what plants were used and why. Bill A. replied that the situation varies on each day and that he does not believe the information is kept in such detail all in one place. Steve also noted that he believed that there would be questions in the upcoming RCG about why some of this information is kept confidential. Bill A. noted that they would have an attorney present to explain this to the group. Bill A. also noted that he would have Lee Xanthakos come to the next RCG meeting in an effort to try to answer some of the groups questions about how the system was run on certain days. A homework item for the stakeholders was to pick out dates they were interested in and they would be sent to Lee prior to the meeting.

Bill Marshall also noted that he was interested in knowing the Megawatts in percent that were used during the 9 Reserve Sharing Group events as well as the flows in the river during those instances.

The group began to discuss item number 7.

7. Provide a write-up of how SCE&G determines when and at what rate to lower Lake Murray during the annual fall drawdown?

Response: SCE&G considers several factors in determining the appropriate target lake elevation during fall drawdown include current lake elevation, the need to gradually drawdown over several months, expectations and planning for "normal" winter and spring rainfall, predicted or possible severe weather conditions (such as the possibility of tropical storms or hurricanes), and the need and ability to maintain reserves during and after drawdown. Rapid drawdown of the lake always raises the specter of potential detriment to the stability of the dam. This is

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a major reason that SCE&G plans the annual drawdown to occur over several months. The other major issue to consider is Saluda Hydro's availability for reserve generation as discussed in the response to Question 3. To the extent Saluda is operating for other reasons, it cannot be counted as reserves in response to its VACAR/SERC/NERC reserves obligations.

Lake Murray is not a flood storage reservoir and must be operated to allow the lake level to be lowered through plant generation without the use of the emergency spillway gates. As the name implies, the spillway gates are for emergency use, to address circumstances where inflow or expected inflow is greater than the discharge capacity of the plant at a time when the lake level is close to the normal maximum pool elevation. SCE&G goes to great pains to manage the lake level so this situation does not occur. A target water level reduction, usually one to two feet per month, has been considered a "typical" drawdown rate from late August through December in anticipation of normal rainfall from January through April of the following year. Generation during this drawdown period is performed as prudently as possible taking into account the issues described in Question 2

Statistically, the highest probability of a hurricane affecting the Saluda River Basin is in the month of September. Thus the lake level drawdown typically will start around the end of August. If there is a possibility of the approach of a tropical storm or hurricane to the Saluda River Basin area, which may appear to require lowering the lake level in anticipation of the storm, SCE&G will use a Flow Forecasting Model that evaluates data from the National Weather Service and United States Geological Survey to predict the elevation of Lake Murray under various discharge scenarios. Based on the results of specific model analyses, SCE&G will then lower the lake level as necessary to keep the level safely below elevation 360' to maintain compliance with our FERC license. Although hurricane season ends in November, a typical lake level drawdown continues through the end of December in anticipation of winter and spring rains as noted above.

Steve asked what criteria SCE&G uses to determine what level the lake should be at any given time during the fall and winter to ensure that flood gates would not have to be used. Bill A. noted that it greatly depends on the weather patterns. He explained that Jim Landreth has been working with the lake groups to keep the level up as high as possible for as long as possible. Bill A explained that SCE&G's current policy is to use

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information from the National Weather Service in its Flow Forecasting Model to determine the need to lower the lake in the event of an approaching hurricane or tropical storm. Bill A indicated that at this time SCE&G does lower the lake anticipating heavy rains in January and Spring. He also added that water balance is part of the operations model, and until they receive all of the information, SCE&G is working on keeping the lake level as high as possible, while still being prepared for hurricanes and tropical storms.

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On a separate topic, Bill Marshall noted that he understood the steep increase in cfs under emergency situations but inquired as to why there were such steep rises for planned releases. Bill A. noted that there were several reasons behind this, one being that they needed to try to use the water in an economical manner, as well as having the system back offline and ready for use as reserve. Bill A. noted that as part of their last settlement agreement meeting with SCCCL, they were looking into having a more gradual release for planned releases, however, in an emergency situation there will need to be an immediate release.

Question 8 was skipped (listed below) and the group moved to question 9.

- 8. Provide the times in which the Broad River flows were at or greater than 40,000 cfs in 2005.

Response: The SCE&G system dispatchers use three gages (Broad River near Carlisle (02156500), Tyger River near Delta (02160105), and Enoree River at Whitmire (02160700)) above Parr Hydro to determine when flows are **approaching** 40,000 cfs on the Broad River. The dispatchers will add the flows of these three gages to calculate the total flow in the Broad River at Fairfield Pumped Storage. To determine how many times the Broad River actually achieved flows equal to or in excess of 40,000 cfs, for this report we will look at the Broad River at Alston Gage (02161000) which is downstream of Parr Hydro on the Broad River. When the flows are at or above 40,000 cfs at the Alston Gage, Fairfield Pumped Storage will already have been taken off line in accordance with our FERC license. The attached spreadsheet lists the times the Broad River exceeded 40,000 cfs based on the Broad River at Alston Gage. The items highlighted (in yellow) show the number of times and percent of time for each month that the Broad River was at or above 40,000 cfs. Below are the exact dates/times in 2005 that the Broad River was at or above 40,000 cfs based on the Broad River at Alston Gage. SCE&G cannot validate and does not vouch for the accuracy of the data provided by the USGS gage.

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March 29 - From 4 pm to 12 am
March 30 - From 1 am to 10 pm
June 2 - From 1 pm to 10 pm
October 8 - From 6 pm to 10 pm
October 9 - From 12 pm to 12 am
October 10 - From 1 am to 4 am

9. Provide a range of costs for MWHs of generation that was purchased on the open market for the last two years (2004 & 2005).

Response: This data is business confidential and market sensitive information. Disclosure of this information could result in substantial damage to SCE&G's position as both a purchaser and seller of energy in unregulated regional energy markets. Should power marketers have knowledge of these critical price points, they could adjust their bids accordingly. SCE&G could then be forced to buy energy at less favorable rates. Ultimately, SCE&G system consumers would receive less benefit from energy sales and pay a higher cost for purchased energy if market participants know SCE&G's purchasing history. Once information of this nature is disclosed to the market, there is no practical way to undo the damage to SCE&G and its customers.

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Broad River at Alston Gage (02161000) Flows

MONTH		High		Total
		.00 Flows below 40,000 cfs	1.00 Flows equal to or greater than 40,000 cfs	
Jan	Count	744	0	744
	% within MONTH	100.0%	0%	100.0%
	% within High	8.5%	.0%	8.5%
	% of Total	8.5%	.0%	8.5%
Feb	Count	672	0	672
	% within MONTH	100.0%	0%	100.0%
	% within High	7.7%	.0%	7.7%
	% of Total	7.7%	.0%	7.7%
Mar	Count	731	13	744
	% within MONTH	98.3%	1.7%	100.0%
	% within High	8.4%	28.9%	8.5%
	% of Total	8.3%	.1%	8.5%
Apr	Count	720	0	720
	% within MONTH	100.0%	0%	100.0%
	% within High	8.3%	.0%	8.2%
	% of Total	8.2%	.0%	8.2%
May	Count	744	0	744
	% within MONTH	100.0%	0%	100.0%
	% within High	8.5%	.0%	8.5%

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	% of Total	8.5%	.0%	8.5%
Jun	Count	710	10	720
	% within MONTH	98.6%	1.4%	100.0%
	% within High	8.1%	22.2%	8.2%
	% of Total	8.1%	.1%	8.2%
Jul	Count	744	0	744
	% within MONTH	100.0%	0%	100.0%
	% within High	8.5%	.0%	8.5%
	% of Total	8.5%	.0%	8.5%
Aug	Count	744	0	744
	% within MONTH	100.0%	0%	100.0%
	% within High	8.5%	.0%	8.5%
	% of Total	8.5%	.0%	8.5%
Sep	Count	720	0	720
	% within MONTH	100.0%	0%	100.0%
	% within High	8.3%	.0%	8.2%
	% of Total	8.2%	.0%	8.2%
Oct	Count	722	22	744
	% within MONTH	97.0%	3.0%	100.0%
	% within High	8.3%	48.9%	8.5%
	% of Total	8.2%	.3%	8.5%
Nov	Count	720	0	720
	% within MONTH	100.0%	0%	100.0%
	% within High	8.3%	.0%	8.2%
	% of Total	8.2%	.0%	8.2%

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	Dec	Count	744	0	744
		% within MONTH	100.0%	.0%	100.0%
		% within High	8.5%	.0%	8.5%
		% of Total	8.5%	.0%	8.5%
Total		Count	8715	45	8760
		% within MONTH	99.5%	.5%	100.0%
		% within High	100.0%	100.0%	100.0%
		% of Total	99.5%	.5%	100.0%

In conclusion, Patrick Moore asked if there was any way that the group could be provided with a high and a low cost for power paid over the last 10 years with no particular time sequence attached to it. Bill A. noted that he would ask about this. Mike also asked if Bill A. could send him the FERC form for the other ¾ of 2005. The group noted the homework assignments and adjourned.

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Stacia Hoover

From: Alison Guth
Sent: Wednesday, May 24, 2006 4:40 PM
To: Wenonah Haire; Aaron Small; Alan Axson; Alan Stuart; Alison Guth; Amanda Hill; Andy Miller; Bertina Floyd; BARGENTIERI@scana.com; Bill Cutler; Bill East; Bill Green (BGreen@smeinc.com); Bill Hulslander; Bill Marshall; Bill Mathias; Bob Olsen; Bob Seibels (bseibels@yahoo.com); Brandon Stutts ; Bret Hoffman; Brett Bursey; btrump@scana.com; Bud Badr; Buddy Baker ; Cam Littlejohn; Chad Long; Charlene Coleman; Charles Floyd; Charlie Compton; Charlie Rentz; Chris Judge; Chris Page; Craig Stow; Daniel Tufford; Dave Anderson; Dave Landis; David Allen; David Hancock; David Jones; David Price; Dell Isham; Dick Christie; Don Tyler; Donald Eng; Ed Diebold; Ed Fetner; Edward Schnepel; Feleke Arega (aregaf@dnr.sc.gov); George Duke; Gerrit Jobsis (American Rivers); Gerrit Jobsis (CCL); Gina Kirkland; Guy Jones; Hal Beard; Hank McKellar; Irvin Pitts (ipitts@scprt.com); Jay Robinson; Jeanette Wells; Jeff Duncan; Jennifer O'Rourke; Jennifer Price ; Jennifer Summerlin; Jerry Wise; Jim Devereaux; Jim Glover; Jim Goller; Jim Ruane ; JoAnn Butler; Joe Logan; John and Rob Altenberg; John Davis (johnd44@bellsouth.net); Jon Leader; Joy Downs; Karen Kustafik; Keith Ganz-Sarto; Ken Uschelbec; Kenneth Fox; Kim Westbury; Kristina Massey; Larry Michalec; Larry Turner (turnerle@dhec.sc.gov); Lee Barber; Malcolm Leaphart; Marianne Zajac; Mark Leao; Marty Phillips; Mary Kelly; Michael Murrell; Mike Duffy; Mike Sloan; Mike Summer (msummer@scana.com); Mike Waddell; Miriam Atria; Norm Nicholson; Norman Ferris; Parkin Hunter; Patricia Wendling; Patrick Moore; Prescott Brownell; Ralph Crafton; Randal Shealy; RMAHAN@scana.com; Ray Ammarell; Rebekah Dobrasko; Reed Bull (rbull@davisfloyd.com); Rhett Bickley; Richard Kidder; Richard Mikell; Robert Keener (SKEENER@sc.rr.com); Robert Lavisky; Ron Ahle; Ronald Scott; Roy Parker; Russell Jernigan; ryanity@scana.com; Sam Drake; Sandra Reinhardt; Sean Norris; Shane Boring; Stanley Yalicki; Steve Bell; Steve Leach; Steve Summer; Suzanne Rhodes; Theresa Powers (tpowers@newberrycounty.net); Theresa Thom; Tim Flach; Tim Vinson; Tom Bowles (tbowles@scana.com); Tom Brooks; Tom Eppink; Tom Ruple; Tom Stonecypher; Tommy Boozer; Tony Bebbler; Van Hoffman; Wade Bales (balesw@dnr.sc.gov); Mike Schimpff; Brandon Kulik; Marty Phillips
Subject: Final Meeting Notes for the Generation Review TWC

Hello all,

Attached are the final meeting notes from the Generation Review TWC Meeting on April 6, 2006. I am still waiting on a couple comments on the notes from the Safety and Operations RCG meeting that same day, but the final copy should be issued soon. Thanks and take care, Alison



2006-04-06 final
Meeting Minut...

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MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT RELICENSING
GENERATION REVIEW TWC**

**Saluda Shoals Park
April 6, 2006**

5-24-06 final acg

ATTENDEES:

Alan Stuart, Kleinschmidt Associates
Alison Guth, Kleinschmidt Associates
Bill Argentieri, SCE&G
Bill Marshall, DNR, LSSRAC
Michael Waddell, TU
Patrick Moore, SCCCL, Am. Rivers
Steve Bell, Lake Watch

Theresa Thom, Congaree National Park
Jennifer O'Rourke, SC Wildlife Federation
Bill Cutler, Lake Watch, LM Homeowners
Coalition

DATE: April 6, 2006

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.

HOMEWORK

Provide response to list of questions from TWC participants
Bill Argentieri

DISCUSSION

After the April 6th Combined Safety and Recreation meeting, the TWC members began the technical meeting. Bill Argentieri opened the meeting by asking what info the group felt that it needed and he would check to see if that information was available. Patrick Moore noted that he would like to see information on the operation of Saluda from a wet year, a dry year, and a normal year. He also noted that it would be beneficial to obtain operations information from a normal, wet, and dry year from the time in which Saluda was used for peaking.

Steve Bell asked if weekly generation reports were available for all plants on SCE&G's system. Bill Argentieri replied that they were available for Saluda because they are being sent out as part of the settlement agreement. Steve further explained that they would like to see reports from the entire system in order to see if Saluda was run for reserve or for some other reason. Patrick further noted that he would like to see if Saluda truly was the last option for reserve. Mike Waddell explained that it was his interest to expand the range of options and to better grasp how the system operates.

MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT RELICENSING
GENERATION REVIEW TWC**

**Saluda Shoals Park
April 6, 2006**

5-24-06 final acg

The group began discussing what date ranges of information was needed. Mike Waddell suggested that the group begin by looking at information from January of 2005 to the following January, with the understanding that there may be more questions once the group is able to look at the information. Bill Argentieri explained that the generation reports alone would not explain why other plants were or were not operated. The group began to go over options for deciphering why a particular plant was run. Mike Waddell suggested looking at Broad River flows in order to see how many times it was flowing over 40,000 cfs.

Steve Bell noted that his goal for the committee would be to have a specific report that was part of the record and that other groups could refer to. The group also requested a round table discussion with Lee Xanthakos to discuss in more detail how he uses Saluda as well as the other facilities.

Bill Marshall mentioned that he also would be interested in learning different scenarios for the use of Saluda and Fairfield and asked if that would be a part of what was brought to the table in an alternatives analysis. Bill Argentieri replied that it was not a part of the alternative analysis which would look at the alternatives for replacing Saluda all together.

The group continued to discuss the uses of Saluda and Fairfield. Patrick Moore requested to see information on rate ranges for the purchase of power. Alan noted that this information could not be disseminated in the presence of Lee Xanthakos according to FERC guidelines.

Steve Bell noted that he would also like to see information on the drawdowns for hurricane season. He continued to explain that he would be interested to see what time of day or month SCE&G began to take the lake down, and to what level. Steve also asked what was done if there was an emergency downstream where someone's life was at risk, and if they could stop generation in that case. Bill Argentieri replied that they have received a call of that nature before and the generation was shut down.

After more brief discussion on the use of Saluda the group compiled a list of requested information. Bill noted that he would meet with Lee Xanthakos in order to compile the answers to these questions.

List of Requested Information:

- Weekly generation reports for all plants on SCE&G's system between January and December of 2005 (The group will start this process by looking at one weeks worth or information and decide what more is needed)

MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT RELICENSING
GENERATION REVIEW TWC**

***Saluda Shoals Park
April 6, 2006***

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- Reasons why certain plants on the system were operated.
- Time periods during which Broad River flows were greater than 40,000 cfs
- How and when the gas turbines are used on the system
- How Fairfield is used
- Ranges of costs for the purchase of megawatt hours.
- Reserves that were requested in 2005 by other utilities and the amounts of megawatts that were called upon.
- How is it determined when and at what rate Lake Murray is lowered during the annual drawdown.

Stacia Hoover

From: Alison Guth
Sent: Friday, May 26, 2006 8:30 AM
To: Wenonah Haire; Aaron Small; Alan Axson; Alan Stuart; Alison Guth; Amanda Hill; Andy Miller; Bertina Floyd; BARGENTIERI@scana.com; Bill Cutler; Bill East; Bill Green (BGreen@smeinc.com); Bill Hulslander; Bill Marshall; Bill Mathias; Bob Olsen; Bob Seibels (bseibels@yahoo.com); Brandon Stutts ; Bret Hoffman; Brett Bursey; btrump@scana.com; Bud Badr; Buddy Baker ; Cam Littlejohn; Chad Long; Charlene Coleman; Charles Floyd; Charlie Compton; Charlie Rentz; Chris Judge; Chris Page; Craig Stow; Daniel Tufford; Dave Anderson; Dave Landis; David Allen; David Hancock; David Jones; David Price; Dell Isham; Dick Christie; Don Tyler; Donald Eng; Ed Diebold; Ed Fetner; Edward Schnepel; Feleke Arega (aregaf@dnr.sc.gov); George Duke; Gerrit Jobsis (American Rivers); Gerrit Jobsis (CCL); Gina Kirkland; Guy Jones; Hal Beard; Hank McKellar; Irvin Pitts (ipitts@scprt.com); Jay Robinson; Jeanette Wells; Jeff Duncan; Jennifer O'Rourke; Jennifer Price ; Jennifer Summerlin; Jerry Wise; Jim Devereaux; Jim Glover; Jim Goller; Jim Ruane ; JoAnn Butler; Joe Logan; John and Rob Altenberg; John Davis (johnd44@bellsouth.net); Jon Leader; Joy Downs; Karen Kustafik; Keith Ganz-Sarto; Ken Uschelbec; Kenneth Fox; Kim Westbury; Kristina Massey; Larry Michalec; Larry Turner (turnerle@dhec.sc.gov); Lee Barber; Malcolm Leaphart; Marianne Zajac; Mark Leao; Marty Phillips; Mary Kelly; Michael Murrell; Mike Duffy; Mike Sloan; Mike Summer (msummer@scana.com); Mike Waddell; Miriam Atria; Norm Nicholson; Norman Ferris; Parkin Hunter; Patricia Wendling; Patrick Moore; Prescott Brownell; Ralph Crafton; Randal Shealy; RMAHAN@scana.com; Ray Ammarell; Rebekah Dobrasko; Reed Bull (rbull@davisfloyd.com); Rhett Bickley; Richard Kidder; Richard Mikell; Robert Keener (SKEENER@sc.rr.com); Robert Lavisky; Ron Ahle; Ronald Scott; Roy Parker; Russell Jernigan; ryanity@scana.com; Sam Drake; Sandra Reinhardt; Sean Norris; Shane Boring; Stanley Yalicki; Steve Bell; Steve Leach; Steve Summer; Suzanne Rhodes; Theresa Powers (tpowers@newberrycounty.net); Theresa Thom; Tim Flach; Tim Vinson; Tom Bowles (tbowles@scana.com); Tom Brooks; Tom Eppink; Tom Ruple; Tom Stonecypher; Tommy Boozer; Tony Bebbler; Van Hoffman; Wade Bales (balesw@dnr.sc.gov); Mike Schimpff; Brandon Kulik; Marty Phillips
Subject: Final Meeting Notes - April 6th

Hello All,

Attached are the final meeting notes from the April 6th Operations and Safety Meeting. Thanks for all your comments.
Alison



2006-4-06 final
Meeting Notes ...

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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

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

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

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.

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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

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
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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

MEETING NOTES

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5-26-06 final acg

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 13th 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

**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

Just for info for tomorrow

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Stacia Hoover

From: Alison Guth
Sent: Wednesday, May 10, 2006 5:56 PM
To: Alan Stuart; Alison Guth; 'AMMARELL, RAYMOND R'; 'Kristina Massey'; 'Bud Badr'; 'aregaf@dnr.sc.gov'; Bret Hoffman; 'carolinacar1970@yahoo.com'; 'cheetahtrk@yahoo.com'; 'Lee Barber'; 'skfox@sc.rr.com'; 'eschnepel@sc.rr.com'; 'dlandis1@sc.rr.com'; 'Jennifer O'Rourke'; 'Tony Bebbler'; 'Suzanne Rhodes'; 'Bigbillcutler@aol.com'; 'bellsteve9339@bellsouth.net'; 'malcolml@gwm.sc.edu'; 'Mike Waddell'; 'Bill Marshall'; 'Gerrit Jobsis (American Rivers)'; 'Patrick Moore'; 'George Duke'; 'kakustafik@columbiasc.net'; 'theresa_thom@nps.gov'; 'Bill Mathias'; BARGENTIERI@scana.com; RMAHAN@scana.com; 'guyjones@sc.rr.com'
Subject: April 6th Draft Meeting Notes

Hello All,

Attached are the draft meeting notes from the April 6th combined Operations and Safety Meeting. Please have any comments/changes back to me by May 24 for finalization. Thanks, Alison



2006-04-06 draft
Meeting Minut...

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
101 Trade Zone Drive
Suite 21A
West Columbia, SC 29170
P: (803) 822-3177
F: (803) 822-3183

MEETING NOTES

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

**Saluda Shoals Park
April 6, 2006**

5-10-06 draft acg

ATTENDEES:

Alan Stuart, Kleinschmidt Associates
Alison Guth, Kleinschmidt Associates
Bill Argentieri, SCE&G
Bret Hoffman, Kleinschmidt Associates
Bud Badr, DNR
Feleke Arega, DNR
Dave Landis, Lake Murray Association
Karen Kustafik, Columbia Parks and Rec
Kristina Massey, Kleinschmidt Associates
Malcolm Leaphart, Trout Unlimited
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Guy Jones, River Runner
Michael Waddell, TU
Patrick Moore, SCCCL, Am. Rivers
Randy Mahan, SCANA Services

Ray Ammarell, SCE&G
Steve Bell, Lake Watch
Theresa Thom, Congaree National Park
Carvitas Fant, USC
Charlene Coleman, American Whitewater
Lee Barber, LMA
Kenneth Fox, LMA
Ed Schnepel, LMA
Jennifer O'Rourke, SC Wildlife Federation
Tony Bebbler, SCPRT
Suzanne Rhodes, SC Wildlife Federation
Bill Mathias, LMA, LM Power Squadron
Bill Cutler, Lake Watch, LM Homeowners
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Alan Stuart – to research data on fatalities in the Lower Saluda River

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MEETING NOTES

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

**Saluda Shoals Park
April 6, 2006**

5-10-06 draft acg

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Stacia Hoover

From: Alison Guth
Sent: Wednesday, April 05, 2006 4:04 PM
To: Alan Stuart; 'SUMMER, STEPHEN E'; 'Jim Ruane'; 'Tom Bowles (tbowles@scana.com)'; 'Gina Kirkland'; 'Patrick Moore'; 'Carlton D Wood'; 'Dick Christie'; BARGENTIERI@scana.com; RMAHAN@scana.com; 'Gerrit Jobsis (American Rivers)'; 'Tom Eppink'; 'Ray Ammarell'; 'Mike Summer (msummer@scana.com)'; 'bjmcmamus@jonesday.com'; 'gantenbein@n-h-i.org'
Subject: March 23 Saluda Operations Meeting Notes

Good Afternoon Folks,

Attached are the draft meeting notes from the March 23 Saluda Operations Meeting. Please let me know of any changes by April 19th for finalization. Thanks for your continued participation in this process. Alison



2006-3-23 draft
Meeting Minute...

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
101 Trade Zone Drive
Suite 21A
West Columbia, SC 29170
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MEETING NOTES

***SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT
Annual Saluda Hydro Operations Meeting***

***SCE&G Research Park Facility
March 23, 2006***

Draft ACG 3-29-06

ATTENDEES:

Alan Stuart, Kleinschmidt Associates
Alison Guth, Kleinschmidt Associates
Steve Summer, SCANA Services
Jim Ruane, REMI
Tom Bowles, SCE&G
Gina Kirkland, SCDHEC
Patrick Moore, SCCCL & American Rivers
Carlton Wood, USGS
Dick Christie, SCDNR

Bill Argentieri, SCE&G
Randy Mahan, SCANA Services
Gerrit Jobsis, American Rivers
Tom Eppink, SCANA Services
Ray Ammarell, SCE&G
Mike Summer, SCE&G
Brian McManus, Jones Day
Julie Gantenbein, NHI

DATE: March 23, 2006

INTRODUCTIONS AND DISCUSSION

Alan opened the meeting and the group began introductions. Alan noted that the first topic of discussion would be to review the 2005 Operations Plan. He asked the group if there were any questions on the work that was done last year. He also noted that the 2006 plan was due to be submitted by June 30th of this year. There were no questions and Alan turned the discussion over to Jim Ruane to review the Dissolved Oxygen Monitor Relocation Study.

Jim Ruane began to discuss the draft Monitor Relocation Report. He noted that it included a summary of the data, however the raw data was also available. The group began an interactive discussion on the report. Jim pointed out that the studies were performed with the unit aeration systems closed in order to help define mixing characteristics. He added that this was not how SCE&G would normally operate the system. He noted a few of the specifics of the study and explained that they had 11 monitors deployed and focused primarily on 15 runs, each run with a boat transect.

The group began to discuss which area would be best for the monitor relocation. Jim noted that his observations have shown that a spot in transect 3 looks promising. Steve Summer explained that he has hopes of the group agreeing on one location rather than pulling water samples from multiple locations.

MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT
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The group continued to go through the tables and figures. Gerrit Jobsis expressed concern that there was the possibility that one gage location may not pick up dissolved oxygen (DO) variation across the river if one unit was not working correctly. Jim noted that situation may still be found even if there were two monitors or even three. Gina Kirkland explained that they typically give some relief for a mixing area, however, that they would need to determine what defined compliance and how far downstream mixing would be allowed to occur. She also expressed her concern about the installment of two or more monitoring stations. She explained that if there is a large difference in readings you have to determine which monitor is reading correctly and if compliance is being met.

Alan explained to the group how the units were currently venting. He noted that Jim Carter had just performed tests on unit 4 and it was shown to vent very well, similarly to unit one. It was also explained that Units 2 and 3 are in the initial stages of having their seals repaired and should be ready for the testing in October. Gina asked if for future maintenance SCE&G would periodically test the intake air to make sure it is operating well over time. Steve Summer noted that he thought that it may be something to consider. He added that normally if they run a unit and it is not venting correctly it is apparent.

Bill Argentieri began to explain to the group what research has been done on the USGS monitor relocation. He noted that SCE&G has had discussions with USGS on a flow through design monitor, however, USGS has had serious maintenance and piping issues with this model in the past. Bill also noted that have had Jim Ruane look into a better single location for a USGS monitor as well. The group began to discuss the monitor relocation issue in a little more detail and asked Carlton Wood to give a little feedback on this issue. Carlton explained that USGS attempts to locate a continuous monitor in a location that is representative of the mean as shown by transects. He noted that he was certain that the present location of the monitor is extremely biased towards the negative regarding DO values and that he has personally observed large masses of aquatic vegetation hanging on the housing and suffocating the monitor. Steve Summer added that aerial inspections have shown longitudinal beds of Elodea near the bank. Carlton then continued to explain that he believes that bank erosion or run-off is causing an orange film on the membrane that you would not typically observe out towards the middle of the river. Carlton pointed out that if it was decided that a single location would be used, he would suggest a location towards the middle of the channel. He noted that they can also increase the inspections at necessary times of the year as well. Gina Kirkland noted that she was comfortable having a single location. She explained that part of the reason why she was comfortable with the single location is because there are margins of safety built into the standard and an occasional exceedence from the standard would not cause a huge problem with the stream. Gerrit noted that he was still concerned with an average condition obtained from one monitor location, however, he did noted that an average condition may be acceptable if there was a commitment from SCE&G not to operate a unit when it is not running properly and if there was some kind of routine maintenance agreement. Gina then asked Gerrit if

MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT
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March 23, 2006**

Draft ACG 3-29-06

there was a percentage that could be acceptable because operating at 90 percent was still good. Gerrit noted that there may be a particular number that he could agree to.

In response to Gerrit's previous concern, Steve Summer explained that there were some instances under which SCE&G would have to run the units, even if they were not venting fully. He gave an example of a high rainfall event, and noted that if a hurricane was imminent that they would have to run the units to prepare. Steve also noted that they would need to maintain their reserve capabilities if a unit went down elsewhere.

Alan Stuart turned discussion towards what could be done in the upcoming year. Steve Summer proposed that SCE&G and USGS continue the investigations on extending the USGS gage toward the center of the river and if it is shown that the movement of the monitor will provide a more representative data set then they will proceed with moving the monitor. Carlton Wood added that they may also consider increasing the frequency of inspections from July through September. Gerrit Jobsis noted that he agreed that the current location had problems, however he noted that they still have to consider what the objective of the location or locations will be and if it is going to give an average number. SCE&G also suggested performing some additional boat transects with the unit vents open once all of the repairs were made.

After the break, Alan passed out a graph developed by Jim Carter of TVA that showed the improvements to the units since the installation of hub baffles. In interpreting the graph, it was shown that the greater the negative pressure, the better the aspiration. The graph showed that the units are continuing to aspirate even at high flows.

The group then began to discuss the 2005 Annual Report. Jim Ruane began to explain the deviations that occurred in the past year. He noted that there were a few occasions where flows exceeded 8000 cfs. He explained that there are several reasons why there were deviations, and explained that the aeration studies and monitor relocation studies caused a number of the deviations and that there were also some special flows requested by the city of Columbia. After brief discussion, the group agreed that performing the swiftwater rescue training during the low DO season was detrimental to water quality and it should be performed during other times in the year. Bill Argentieri noted that he would send an email to Columbia Fire and Rescue and to Karen Kustifik explaining this.

Jim continued to explain the report and pointed out that the drawdown in preparation for hurricane Katrina was another reason for the operation of the units. Jim noted that unit 1, which aerates very well, was operated for the majority of the time. He also pointed out that the DO was up quite a bit in 2005 due to the hub baffles being installed. Jim explained figure 6 from the report and noted that

MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT
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Draft ACG 3-29-06

through the analysis of the thirty day averages it turns out that the deviations occurred due to the studies, the special operations and fouling.

In an explanation of the data for November, Jim Ruane noted that that USGS data was provisional and the finalized data was needed for that time period. Carlton Wood also added that during that period of time he also visually inspected large masses of aquatic vegetation surrounding the instrumentation. Carlton continued to note that he recalls that November 15th was an inspection date and pointed out a sharp increase in the graph. He explained that this was not attributed to a change in discharge but to maintenance on the gage.

Jim Ruane explained to the group that they are continuing to learning more about turbine aeration through plant studies and computer models, and it may be possible to decrease the number of runs that they perform with no aeration. Gina noted that she was concerned about the resource, however she thought it important to perform the no aeration runs in order to provide good data to move forward with, and develop look up tables from. She added that she would like to push to gather enough quality information in order to make a conclusive determination of the attainment of the standard. Gerrit noted his concern with the no aeration runs. Jim Ruane explained that he believes that the runs can be shortened this year because last year there were some problems in the powerhouse. Jim noted that he would take a look at the data and decide what type of minimum no aeration run scenario he felt comfortable with.

After lunch, Jim Ruane gave a presentation to the group on the results of the turbine venting testing. He explained that units 1 and 5 were the only units evaluated because the others were having maintenance issues. He pointed out a graph and noted that it shows that at low flows there is little difference in the venting, however at high flows you can see a marked difference with the installation of the hub baffles. He further explained that with a flow around 2000 cfs you have a DO of about 4.5, while pre-hub baffle DO was around 3. Jim noted that once the seals are working in the other two units, they expect the DO to significantly increase. Gerrit asked Jim what the forebay DO was estimated to be at. Jim replied the DO coming in would be in between a half and 1 mg. Ray Ammarell further noted that on October 4th the DO was very close to zero up to about 40 meters in depth and remained at around .5mg almost the entire length of the water column.

Alan explained to the group that the plan for this year includes repairing the seals on units 2 and 3 and performing the additional turbine testing this fall. Bill noted that they are planning on finishing the work on the units no later than September 15th.

The group moved into discussions on the 2006 Operating Plan. Alan asked the group what time of year would be appropriate if SCE&G were to implement a routine test of the units as proposed by Gerrit. Steve noted that if the units were tested at the wrong time of year then it was possible that

MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT
Annual Saluda Hydro Operations Meeting**

**SCE&G Research Park Facility
March 23, 2006**

Draft ACG 3-29-06

they could drive the total dissolved gasses up. Jim Ruane replied that a few hours of testing would probably not be an issue.

Gerrit Jobsis asked the group if there was a way to know if the vents were not working. The group decided that they would look into some type of indicator. It was also noted that the look up tables would be revised to accommodate the operation of unit 4 as well as scenarios that would take into account of any unit outages. The group also discussed the possibility of using unit 5 if the striped bass habitat was sufficient. It was decided that there needed to be further discussion on this issue with DNR.

The group discussed the fall drawdown and Gerrit asked if it could be at a slower rate over a longer period of time. Steve noted that there was conflict between the individuals who would prefer the lake up as long as possible as well as the need to have reserves off-line and ready. Bill Argentieri noted that they would look into this issue and consider some type of balance.

The group concluded the meeting and Gerrit asked if SCE&G could come up with a written agreement on how to operate the plant normally with the variances of Saluda's use for reserve and when needed for weather circumstances. Randy noted that they would draft up a statement.

Meeting Adjourned

Stacia Hoover

From: Alan Stuart
Sent: Monday, March 20, 2006 9:09 AM
To: Alan Stuart; "Amanda Hill (Amanda_Hill@fws.gov)"; "Dick Christie (dchristie@infoave.net)"; "Hal Beard"; "Prescott Brownell (Prescott.Brownell@noaa.gov)"; "gjobsis@americanrivers.org"; "Patrick Moore"; "Gina Kirkland - DHEC"; "cdwood@usqs.gov"; "Sarah W Ellisor"; "Richard Roos-Collins"; "Julie Gantenbein"
Cc: BARGENTIERI@scana.com; "Jim Ruane"; RMAHAN@scana.com; "Ray Ammarell (RAmmarell@scana.com)"; "Steve Summer"; "Tom Eppink"; "Brian J. McManus"; "BOWLES, THOMAS M"; Alison Guth; "EPPINK, THOMAS G"
Subject: Saluda Hydro Operations Meeting Agenda



Agenda.doc (22 KB)

Good morning all,

Please find the attached agenda for our upcoming meeting on March 23, 2006 at CAROLINA RESEARCH PARK (CRP). As you will see we have a pretty full day so please be prompt. We are scheduled to go until 2:15 p.m but time/dicussions will likely dictate the length of the meeting.

As a reminder, CRP is located off of Farrow Road in Columbia and please let me know if anyone needs directions to CRP.

For those conferencing in by telephone, the call in number to the conference room is (803) 217-7397.

regards,
Alan

Alan Stuart
Kleinschmidt
Senior Licensing Coordinator
(803) 822-3177
(803) 640-8765 cellphone

Meeting Agenda

Saluda Hydro (FERC No. 516) Operations Meeting

Carolina Research Park

9:00 A.M.

March 23, 2006

9:00 – 9:30	Review 2005 Operations Plan
9:30 – 10:30	Review/Discuss Dissolved Monitor relocation Study
10:30 – 12:00	Review/Discuss 2005 Operations Report
12:00 – 12:45	Lunch
12:45 – 1:30	Discuss 2005 Turbine Testing Results and plans for 2006 testing
1:30 – 2:15	Discuss 2006 Operations Plan Preparation and Schedule
2:15	Adjourn

Stacia Hoover

From: Alison Guth
Sent: Friday, March 17, 2006 1:54 PM
To: Wenonah Haire; Aaron Small; Alan Axson; Alan Stuart; Alison Guth; Amanda Hill; Andy Miller; Bertina Floyd; BARGENTIERI@scana.com; Bill Cutler; Bill East; Bill Green; Bill Hulslander; Bill Marshall; Bill Mathias; Bob Seibels; Brandon Stutts ; Bret Hoffman; Brett Bursey; btrump@scana.com; Bud Badr; Buddy Baker ; Cam Littlejohn; Chad Long; Charlene Coleman; Charles Floyd; Charlie Compton; Charlie Rentz; Chris Judge; Chris Page; Craig Stow; Daniel Tufford; Dave Anderson; Dave Landis; David Allen; David Hancock; David Jones; David Price; Dick Christie; Don Tyler; Donald Eng; Ed Diebold; Ed Fetner; Edward Schnepel; George Duke; Gerrit Jobsis (American Rivers); Gerrit Jobsis (CCL); Gina Kirkland; Guy Jones; Hal Beard; Hank McKellar; Irvin Pitts (ipitts@scprt.com); James Smith; Jay Robinson; Jeanette Wells; Jeff Duncan; Jennifer O'Rourke; Jennifer Price ; Jennifer Summerlin; Jerry Wise; Jim Devereaux; Jim Glover; Jim Goller; Jim Ruane ; JoAnn Butler; Joe Logan; John and Rob Altenberg; John Davis (johned44@bellsouth.net); Jon Leader; Joy Downs; Karen Kustafik; Keith Ganz-Sarto; Ken Uschelbec; Kenneth Fox; Kim Westbury; Kristina Massey; Larry Michalec; Larry Turner (turnerle@dhec.sc.gov); Lee Barber; Malcolm Leaphart; Marianne Zajac; Mark Leao; Marty Phillips; Mary Kelly; Michael Murrell; Mike Duffy; Mike Sloan; Mike Summer (msummer@scana.com); Mike Waddell; Miriam Atria; Norm Nicholson; Norman Ferris; Parkin Hunter; Patricia Wendling; Patrick Moore; Prescott Brownell; Ralph Crafton; Randal Shealy; RMAHAN@scana.com; Ray Ammarell; Rebekah Dobrasko; Reed Bull (rbull@davisfloyd.com); Rhett Bickley; Richard Kidder; Richard Mikell; Robert Keener; Robert Lavisky; Ron Ahle; Ronald Scott; Roy Parker; Russell Jernigan; ryanity@scana.com; Sam Drake; Sandra Reinhardt; Sean Norris; Shane Boring; Stanley Yalicki; Steve Bell; Steve Leach; Steve Summer; Suzanne Rhodes; Theresa Powers (tpowers@newberrycounty.net); Tim Flach; Tim Vinson; Tom Bowles (tbowles@scana.com); Tom Brooks; Tom Eppink; Tom Ruple; Tom Stonecypher; Tommy Boozer; Tony Bebbler; Van Hoffman; Wade Bales (balesw@dnr.sc.gov); Mike Schimpff; Brandon Kulik; Marty Phillips

Subject: Final Jan 26 Notes

Hello all:

Attached to this email is the final meeting notes for the Jan 26th Operations meeting. They will also be posted to the web.
Thanks, Alison



2006-01-26 Final
Meeting Minut...

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
101 Trade Zone Drive
Suite 21A
West Columbia, SC 29170
P: (803) 822-3177
F: (803) 822-3183

MEETING NOTES

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

**SCE&G Training Center
January 26, 2006**

ATTENDEES:

Alan Stuart, Kleinschmidt Associates
Alison Guth, Kleinschmidt Associates
Amanda Hill, USFWS
Bill Argentieri, SCE&G
Bill Hulslander, Congaree National Park
Bret Hoffman, Kleinschmidt Associates
Bud Badr, DNR
Dave Landis, Lake Murray Association
Dick Christie, SCDNR
Gina Kirkland, SCDHEC
Joy Downs, LMA
Kristina Massey, Kleinschmidt Associates

Michael Waddell, TU
Mike Schimpff, Kleinschmidt Associates
Mike Summer, SCE&G
Patrick Moore, SCCCL, Am. Rivers
Randy Mahan, SCANA Services
Ray Ammarell, SCE&G
Steve Bell, Lake Watch
Straud Armstrong, SCDNR
Theresa Thom, Congaree National Park
Tom Eppink, SCANA Services
Tom Ruple, Lake Murray Association

DATE: January 26, 2006

AGENDA TOPICS FOR NEXT MEETING:

Presentation (as described in minutes and requested by Patrick Moore, Michael Waddell, and Steve Bell) or TWC to present specific cost analysis for different methods of meeting reserve beyond what was explained in the Operations presentation, in order to effectively balance that cost with project impacts.

DATE OF NEXT MEETING: TBD after the TWC has had time to start developing a model.

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.

DISCUSSION

Mike Schimpff introduced himself and noted that the purpose of the day's discussion was not to inform the group as to which model he believed they should choose, but to give some understanding

MEETING NOTES

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

**SCE&G Training Center
January 26, 2006**

as to what is available. Mike noted that there were hydraulic models, hydrologic models, economic models and WQ models and that these models could be combined.

Mike began to discuss some of the model uses that were identified at the previous Operations Meeting. These included lake levels, LSR minimum flows, inflows, generation, storage and graphic ability. Gina Kirkland also noted that water quality needs should be included as well when developing the model.

Mike briefly discussed a few models that were widely used. These included HEC-5, Oasis, CHEOPS, MIKE Basins, WMS and Decision Support Programs. Bud Badr asked Mike to explain a little about a Decision Support Model.

Gina noted that DHEC would like to have access to the model in order to run scenarios and verify the baseline settings. Mike Schimpff noted that it depended on which model was used because some models had proprietary constraints. Alan asked Gina if a DHEC representative could be present while they were running scenarios if a model with proprietary constraints was chosen. Gina noted she would discuss this with some individuals at DHEC, but the important thing would be that DHEC would need to feel like they are participating in the inputs. Bill Argentieri further noted that the objective was not to prevent agencies from using it, but to avoid breaking any proprietary laws.

Bud Badr shared a little about his experience with modeling to the group. He noted that when he and Larry Turner (DHEC) worked with Duke they used CHEOPS. He noted that an agreement was signed that allowed use of the model by agencies, but only for that particular project. Bud mentioned that one way to address water quality in the operations model was to address it using flows.

The group then began to discuss the Oasis Model. Mike explained that Oasis operates as a shell that programs can run inside of. Mike continued to explain that a benefit of Oasis is that it can interface with other models and run them simultaneously.

CHEOPS was the next model that the group discussed. Mike explained that it was private domain software that focuses on hydroelectric optimization. Bud Badr added that one of the deficiencies with CHEOPS in this situation was that it was 100 percent tilted toward hydroelectric generation and runs in 15 minute segments. He explained that this would make it difficult to sort through 50 years of data.

In a discussion on SCE&G's current flow forecasting model it was noted that it provided a good source for historical inflow data. Bud Badr also noted that the flow forecasting model dealt with tributaries as well.

MEETING NOTES

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

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There was some discussion on Water Quality issues and how they would be tied into the model. Dick Christie noted that outputs from the water quality model would be developed within the Water Quality RCG.

Mike Schimpff continued to discuss HEC versions with the group (HEC-5, HEC-RES-SIM).

After lunch the groups then began to define the constraints needed in the model. Bud explained that the model needed to be calibrated for high flow and low flow conditions. He noted that the longer the period of record that was available, the better. He explained that this was because it could include both the dry cycles and wet cycles. Bud added that a modeler did not want extreme events like a drought to run the model. He noted that those events should be considered outliers and dealt with in a low flow protocol.

In continued discussion on constraints Bud pointed out that in an Operations Model, constraints had to be related to lake elevations or downstream flows in some fashion. Mike gave the example that water quality in the Lake could be related to Lake levels.

Constraints (with Tasks to Resource Group):

- Instream flows and downstream water quality (Fish & Wildlife RCG)
- Spring spawning levels in the lake (Fish & Wildlife RCG)
- Public water withdrawals
- Drought Management
- Recreational lake levels (Recreation RCG)
- Recreational releases (Recreation RCG)
- Lake level stabilization – Winter drawdown issues (Lake and Land Mgmt RCG)
- Navigation flows (Recreation RCG, Fish & Wildlife RCG)
- Flood plain inundations – timing, frequency, magnitude (Fish & Wildlife RCG)
- Safety flows (Safety RCG)
- Reserve generation

Dick Christie noted that navigation flows were very important to DNR and pointed out that DNR policy requires them to recommend the highest flow that meets water quality, navigation and habitat criteria.

The QA/QC process was discussed with respect to input data to the Operations model. The group concurred that quality data is of the utmost concern and will be dealt with by the TWC. Anecdotal data would be evaluated on a case-by-case basis by the TWC.

MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
SALUDA HYDRO PROJECT RELICENSING
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Mike Schimpff concluded from the list of constraints that all of the issues could be boiled down to lake levels and minimum flows. Bud added that the model has to be able to provide downstream flows at different sites. The group concurred.

Looking at the issues, Mike Schimpff pointed out that they could be effectively modeled in an Excel spreadsheet, in HEC-5 and Oasis. The group agreed that CHEOPS would not be ideal because it looked at data every 15 minutes. Ray Ammarell noted that Oasis has the most flexibility and HEC-5 is developed around reservoir system modeling but might work well also. Gina asked if Oasis would interface well with models that were developed in other RCG's. Mike indicated that it would.

Bud explained that the HEC-5 and Oasis inputs are similar. However, he pointed out that HEC-5 is a public domain model. He also added that a benefit of HEC-5 was the HEC Support Center. Bud noted that a sophisticated model was not needed for a lake such as Lake Murray.

Alan noted that from a cost perspective, you would have to consider that a lot of upfront work may need to be done with HEC-5.

Bill Argentieri noted that if there were no objections, SCE&G would go ahead with Oasis, Oasis Lite or HEC-5. The group concurred as long as the chosen model would get the job done.

The discussion turned to developing a TWC. Mike Schimpff indicated that very technically skilled people are needed to run the models. Bud concurred that Mike should take the lead and the TWC serve as an advisory committee.

Patrick Moore stated the operations group needed to look at the specifics on reserve capacity options in order for the stakeholders to gauge the reasonableness of their requests. Patrick Moore continued to note the following, "There needs to be some quantifiable value on current operations. We heard a general discussion of alternatives from Lee with general descriptions of the logistical challenges of some alternatives. For example, gas turbines were stated to be about 50% reliable. Promotional materials from General Electric advertising 90% reliability, provided by Trout Unlimited, were referenced as an example of a possibility that could be explored at the next meeting or in a TWC. At other RCGs, reserve requirement issues significantly relating to safety, recreation, and water quality, are reserved for the Operations RCG. Options for meeting these reserves should

MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
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be specifically evaluated in preparing the Protection, Mitigation & Enhancement agreement.” He requested that SCE&G provide this information to stakeholders at the next Operations meeting.¹

Tom Eppink noted that while he didn't think there would be a problem in SCE&G doing this, he wasn't sure it could be developed by the next meeting. This due in part to the uncertainty of who within SCE&G could/would give the presentation and could not make the commitment on someone else's behalf. However, he added that they would begin the process of lining this up for the future.

TWC Members:

- Mike Schimpff
- Bud Badr
- Larry Turner
- NHI Representative
- Ray Ammarell
- Mike Waddell (Observer)

Mike would prepare a draft study with an outline of the model with a schedule and submit it to the TWC for review.

Meeting adjourned.

¹ Although Meeting Notes are not intended to be transcripts of the meeting, Mr. Moore requested that this paragraph be included in the notes after the meeting for clarification purposes.

MEETING NOTES

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

*SCE&G Training Center
January 26, 2006*

**Saluda Hydro Relicensing
Operations Resource Conservation Group**

Meeting Agenda

**January 26, 2006
9:30 AM**

Saluda Shoals Park – Rivers Conference Center – SE Freight Room

- **9:30 to 12:00** Hydrologic Models Presentation and Question Session
 - **12:00 to 12:30** Lunch
 - **12:30 to 2:30** Interactive Discussion on Model Inputs and Sources
 - **2:30 to 3:00** Develop List of Homework Assignments, Develop Agenda for Next Meeting, and Set Meeting Date
- Adjourn



Z:\SCO\455\029\2006-01-26 Meeting Minutes.doc

Cheryl Balitz

From: Patrick Moore [PatrickM@scccl.org]
Sent: Friday, March 03, 2006 5:05 PM
To: RMAHAN@scana.com; Alison Guth; BARGENTIERI@scana.com; Alan Stuart; ArmstrongS@dnr.sc.gov; SUMMER, MICHAEL C; EPPINK, THOMAS G; Kristina Massey; Bret Hoffman; AMMARELL, RAYMOND R; dlandis1@sc.rr.com; truple@sc.rr.com; BadrB@dnr.sc.gov; dchristie@infoave.net; mwaddell@esri.sc.edu; bellsteve9339@bellsouth.net; Theresa_thom@nps.gov; Elymay2@aol.com; KIRKLAGL@dhec.sc.gov; amanda_hill@fws.gov; Mike Schimpff
Cc: tbebb@scprt.com; bill_hulslander@nps.gov; marshallb@dnr.sc.gov; cheetahrk@yahoo.com; kayakduke@bellsouth.net; gjobsis@americanrivers.org; mckellarh@sc.dnr.gov; bkawasi@sc.rr.com; jeff_duncan@nps.gov; dvklmass@bellsouth.net; lmichalec@aol.com; mark_leao@fws.gov; parkin@parkinhunter.com; crafton@usit.net; r1shealy@aol.com; rjernigan@scfbins.com; suzrhodes@juno.com; stonecypher@isteamconsulting.com
Subject: RE: Draft Operations Meeting notes-Glaring Omission

If Alison took any offense to my comments, I certainly and sincerely apologize.

I also feel she doesn't need Randy's help in speaking up as to what she may or may not take offense to. If she asked for Randy to say something, that is another story all together. I am well aware of the daunting task of recording all of the things that go on in all of the RCGs and understand there will be incidental omissions.

In re-reading my email, I can find nothing that qualifies as a "sneer". I said "I am not sure how such a clear statement was overlooked". I stand by this statement. I made a statement to the head facilitator, he repeated it to the group and asked for clarification, 2 stakeholders spoke in support of the proposition, and the head facilitator wrote it down for the group and said it would happen at some point in the future. So, no offense to Alison intended, I am not sure how such a clear statement was overlooked. Randy was not even in the room.

I also said "thanks for all your hard work". This was a genuine thank you for being the clearinghouse of all the information exchanges that this new license process entails. I can see how, after pointing out an omission, a cynical person might interpret that as some sort of "shot" at the minutes recorder. It was definitely not intended as such and I was genuinely wondering aloud how the omission occurred. I can find no other portion of the email that could be construed as offensive.

You will also find no mention whatsoever of an express or implied effort on the part of SCE&G to skew the minutes in the email I sent to Alison.

I would appreciate any further attempts to stir the pot with a well intentioned correction be sent to me personally.

Patrick Moore

-----Original Message-----

From: MAHAN, RANDOLPH R [mailto:RMAHAN@scana.com]
Sent: Fri 3/3/2006 4:26 PM
To: Patrick Moore; Alison.Guth@KleinschmidtUSA.com; ARGENTIERI, WILLIAM R; alan.stuart@kleinschmidtUSA.com; ArmstrongS@dnr.sc.gov; SUMMER, MICHAEL C; EPPINK, THOMAS G; Kristina.Massey@KleinschmidtUSA.com; Bret.Hoffman@KleinschmidtUSA.com; AMMARELL, RAYMOND R; dlandis1@sc.rr.com; truple@sc.rr.com; BadrB@dnr.sc.gov; dchristie@infoave.net; mwaddell@esri.sc.edu; bellsteve9339@bellsouth.net; Theresa_thom@nps.gov; Elymay2@aol.com; KIRKLAGL@dhec.sc.gov; amanda_hill@fws.gov; Mike.Schimpff@KleinschmidtUSA.com
Cc: tbebb@scprt.com; bill_hulslander@nps.gov; marshallb@dnr.sc.gov; cheetahrk@yahoo.com; kayakduke@bellsouth.net; gjobsis@americanrivers.org; mckellarh@sc.dnr.gov; bkawasi@sc.rr.com; jeff_duncan@nps.gov; dvklmass@bellsouth.net; lmichalec@aol.com; mark_leao@fws.gov; parkin@parkinhunter.com; crafton@usit.net; r1shealy@aol.com; rjernigan@scfbins.com; suzrhodes@juno.com;

stonecypher@istreamconsulting.com

Subject: Re: Draft Operations Meeting notes-Glaring Omission

If one believes something may have been omitted from the minutes that one believes to be material and important, it certainly is appropriate to say so, so that the omission can be rectified. However, it does not advance the ball whatsoever in the direction of open and honest communication and the creation of a useful record to imply with a verbal sneer that it must have been some intentional, underhanded effort to skew the record and, as if it were possible with the extraordinary amount of cross memberships in RCGs and TWCs, to avoid dealing with a raised topic. There are no orders, explicit or implicit, from SCE&G or anyone else to prepare meeting minutes in any way other than with total honesty and in accordance with the notes taken at the meetings. I believe Alison is due an apology.

Randy Mahan

-----Original Message-----

From: Patrick Moore

To: Alison Guth; ARGENTIERI, WILLIAM R; Alan Stuart; ArmstrongS@dnr.sc.gov; SUMMER, MICHAEL C; EPPINK, THOMAS G; Kristina Massey; Bret Hoffman; MAHAN, RANDOLPH R; AMMARELL, RAYMOND R; dlandisl@sc.rr.com; Tom Ruple; BadrB@dnr.sc.gov; Dick Christie; Mike Waddell; Steve Bell; Theresa_thom@nps.gov; Joy Downs; Gina Kirkland; Amanda Hill; Mike Schimpff

CC: Tony Bebber; Alan Stuart; Amanda Hill; ARGENTIERI, WILLIAM R; Bill Hulslander; Bill Marshall; Bud Badr; Charlene Coleman; Dave Landis; Dick Christie; George Duke; Gerrit Jobsis (American Rivers); Gina Kirkland; Hank McKellar; James Smith; Jeff Duncan; Joy Downs; Kristina Massey; Larry Michalec; Mark Leao; SUMMER, MICHAEL C; Mike Waddell; Parkin Hunter; Ralph Crafton; Randal Shealy; MAHAN, RANDOLPH R; AMMARELL, RAYMOND R; Russell Jernigan; Steve Bell; Suzanne Rhodes; Tom Ruple; Tom Stonecypher; Bret Hoffman

Sent: Fri Mar 03 15:53:08 2006

Subject: RE: Draft Operations Meeting notes-Glaring Omission

Hey Alison,

One of the last things that happened at the meeting was that I requested an operational alternatives analysis and presentation at the next Operations RCG meeting, then to all RCGs. I recall at least Steve Bell and Mike Waddell voiced their support for this proposition and Alan wrote it on the easel. I am not sure how such a clear statement was overlooked.

Please make sure the minutes reflect that request, who supported it, and Alan's response that it would happen in the future.

Thanks for all your hard work,

Patrick Moore

Water Quality Associate

Coastal Conservation League

1207 Lincoln St. Suite 203-C

Columbia, S.C. 29201

803.771.7102

-----Original Message-----

From: Alison Guth [mailto:Alison.Guth@KleinschmidtUSA.com]

Sent: Friday, March 03, 2006 2:48 PM

To: 'Bill Argentieri'; Alan Stuart; 'ArmstrongS@dnr.sc.gov'; 'msummer@scana.com'; 'teppink@scana.com'; Kristina Massey; Bret Hoffman; 'Randy Mahan'; 'rammarell@scana.com'; 'dlandis1@sc.rr.com'; 'Tom Ruple'; 'BadrB@dnr.sc.gov'; 'Dick Christie'; 'Mike Waddell'; 'Steve Bell'; Patrick Moore; 'Theresa_thom@nps.gov'; 'Joy Downs'; Gina Kirkland; 'Amanda Hill'; Mike Schimpff

Cc: Tony Bebber; Alan Stuart; Alison Guth; Amanda Hill; Bill Argentieri; Bill Hulslander; Bill Marshall; Bud Badr; Charlene Coleman; Dave Landis; Dick Christie; George Duke; Gerrit Jobsis (American Rivers); Gina Kirkland; Hank McKellar; James Smith; Jeff Duncan; Joy Downs; Kristina Massey; Larry Michalec; Mark Leao; Mike Summer (msummer@scana.com); Mike Waddell; Parkin Hunter; Patrick Moore; Ralph Crafton; Randal Shealy; Randy Mahan; Ray Ammarell; Russell Jernigan; Steve Bell; Suzanne Rhodes; Tom Ruple; Tom Stonecypher; Bret Hoffman

Subject: Draft Operations Meeting notes

Hello Operations RCG,

Well today is my day to get caught up on meeting notes. You will notice that I have CC'ed the entire group on this email. Our new meeting notes protocol includes the entire group on the draft notes, however, I will only accept changes to the meeting notes themselves from individuals that attended the meeting. If you did not attend the meeting but have a comment you may submit it to me for inclusion in a special separate section at the end of the document. Please have any changes or comments back to me by Feb 17th. Thanks and I hope everyone has a wonderful weekend. Alison

<<2006-01-26 draft Meeting Minutes - Operations.doc>>

Alison Guth

Licensing Coordinator

Kleinschmidt Associates

101 Trade Zone Drive

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West Columbia, SC 29170

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F: (803) 822-3183

Stacia Hoover

From: Alison Guth
Sent: Friday, March 03, 2006 2:48 PM
To: BARGENTIERI@scana.com; Alan Stuart; 'ArmstrongS@dnr.sc.gov'; 'msummer@scana.com'; 'teppink@scana.com'; Kristina Massey; Bret Hoffman; RMAHAN@scana.com; 'rammarell@scana.com'; 'dlandis1@sc.rr.com'; 'Tom Ruple'; 'BadrB@dnr.sc.gov'; 'Dick Christie'; 'Mike Waddell'; 'Steve Bell'; 'Patrick Moore'; 'Theresa_thom@nps.gov'; 'Joy Downs'; 'Gina Kirkland'; 'Amanda Hill'; Mike Schimpff
Cc: Tony Bebber; Alan Stuart; Alison Guth; Amanda Hill; BARGENTIERI@scana.com; Bill Hulslander; Bill Marshall; Bud Badr; Charlene Coleman; Dave Landis; Dick Christie; George Duke; Gerrit Jobsis (American Rivers); Gina Kirkland; Hank McKellar; James Smith; Jeff Duncan; Joy Downs; Kristina Massey; Larry Michalec; Mark Leao; Mike Summer (msummer@scana.com); Mike Waddell; Parkin Hunter; Patrick Moore; Ralph Crafton; Randal Shealy; RMAHAN@scana.com; Ray Ammarell; Russell Jernigan; Steve Bell; Suzanne Rhodes; Tom Ruple; Tom Stonecypher; Bret Hoffman
Subject: Draft Operations Meeting notes

Hello Operations RCG,

Well today is my day to get caught up on meeting notes. You will notice that I have CC'ed the entire group on this email. Our new meeting notes protocol includes the entire group on the draft notes, however, I will only accept changes to the meeting notes themselves from individuals that attended the meeting. If you did not attend the meeting but have a comment you may submit it to me for inclusion in a special separate section at the end of the document. Please have any changes or comments back to me by Feb 17th. Thanks and I hope everyone has a wonderful weekend. Alison



2006-01-26 draft
Meeting Minut...

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MEETING NOTES

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

**SCE&G Training Center
January 26, 2006**

ATTENDEES:

Alan Stuart, Kleinschmidt Associates
Alison Guth, Kleinschmidt Associates
Amanda Hill, USFWS
Bill Argentieri, SCE&G
Bill Hulslander, Congaree National Park
Bret Hoffman, Kleinschmidt Associates
Bud Badr, DNR
Dave Landis, Lake Murray Association
Dick Christie, SCDNR
Gina Kirkland, SCDHEC
Joy Downs, LMA
Kristina Massey, Kleinschmidt Associates

Michael Waddell, TU
Mike Schimpff, Kleinschmidt Associates
Mike Summer, SCE&G
Patrick Moore, SCCCL, Am. Rivers
Randy Mahan, SCANA Services
Ray Ammarell, SCE&G
Steve Bell, Lake Watch
Straud Armstrong, SCDNR
Theresa Thom, Congaree National Park
Tom Eppink, SCANA Services
Tom Ruple, Lake Murray Association

DATE: January 26, 2006

AGENDA TOPICS FOR NEXT MEETING:

- Patrick Moore suggested that SCE&G provide a presentation on potential options for meeting reserve.

DATE OF NEXT MEETING: TBD after the TWC has had time to start developing a model.

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.

DISCUSSION

Mike Schimpff introduced himself and noted that the purpose of the day's discussion was not to inform the group as to which model he believed they should choose, but to give some understanding as to what is available. Mike noted that there were hydraulic models, hydrologic models, economic models and WQ models and that these models could be combined.

MEETING NOTES

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**SCE&G Training Center
January 26, 2006**

Mike began to discuss some of the model uses that were identified at the previous Operations Meeting. These included lake levels, LSR minimum flows, inflows, generation, storage and graphic ability. Gina Kirkland also noted that water quality needs should be included as well when developing the model.

Mike briefly discussed a few models that were widely used. These included HEC-5, Oasis, CHEOPS, Mike Basins, WMS and Decision Support Programs. Bud Bahr asked Mike to explain a little about a Decision Support Model.

Gina noted that DHEC would like to have access to the model in order to run scenarios and verify the baseline settings. Mike Schimpff noted that it depended on which model was used because some models had proprietary constraints. Alan asked Gina if a DHEC representative could be present while they were running scenarios if a model with proprietary constraints was chosen. Gina noted she would discuss this with some individuals at DHEC, but the important thing would be that DHEC would need to feel like they are participating in the inputs. Bill Argentieri further noted that the objective was not to prevent agencies from using it, but to avoid breaking any proprietary laws.

Bud Badr shared a little about his experience with modeling to the group. He noted that when he and Larry Turner (DHEC) worked with Duke they used HEC-5, which is a public domain model. He noted that an agreement was signed that allowed use of the model by agencies, but only for that particular project. Bud mentioned that one way to address water quality in the operations model was to address it using flows.

The group then began to discuss the Oasis Model. Mike explained that Oasis operates as a shell that programs can run inside of. Mike continued to explain that a benefit of Oasis is that it can interface with other models and run them simultaneously.

CHEOPS was the next model that the group discussed. Mike explained that it was private domain software that focuses on hydroelectric optimization. Bud Badr added that one of the deficiencies with CHEOPS in this situation was that it was 100 percent tilted toward hydroelectric generation and runs in 15 minute segments. He explained that this would make it difficult to sort through 50 years of data.

In a discussion on SCE&G's current flow forecasting model it was noted that it provided a good source for historical inflow data. Bud Badr also noted that the flow forecasting model dealt with tributaries as well.

MEETING NOTES

**SOUTH CAROLINA ELECTRIC & GAS COMPANY
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There was some discussion on Water Quality issues and how they would be tied into the model. Dick Christie noted that outputs from the water quality model would be developed within the Water Quality RCG.

Mike Schimpff continued to discuss HEC versions with the group (HEC-5, HEC-RAZ).

After lunch the groups then began to define the constraints needed in the model. Bud explained that the model needed to be calibrated for high flow and low flow conditions. He noted that the longer the period of record that was available, the better. He explained that this was because it could include both the dry cycles and wet cycles. Bud added that a modeler did not want extreme events like a drought to run the model. He noted that those events should be considered outliers and dealt with in a low flow protocol.

In continued discussion on constraints Bud pointed out that in an Operations Model, constraints had to be related to lake elevations or downstream flows in some fashion. Mike gave the example that water quality in the Lake could be related to Lake levels.

Constraints (with Tasks to Resource Group):

- Instream flows and downstream water quality (Fish & Wildlife RCG)
- Spring spawning levels in the lake (Fish & Wildlife RCG)
- Public water withdrawals
- Drought Management
- Recreational lake levels (Recreation RCG)
- Recreational releases (Recreation RCG)
- Lake level stabilization – Winter drawdown issues (Lake and Land Mgmt RCG)
- Navigation flows (Recreation RCG, Fish & Wildlife RCG)
- Flood drain inundations – timing, frequency, magnitude (Fish & Wildlife RCG)
- Safety flows (Safety RCG)
- Reserve generation

Dick Christie noted that navigation flows were very important to DNR and pointed out that DNR policy requires them to recommend the highest flow that meets water quality, navigation and habitat criteria.

The QA/QC process was discussed with respect to input data to the Operations model. The group concurred that quality data is of the utmost concern and will be dealt with by the TWC. Anecdotal data would be evaluated on a case-by-case basis by the TWC.

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**SOUTH CAROLINA ELECTRIC & GAS COMPANY
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Mike Schimpff concluded from the list of constraints that all of the issues could be boiled down to lake levels and minimum flows. Bud added that the model has to be able to provide downstream flows at different sites. The group concurred.

Looking at the issues, Mike Schimpff pointed out that they could be effectively modeled in an Excel spreadsheet, in HEC-5 and Oasis. The group agreed that CHEOPS would not be ideal because it looked at data every 15 minutes. Ray Ammarell noted that Oasis has the most flexibility and HEC-5 is developed around reservoir system modeling but might work well also. Gina asked if Oasis would interface well with models that were developed in other RCG's. Mike indicated that it would.

Bud explained that the HEC-5 and Oasis are exactly the same in the data itself, and that the inputs are the same. However, he pointed out that HEC-5 is a public domain model. He also added that a benefit of HEC-5 was the HEC Support Center. Bud noted that a sophisticated model was not needed for a lake such as Lake Murray.

Alan noted that from a cost perspective, you would have to consider that a lot of upfront work may need to be done with HEC-5.

Bill Argentieri noted that if there were no objections, SCE&G would go ahead with Oasis, Oasis Lite or HEC-5. The group concurred as long as the chosen model would get the job done.

The discussion turned to developing a TWC. Mike Schimpff indicated that very technically skilled people are needed to run the models. Bud concurred that Mike should take the lead and the TWC serve as an advisory committee.

TWC Members:

- Mike Schimpff
- Bud Bahr
- Larry Turner
- NHI Representative
- Ray Ammarell
- Mike Waddell (Observer)

Mike would prepare a draft study with an outline of the model with a schedule and submit it to the TWC for review.

Meeting adjourned.

MEETING NOTES

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

*SCE&G Training Center
January 26, 2006*

**Saluda Hydro Relicensing
Operations Resource Conservation Group**

Meeting Agenda

**January 26, 2006
9:30 AM**

Saluda Shoals Park – Rivers Conference Center – SE Freight Room

- **9:30 to 12:00** Hydrologic Models Presentation and Question Session
 - **12:00 to 12:30** Lunch
 - **12:30 to 2:30** Interactive Discussion on Model Inputs and Sources
 - **2:30 to 3:00** Develop List of Homework Assignments, Develop Agenda for Next Meeting, and Set Meeting Date
- Adjourn



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Stacia Hoover

From: Alison Guth
Sent: Friday, February 17, 2006 5:11 PM
To: Alan Stuart; Alison Guth; 'bill_hulslander@nps.gov'; 'cheetahtrk@yahoo.com'; 'dlandis1@sc.rr.com'; 'dchristie@infoave.net'; 'kayakduke@bellsouth.net'; 'KIRKLAGL@dhec.sc.gov'; 'Bkawasi@sc.rr.com'; 'Jeff_Duncan@NPS.gov'; 'Elymay2@aol.com'; 'dvklmass@bellsouth.net'; 'lmichalec@aol.com'; 'parkin@parkinhunter.com'; 'PatrickM@scccl.org'; 'crafton@usit.net'; 'rjernigan@scfbins.com'; 'bellsteve9339@bellsouth.net'; 'suzrhodes@juno.com'; 'truple@sc.rr.com'; 'Stonecypher@istreamconsulting.com'; 'gjobsis@americanrivers.org'; 'rammarell@scana.com'; BARGENTIERI@scana.com; 'msummer@scana.com'; RMAHAN@scana.com; Kristina Massey; 'mark_leao@fws.gov'; 'amanda_hill@fws.gov'; 'BadrB@dnr.sc.gov'; 'tohunter@scbar.org'; 'marshallb@dnr.sc.gov'; 'mwaddell@esri.sc.edu'; 'r1shealy@aol.com'; 'tbeber@scprt.com'; Bret Hoffman; Mike Schimpff
Subject: Final Operations Meeting Notes

Hello Operations Group

Attached is the Final set of meeting notes from the Dec. 6th Meeting. The draft Jan 26th meeting notes should be out next week. Have a wonderful weekend. Alison



2005-12-06 Final
Meeting Notes...

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MEETING NOTES

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

**SCE&G Training Center
December 6, 2005**

Final 2-17 ACG

ATTENDEES:

Alan Stuart, Kleinschmidt Associates
Alison Guth, Kleinschmidt Associates
Ray Ammarell, SCE&G
Bill Argentieri, SCE&G
Gina Kirkland, SCDHEC
Mike Summer, SCE&G
Randy Mahan, SCANA Services
Kristina Massey, Kleinschmidt Associates
Steve Bell, Lake Murray Watch
Amanda Hill, USFWS
Joy Downs, LMA
Tom Ruple, LMA
Bud Badr, SCDNR

Parkin Hunter, Columbia Audubon
George Duke, LMHOC
Bill Hulslander, Congaree National Park
Patrick Moore, SCCCL\Am. Rivers
Jeff Duncan, NPS
Michael Waddell, TU
Bill Cutler, Lake Watch

DATE: December 6, 2005

ACTION ITEMS:

- Hydrologic Model Presentation
SCE&G\Kleinschmidt Associates

HOMEWORK ITEMS:

- Think about what information needs to be presented in this group for educational purposes

AGENDA TOPICS FOR NEXT MEETING:

- Presentation on Hydrologic Models
- Discussion

DATE OF NEXT MEETING: January 26, 2006 at 9:30 a.m.

MEETING NOTES

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

**SCE&G Training Center
December 6, 2005**

Final 2-17 ACG

Located at the Saluda Shoals Park Rivers Center

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 opened the meeting and introduced Bill Argentieri as the speaker for the presentation on the “Nuts and Bolts of Saluda Operations.” Bill began his presentation, and several questions about definitions came up during the course of the discussion. After a cross-section of a general hydropower plant was shown, several questions arose about the penstocks and the towers. It was noted that the penstocks are the pipes that let the water from the lake flow through the turbines, and the penstocks are inspected on a periodic basis. A question arose on whether or not the towers require maintenance and Bill replied that most of the maintenance on the towers has to do with the mechanical components such as the gates.

Mike Waddell asked how Saluda Hydro efficiency is affected by lake levels. Kristina replied that as the Lake drops the efficiency drops as well. There was some discussion on the water intake from the towers and the restrictions associated with Unit 5, including those restrictions caused by the congregation of blueback herring around the Unit 5 tower during certain times of the year. It was noted that SCE&G has hydro-acoustic equipment that monitor the presence of fish in the vicinity of the intake, including the blueback herring.

Bill began to give the group some background on the Project and some of the specifics about the plant were noted. He pointed out that first four units can generate 3000 cfs of water flow per unit at full load and Unit 5, being about twice the size, can generate 6000 cfs at full load. George Duke asked how old the generators were, to which Bill replied that they are 75 years old. From a maintenance standpoint, Mike Summer added that a few of the units have been rewound.

Discussions then turned to turbine venting. Patrick Moore asked if the hub baffles allowed all of the units to be equally effective at venting. Alan Stuart explained that all of the units vent at different efficiencies, with a major contributor to this being the condition of the seals on the units.

The group briefly discussed the maintenance on the units. It was noted that the units are frequently inspected and electrical testing is performed routinely. When asked if there was a life span on the units, Mike Summer noted that it is more cost effective to maintain a unit over a period of time as opposed to replacing the whole unit. Kristina Massey added that units 1-4 had major overhauls in the late 70’s to early 80’s. Bill noted that SCE&G is looking at the potential for upgrading the units

MEETING NOTES

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

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December 6, 2005**

Final 2-17 ACG

and KA is doing a study to provide SCE&G with some options for upgrading. Bill added that this study takes into account many issues, including the environmental issues.

Bill began to discuss Unit 5 and noted that because it does not have an isolation valve on the unit itself, the gate has to be closed at the tower. He added that Unit 5 was “bought off of the shelf” in the late 60’s, as opposed to being specifically designed for the location, water flows, head, etc. where it is. It went into operation in ’71.

The group then began to discuss the emergency spillway. Bill explained that in the event that the dam were in danger of being overtopped, the spillway gates could be opened for the emergency release of water, hence the name “emergency spillway.” This is the only operational function of the emergency spillway. Bill pointed out that the spillway channel is not the original Saluda River channel but rather a manmade channel. Amanda Hill asked if the natural streambed was where the powerhouse is now. Bill replied that it was between the towers and the spillway. There was some discussion on the Probable Maximum Flood and also on the black start capabilities of the plant. Bill noted that if there were a blackout, Saluda was one of the few plants on SCE&G’s system that could start from scratch. The group also briefly discussed the Flow Forecasting Model.

Mike Waddell asked what SCE&G uses for reserves if they were running Saluda due to rainfall. Bill replied that they either use another plant, such as the Monticello Pumped Storage Project, or they buy power from another system. One group member inquired as to whether SCE&G anticipated Lake Murray being required to operate as a flood control lake and how that might impact inundation at the Congaree National Park. Randy noted that he believed it was imprudent for anyone to count on Saluda for flood control when 2/3 of the flow into the Congaree comes from the Broad rather than the Saluda.

The group began to discuss the operational warning sirens on the LSR, as well as the sirens that are activated in the event of a dam failure. Bill noted that emergency action brochures that explain what people should do should they be alerted to a potential dam failure are mailed out to those individuals who reside in the zip code areas below the dam and drills are performed on a regular basis.

Discussions began to center around the maintenance work on the dam and the upcoming placement of rip-rap on the upstream face of the dam. Bill noted that they were waiting until the north bound lanes were complete so that traffic could be re-routed, otherwise the existing south bound lane section of Hwy 6 would have to be shut down.

Bill concluded his presentation and the group began to discuss the mission statement. It was agreed that the goal of the group would be to develop a hydrologic operations model.

MEETING NOTES

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

*SCE&G Training Center
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The group began to discuss what they would like to see come out of a model. It was discussed that the model needs to be user friendly. There were several models that were mentioned, including Hec 5 and Oasis. Bill Hulslander noted that it was important to make sure the model was able to take inputs or outputs from other RCGs. Bud Badr explained his view that the model would actually be a water allocation model that would take into account how much water was in the Lake, how much water was coming into the Lake and how much water was flowing out of the Lake. He noted that it would look at what the interests would be upstream, as well as downstream interests and SCE&G's interests. Bud continued to explain that each interest would be converted into a number value and while the system is being run it will show how many times a certain interest is infringed upon during different scenarios. He noted that the model can be worked to show how many interests "violations" will occur over a span of time. Bud mentioned that everyone is given equal consideration in the model.

Patrick Moore noted that a few years ago American Rivers and the National Heritage Institute started to model the entire Santee Basin. He added that this model would be ready in the next few months. Bud noted that it was a very good model but that it did not substitute for the model that was needed here.

Parkin Hunter asked if the model would be stochastic. Bud replied that it would be deterministic because it is going to use actual measurements and limitations from the Lake.

In a further explanation of his expectations for the model, Bud noted that the first step would be to get the inflows for an extended period of time. He then explained that you need such data as daily rainfall and the daily capacity to develop the baseline. He pointed out that the modeler has to establish relationships between certain demands and interests and lake level elevations. Bud added that evaporation also has to be considered. With respect to downstream interests, he noted that water quality can be reflected in terms of a certain flow or height. He added that the same idea applies to fisheries and navigation. He explained that the modeler will run the scenario and the baseflow for the last fifty years or so. Bud noted that once the model has been built, it will be a tool to mimic the real system, and can be calibrated for high flow, average flow and low flow.

There was some discussion on how floods and droughts would be incorporated into the model. It was noted that the model was going to be calibrated to the last 30 years of climate data. Bud noted that in 2002 there was a very extreme drought and added that he did not believe that extreme drought events, such as that one, should drive the allocations of the model. He pointed out that that event should probably be excluded and put under a low flow protocol. George Duke inquired that if the model was going to exclude the extreme drought cases, then shouldn't it exclude the extreme flooding cases as well. Bud replied that problems arose when there was not enough water in the

MEETING NOTES

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December 6, 2005**

Final 2-17 ACG

Lake, such as in drought situations, and too much water was not a worry in regards to water allocations.

The group decided that at the next meeting SCE&G would give a presentation on potential models that could be used for Lake Murray and that also could interface into SCE&G's computer system. George Duke suggested that it may be good to show the presentation to the other groups as well so that they will know what is needed from them. Alan agreed.

Bud noted that it would be beneficial to the state agencies to have access to the model and noted that they could sign a contract stating that they would not share it with any outside groups.

Through an interactive discussion the group gave suggestions as to what they would like the model outputs to be; they are listed below:

Outputs of the model

Lake Levels

LSR Flows

Inflows

Generation

Lake Capacity, storage

Frequency, magnitude and duration of demand satisfaction

Graphic Ability

Interactive Model Front

The group then agreed on the mission statement, which is listed below.

“The Mission of the Operations Resource Conservation Group (ORCG) is to oversee the development of a robust hydrologic model for the Saluda Project which will establish a baseline of current hydrologic, hydraulic, and operational conditions, and aid in analyzing and understanding the potential upstream and downstream effects of potential changes to project operations, in support of the missions and goals of all other Saluda Hydroelectric Relicensing RCGs. The objective is to fairly consider those impacts, to include low-flow conditions as a part of developing consensus-based, operations focused recommendations for the FERC license application. Model results are to be presented in readily understandable terms and format. A key measure of success in achieving the mission and goals will be a published Protection, Mitigation, and Enhancement (PM&E) Agreement.”

MEETING NOTES

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

***SCE&G Training Center
December 6, 2005***

Final 2-17 ACG

The group decided that the next meeting would occur on January 26 at 9:30. The training center was booked for that date but after the meeting Alison was able to secure a room at the Saluda Shoals Park Rivers Center for the meeting location.

Cheryl Balitz

From: RMAHAN@scana.com

Sent: Tuesday, January 24, 2006 1:12 PM

To: Alison Guth

Subject: Re: Operations Agenda

Page 1 of 2 Re: Operations Agenda

6/26/2007

-----Original Message-----

From: Alison Guth <Alison.Guth@KleinschmidtUSA.com>

To: Alan Stuart <Alan.Stuart@KleinschmidtUSA.com>; Alison Guth <Alison.Guth@KleinschmidtUSA.com>;

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<tbebb@scprt.com>; Bret

Hoffman <Bret.Hoffman@KleinschmidtUSA.com>

Sent: Tue Jan 24 13:06:51 2006

Subject: Operations Agenda

Hello all,

I have attached the agenda for Thursdays Operations meeting. If you are planning on coming and have not let me know yet

please do, we are getting boxed lunches, so it is important that I have the right number. So far I have heard from the

following individuals (not including SCE&G and KA folks):

Amanda Hill

Bill Hulslander +1

George Duke (unable to attend)

Bud Badr +1

Dave Landis

Gina Kirkland

Joy Downs
Michael Waddell
Parkin Hunter
Steve Bell
Tom Ruple

Thanks,
Alison

<<operations RCG Agenda 1 26 06.pdf>>

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Page 2 of 2 Re: Operations Agenda
6/26/2007

From: Alison Guth
Sent: Friday, March 17, 2006 12:54 PM
To: Wenonah Haire; Aaron Small; Alan Axson; Alan Stuart; Alison Guth; Amanda Hill; Andy Miller; Bertina Floyd; BARGENTIERI@scana.com; Bill Cutler; Bill East; Bill Green; Bill Hulslander; Bill Marshall; Bill Mathias; Bob Seibels; Brandon Stutts ; Bret Hoffman; Brett Burse; btrump@scana.com; Bud Badr; Buddy Baker ; Cam Littlejohn; Chad Long; Charlene Coleman; Charles Floyd; Charlie Compton; Charlie Rentz; Chris Judge; Chris Page; Craig Stow; Daniel Tufford; Dave Anderson; Dave Landis; David Allen; David Hancock; David Jones; David Price; Dick Christie; Don Tyler; Donald Eng; Ed Diebold; Ed Fetner; Edward Schnepel; George Duke; Gerrit Jobsis (American Rivers); Gerrit Jobsis (CCL); Gina Kirkland; Guy Jones; Hal Beard; Hank McKellar; Irvin Pitts (ipitts@scprt.com); James Smith; Jay Robinson; Jeanette Wells; Jeff Duncan; Jennifer O'Rourke; Jennifer Price ; Jennifer Summerlin; Jerry Wise; Jim Devereaux; Jim Glover; Jim Goller; Jim Ruane ; JoAnn Butler; Joe Logan; John and Rob Altenberg; John Davis (johned44@bellsouth.net); Jon Leader; Joy Downs; Karen Kustafik; Keith Ganz-Sarto; Ken Uschelbec; Kenneth Fox; Kim Westbury; Kristina Massey; Larry Michalec; Larry Turner (turnerle@dhec.sc.gov); Lee Barber; Malcolm Leaphart; Marianne Zajac; Mark Leao; Marty Phillips; Mary Kelly; Michael Murrell; Mike Duffy; Mike Sloan; Mike Summer (msummer@scana.com); Mike Waddell; Miriam Atria; Norm Nicholson; Norman Ferris; Parkin Hunter; Patricia Wendling; Patrick Moore; Prescott Brownell; Ralph Crafton; Randal Shealy; RMAHAN@scana.com; Ray Ammarell; Rebekah Dobrasko; Reed Bull (rbull@davisfloyd.com); Rhett Bickley; Richard Kidder; Richard Mikell; Robert Keener; Robert Lavisky; Ron Ahle; Ronald Scott; Roy Parker; Russell Jernigan; ryanity@scana.com; Sam Drake; Sandra Reinhardt; Sean Norris; Shane Boring; Stanley Yalicki; Steve Bell; Steve Leach; Steve Summer; Suzanne Rhodes; Theresa Powers (tpowers@newberrycounty.net); Tim Flach; Tim Vinson; Tom Bowles (tbowles@scana.com); Tom Brooks; Tom Eppink; Tom Ruple; Tom Stonecypher; Tommy Boozer; Tony Bebbler; Van Hoffman; Wade Bales (balesw@dnr.sc.gov); Mike Schimpff; Brandon Kulik; Marty Phillips

Subject: Final Jan 26 Notes

Hello all:

Attached to this email is the final meeting notes for the Jan 26th Operations meeting. They will also be posted to the web. Thanks, Alison



2006-01-26 Final
Meeting Minut...

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F: (803) 822-3183

MEETING NOTES

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

**SCE&G Training Center
January 26, 2006**

ATTENDEES:

Alan Stuart, Kleinschmidt Associates
Alison Guth, Kleinschmidt Associates
Amanda Hill, USFWS
Bill Argentieri, SCE&G
Bill Hulslander, Congaree National Park
Bret Hoffman, Kleinschmidt Associates
Bud Badr, DNR
Dave Landis, Lake Murray Association
Dick Christie, SCDNR
Gina Kirkland, SCDHEC
Joy Downs, LMA
Kristina Massey, Kleinschmidt Associates

Michael Waddell, TU
Mike Schimpff, Kleinschmidt Associates
Mike Summer, SCE&G
Patrick Moore, SCCCL, Am. Rivers
Randy Mahan, SCANA Services
Ray Ammarell, SCE&G
Steve Bell, Lake Watch
Straud Armstrong, SCDNR
Theresa Thom, Congaree National Park
Tom Eppink, SCANA Services
Tom Ruple, Lake Murray Association

DATE: January 26, 2006

AGENDA TOPICS FOR NEXT MEETING:

Presentation (as described in minutes and requested by Patrick Moore, Michael Waddell, and Steve Bell) or TWC to present specific cost analysis for different methods of meeting reserve beyond what was explained in the Operations presentation, in order to effectively balance that cost with project impacts.

DATE OF NEXT MEETING: **TBD after the TWC has had time to start developing a model.**

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.

DISCUSSION

Mike Schimpff introduced himself and noted that the purpose of the day's discussion was not to inform the group as to which model he believed they should choose, but to give some understanding

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as to what is available. Mike noted that there were hydraulic models, hydrologic models, economic models and WQ models and that these models could be combined.

Mike began to discuss some of the model uses that were identified at the previous Operations Meeting. These included lake levels, LSR minimum flows, inflows, generation, storage and graphic ability. Gina Kirkland also noted that water quality needs should be included as well when developing the model.

Mike briefly discussed a few models that were widely used. These included HEC-5, Oasis, CHEOPS, MIKE Basins, WMS and Decision Support Programs. Bud Badr asked Mike to explain a little about a Decision Support Model.

Gina noted that DHEC would like to have access to the model in order to run scenarios and verify the baseline settings. Mike Schimpff noted that it depended on which model was used because some models had proprietary constraints. Alan asked Gina if a DHEC representative could be present while they were running scenarios if a model with proprietary constraints was chosen. Gina noted she would discuss this with some individuals at DHEC, but the important thing would be that DHEC would need to feel like they are participating in the inputs. Bill Argentieri further noted that the objective was not to prevent agencies from using it, but to avoid breaking any proprietary laws.

Bud Badr shared a little about his experience with modeling to the group. He noted that when he and Larry Turner (DHEC) worked with Duke they used CHEOPS. He noted that an agreement was signed that allowed use of the model by agencies, but only for that particular project. Bud mentioned that one way to address water quality in the operations model was to address it using flows.

The group then began to discuss the Oasis Model. Mike explained that Oasis operates as a shell that programs can run inside of. Mike continued to explain that a benefit of Oasis is that it can interface with other models and run them simultaneously.

CHEOPS was the next model that the group discussed. Mike explained that it was private domain software that focuses on hydroelectric optimization. Bud Badr added that one of the deficiencies with CHEOPS in this situation was that it was 100 percent tilted toward hydroelectric generation and runs in 15 minute segments. He explained that this would make it difficult to sort through 50 years of data.

In a discussion on SCE&G's current flow forecasting model it was noted that it provided a good source for historical inflow data. Bud Badr also noted that the flow forecasting model dealt with tributaries as well.

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There was some discussion on Water Quality issues and how they would be tied into the model. Dick Christie noted that outputs from the water quality model would be developed within the Water Quality RCG.

Mike Schimpff continued to discuss HEC versions with the group (HEC-5, HEC-RES-SIM).

After lunch the groups then began to define the constraints needed in the model. Bud explained that the model needed to be calibrated for high flow and low flow conditions. He noted that the longer the period of record that was available, the better. He explained that this was because it could include both the dry cycles and wet cycles. Bud added that a modeler did not want extreme events like a drought to run the model. He noted that those events should be considered outliers and dealt with in a low flow protocol.

In continued discussion on constraints Bud pointed out that in an Operations Model, constraints had to be related to lake elevations or downstream flows in some fashion. Mike gave the example that water quality in the Lake could be related to Lake levels.

Constraints (with Tasks to Resource Group):

- Instream flows and downstream water quality (Fish & Wildlife RCG)
- Spring spawning levels in the lake (Fish & Wildlife RCG)
- Public water withdrawals
- Drought Management
- Recreational lake levels (Recreation RCG)
- Recreational releases (Recreation RCG)
- Lake level stabilization – Winter drawdown issues (Lake and Land Mgmt RCG)
- Navigation flows (Recreation RCG, Fish & Wildlife RCG)
- Flood plain inundations – timing, frequency, magnitude (Fish & Wildlife RCG)
- Safety flows (Safety RCG)
- Reserve generation

Dick Christie noted that navigation flows were very important to DNR and pointed out that DNR policy requires them to recommend the highest flow that meets water quality, navigation and habitat criteria.

The QA/QC process was discussed with respect to input data to the Operations model. The group concurred that quality data is of the utmost concern and will be dealt with by the TWC. Anecdotal data would be evaluated on a case-by-case basis by the TWC.

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Mike Schimpff concluded from the list of constraints that all of the issues could be boiled down to lake levels and minimum flows. Bud added that the model has to be able to provide downstream flows at different sites. The group concurred.

Looking at the issues, Mike Schimpff pointed out that they could be effectively modeled in an Excel spreadsheet, in HEC-5 and Oasis. The group agreed that CHEOPS would not be ideal because it looked at data every 15 minutes. Ray Ammarell noted that Oasis has the most flexibility and HEC-5 is developed around reservoir system modeling but might work well also. Gina asked if Oasis would interface well with models that were developed in other RCG's. Mike indicated that it would.

Bud explained that the HEC-5 and Oasis inputs are similar. However, he pointed out that HEC-5 is a public domain model. He also added that a benefit of HEC-5 was the HEC Support Center. Bud noted that a sophisticated model was not needed for a lake such as Lake Murray.

Alan noted that from a cost perspective, you would have to consider that a lot of upfront work may need to be done with HEC-5.

Bill Argentieri noted that if there were no objections, SCE&G would go ahead with Oasis, Oasis Lite or HEC-5. The group concurred as long as the chosen model would get the job done.

The discussion turned to developing a TWC. Mike Schimpff indicated that very technically skilled people are needed to run the models. Bud concurred that Mike should take the lead and the TWC serve as an advisory committee.

Patrick Moore stated the operations group needed to look at the specifics on reserve capacity options in order for the stakeholders to gauge the reasonableness of their requests. Patrick Moore continued to note the following, "There needs to be some quantifiable value on current operations. We heard a general discussion of alternatives from Lee with general descriptions of the logistical challenges of some alternatives. For example, gas turbines were stated to be about 50% reliable. Promotional materials from General Electric advertising 90% reliability, provided by Trout Unlimited, were referenced as an example of a possibility that could be explored at the next meeting or in a TWC. At other RCGs, reserve requirement issues significantly relating to safety, recreation, and water quality, are reserved for the Operations RCG. Options for meeting these reserves should

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be specifically evaluated in preparing the Protection, Mitigation & Enhancement agreement.” He requested that SCE&G provide this information to stakeholders at the next Operations meeting.¹

Tom Eppink noted that while he didn't think there would be a problem in SCE&G doing this, he wasn't sure it could be developed by the next meeting. This due in part to the uncertainty of who within SCE&G could/would give the presentation and could not make the commitment on someone else's behalf. However, he added that they would begin the process of lining this up for the future.

TWC Members:

- Mike Schimpff
- Bud Badr
- Larry Turner
- NHI Representative
- Ray Ammarell
- Mike Waddell (Observer)

Mike would prepare a draft study with an outline of the model with a schedule and submit it to the TWC for review.

Meeting adjourned.

¹ Although Meeting Notes are not intended to be transcripts of the meeting, Mr. Moore requested that this paragraph be included in the notes after the meeting for clarification purposes.

MEETING NOTES

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

*SCE&G Training Center
January 26, 2006*

**Saluda Hydro Relicensing
Operations Resource Conservation Group**

Meeting Agenda

**January 26, 2006
9:30 AM**

Saluda Shoals Park – Rivers Conference Center – SE Freight Room

- **9:30 to 12:00** Hydrologic Models Presentation and Question Session
 - **12:00 to 12:30** Lunch
 - **12:30 to 2:30** Interactive Discussion on Model Inputs and Sources
 - **2:30 to 3:00** Develop List of Homework Assignments, Develop Agenda for Next Meeting, and Set Meeting Date
- Adjourn



Z:\SCO\455\029\2006-01-26 Meeting Minutes.doc

Stacia Hoover

From: Alison Guth
Sent: Monday, January 23, 2006 5:22 PM
To: Alan Stuart; 'rammarell@scana.com'; BARGENTIERI@scana.com; 'Gina Kirkland'; 'msummer@scana.com'; RMAHAN@scana.com; Kristina Massey; 'bellsteve9339@bellsouth.net'; 'Amanda Hill'; 'Elymay2@aol.com'; 'truple@sc.rr.com'; 'dchristie@infoave.net'; 'BadrB@dnr.sc.gov'; 'parkin@parkinhunter.com'; 'marshallb@dnr.sc.gov'; 'kayakduke@bellsouth.net'; 'bill_hulslander@nps.gov'; 'PatrickM@scccl.org'; 'Jeff_Duncan@NPS.gov'; 'mwaddell@esri.sc.edu'; 'Bigbillcutler@aol.com'; Bret Hoffman
Subject: Draft meeting notes

Hello Operations RCG Members,

I have attached the draft meeting notes from the Dec. 6 Operations meeting for your review. Please have any changes back to me by Feb. 6. Also, just a reminder that your Operations RCG meeting this Thursday will be at the Saluda Shoals Park Rivers Center. Thanks, and let me know if you have any questions. Alison



2005-12-06 draft
Meeting Notes...

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
101 Trade Zone Drive
Suite 21A
West Columbia, SC 29170
P: (803) 822-3177
F: (803) 822-3183

MEETING NOTES

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

**SCE&G Training Center
December 6, 2005**

Draft 1-23 ACG

ATTENDEES:

Alan Stuart, Kleinschmidt Associates
Alison Guth, Kleinschmidt Associates
Ray Ammarell, SCE&G
Bill Argentieri, SCE&G
Gina Kirkland, SCDHEC
Mike Summer, SCE&G
Randy Mahan, SCANA Services
Kristina Massey, Kleinschmidt Associates
Steve Bell, Lake Murray Watch
Amanda Hill, USFWS
Joy Downs, LMA
Tom Ruple, LMA
Dick Christie, SCDNR
Bud Badr, SCDNR

Parkin Hunter, Columbia Audubon
Bill Marshall, LSSRAC
George Duke, LMHOC
Bill Hulslander, Congaree National Park
Patrick Moore, SCCCL\Am. Rivers
Jeff Duncan, NPS
Michael Waddell, TU
Bill Cutler, Lake Watch

DATE: December 6, 2005

ACTION ITEMS:

- Hydrologic Model Presentation
SCE&G\Kleinschmidt Associates

HOMEWORK ITEMS:

- Think about what information needs to be presented in this group for educational purposes

AGENDA TOPICS FOR NEXT MEETING:

- Presentation on Hydrologic Models
- Discussion

MEETING NOTES

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

**SCE&G Training Center
December 6, 2005**

Draft 1-23 ACG

**DATE OF NEXT MEETING: January 26, 2006 at 9:30 a.m.
Located at the Saluda Shoals Park Rivers Center**

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 opened the meeting and introduced Bill Argentieri as the speaker for the presentation on the “Nuts and Bolts of Saluda Operations”. Bill began his presentation and several questions about definitions came up during the course of the discussion. After a cross-section of a general hydropower plant was shown several questions arose about the penstocks and the towers. It was noted that the penstocks are the pipes that let the water from the lake flow into the powerhouse, and they are inspected on a periodic basis. A question arose on whether or not the towers require maintenance and Bill replied that most of the maintenance on the towers has to do with the mechanical components such as the gates.

Mike Waddell asked how Saluda Hydro efficiency is affected by lake levels. Kristina replied that as the Lake drops the efficiency drops as well. There was some discussion on the water intake from the towers and the restrictions associated with unit 5; including those restrictions caused by the congregation of blueback herring around the unit 5 tower during certain times of the year. It was noted that SCE&G has hydro-acoustic equipment that monitor the blueback herring.

Bill began to give the group some background on the Project and some of the specifics about the plant were noted. He pointed out that first four units can generate 3000 cfs per unit at full load and unit 5, being twice the size, can generate 6000 cfs at full load. George Duke asked how old the generators were, to which Bill replied that they were 75 years old. From a maintenance standpoint, Mike Summer added that a few of the units have been rewound.

Discussions then turned to turbine venting. Patrick Moore asked if the hub baffles allowed all of the units to be equally effective at venting. Alan Stuart explained that all of the units vent at different efficiencies with a major contributor to this being the condition of the seals on the units.

The group briefly discussed the maintenance on the units. It was noted that the units are frequently inspected and electrical testing is performed routinely. When asked if there was a life span on the units, Mike Summer noted that it is more cost effective to maintain a unit over a period of time as opposed to replacing the whole unit. Kristina Massey added that units 1-4 had major over hauls in the late 70's to early 80's. Bill noted that SCE&G is looking at upgrading the units and KA is doing

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a study to provide SCE&G with some options for upgrading. Bill added that this study takes into account many issues, including the environmental issues.

Bill began to discuss unit 5 and noted that it does not have an isolation valve on the unit itself, the gate has to be closed at the tower. He added that unit 5 was "bought off of the shelf" in the late 60's and went into operation in '71.

The group then began to discuss the emergency spillway. Bill explained that in the event that the dam would be overtopped, the spillway gates could be opened for the emergency release of water. Bill pointed out that the spillway was not the original Saluda River channel but manmade. Amanda Hill asked if the natural streambed was where the powerhouse is now. Bill replied that it was between the towers and the spillway. There was some discussion on the Probable Maximum Flood and also on the black start capabilities of the plant. Bill noted that if there was a blackout Saluda was one of the few plants on SCE&G's system that could start from scratch. The group also briefly discussed the Flow Forecasting Model.

Mike Waddell asked what SCE&G used for reserves if they were running Saluda due to rainfall. Bill replied that they either used another plant or they buy power from another system. One group member inquired as to whether SCE&G anticipated Lake Murray being required to operate as a flood control lake and how that might impact inundation at the Congaree National Park. Randy noted that he believed it was improper that anyone should count on Saluda for flood control when 2/3 of the flow into the Congaree comes from the Broad.

The group began to discuss the operational warning sirens on the LSR, as well as the sirens that are activated in the event of a dam failure. Bill noted that brochures that explain what people should do in case of a dam failure are mailed out to those individuals who reside in the zip code below the dam and drills were performed on a regular basis.

Discussions began to center around the maintenance work on the dam and the upcoming placement of rip-rap on the upstream face of the dam. Bill noted that they were waiting until the road was complete so that traffic could be re-routed, otherwise that section of Hwy 6 would have to be shut down.

Bill concluded his presentation and the group began to discuss the mission statement. It was noted that the goal of the group would be to develop a hydrologic operations model.

The group began to discuss what they would like to see come out of a model. It was discussed that the model needs to be user friendly. There were several models that were mentioned, including Hec 5 and Oasis. Bill Hulslander noted that it was important to make sure the model was able to take

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inputs or outputs from other RCGs. Bud Badr explained that the model would actually be a water allocation model that would take into account how much water was in the Lake, how much water was coming into the Lake and how much water was flowing out of the Lake. He noted that it would look at what the interests would be upstream, as well as downstream interests and SCE&G's interests. Bud continued to explain that each interest would be converted into a number value and while the system is being run it will show how many times a certain interest is infringed upon during different scenarios. He noted that the model can be worked to show how many interests violations will occur over a span of time. Bud mentioned that everyone is given equal consideration in the model.

Patrick Moore noted that a few years ago American Rivers and the National Heritage Institute started to model the entire Santee Basin. He added that this model would be ready in the next few months. Bud noted that it was a very good model but that it did not substitute for the model that was needed here.

Parkin Hunter asked if the model would be stochastic. Bud replied that it would be deterministic because it is going to use actual measurements and limitations from the Lake.

In a further explanation of the model Bud noted that the first step would be to get the inflows for an extended period of time. He then explained that you need such data as daily rainfall and the daily capacity to develop the baseline. He pointed out that the modeler has to established relationships between certain demands and interests and lake level elevations. Bud added that evaporation also has to be considered. With respect to downstream interests, he noted that water quality can be reflected in terms of a certain flow or height. He added that the same idea applies to fisheries and navigation. He explained that the modeler will run the scenario and the baseflow for the last fifty years or so. Bud noted that once the model has been built, it will be a tool to mimic the real system, and can be calibrated for high flow, average flow and low flow.

There was some discussion on how floods and droughts would be incorporated into the model. It was noted that the model was going to be calibrated to the last 30 years of climate data. Bud noted that in 2002 there was a very extreme drought and added that he did not believe that extreme drought events, such as that one, should drive the allocations of the model. He pointed out that that event should probably be excluded and put under a low flow protocol. George Duke inquired that if the model was going to exclude the extreme drought cases, then shouldn't it exclude the extreme flooding cases as well. Bud replied that problems arose when there was not enough water in the Lake, such as in drought situations, and too much water was not a worry in regards to water allocations.

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The group decided that at the next meeting SCE&G would give a presentation on potential models that could be used for Lake Murray and that also could interface into SCE&G's computer system. George Duke suggested that it may be good to show the presentation to the other groups as well so that they will know what is needed from them. Alan agreed.

Bud noted that it would be beneficial to the state agencies to have access to the model and noted that they could sign a contract stating that they would not share it with any outside groups.

Through an interactive discussion the group gave suggestions as to what they would like the model outputs to be; they are listed below:

Outputs of the model

Lake Levels

LSR Flows

Inflows

Generation

Lake Capacity, storage

Frequency, magnitude and duration of demand satisfaction

Graphic Ability

Interactive Model Front

The group then agreed on the mission statement, which is listed below.

“The Mission of the Operations Resource Conservation Group (ORCG) is to oversee the development of a robust hydrologic model for the Saluda Project which will establish a baseline of current hydrologic, hydraulic, and operational conditions, and aid in analyzing and understanding the potential upstream and downstream effects of potential changes to project operations, in support of the missions and goals of all other Saluda Hydroelectric Relicensing RCGs. The objective is to fairly consider those impacts, to include low-flow conditions as a part of developing consensus-based, operations focused recommendations for the FERC license application. Model results are to be presented in readily understandable terms and format. A key measure of success in achieving the mission and goals will be a published Protection, Mitigation, and Enhancement (PM&E) Agreement.”

The group decided that the next meeting would occur on January 26 at 9:30. The training center was booked for that date but after the meeting Alison was able to secure a room at the Saluda Shoals Park Rivers Center for the meeting location.

Cheryl Balitz

From: Patrick Moore [PatrickM@scccl.org]
Sent: Friday, January 13, 2006 8:45 AM
To: Alison Guth
Subject: Tour this morning

Alison,

I am under the weather and wont be able to make the tour today. I am disappointed my schedule did not allow for either tour this week. Thanks for all you do, Patrick

-----Original Message-----

From: Alison Guth [mailto:Alison.Guth@KleinschmidtUSA.com]

Sent: Wed 1/11/2006 4:37 PM

To: Alan Stuart; Alison Guth; 'bill_hulslander@nps.gov'; 'cheetahtk@yahoo.com'; 'dlandisl@sc.rr.com'; 'dchristie@infoave.net'; 'kayakduke@bellsouth.net'; 'KIRKLAGL@dhec.sc.gov'; 'Bkawasi@sc.rr.com'; 'Jeff_Duncan@NPS.gov'; 'Elymay2@aol.com'; 'dvklmass@bellsouth.net'; 'lmichalec@aol.com'; 'parkin@parkinhunter.com'; Patrick Moore; 'crafton@usit.net'; 'rjernigan@scfbins.com'; 'bellsteve9339@bellsouth.net'; 'suzrhodes@juno.com'; 'truple@sc.rr.com'; 'Stonecypher@istreamconsulting.com'; 'gjobsis@americanrivers.org'; 'pxanthakos@scana.com'; 'rammarell@scana.com'; 'bargentieri@scana.com'; 'msummer@scana.com'; 'rmahan@scana.com'; Kristina Massey; 'mark_leao@fws.gov'; 'amanda_hill@fws.gov'; 'BadrB@dnr.sc.gov'; 'tohunter@scbar.org'; 'marshallb@dnr.sc.gov'; 'mwaddell@esri.sc.edu'; 'rlshealy@aol.com'; 'tbebbber@scprt.com';
Bret Hoffman

Cc:

Subject: Operations Mission Statement

Hello Operations RCG Members,

In our last Operations RCG we finalized the Operations Mission Statement. I have attached the final copy for your perusal and it will also be posted on the website. Thanks to all for your participations in this process. Please email me with any questions that you may have. Thanks, Alison

<<Operations RCG Mission Statement final acg.pdf>>

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West Columbia, SC 29170
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F: (803) 822-3183

Cheryl Balitz

From: Alison Guth [mailto:Alison.Guth@KleinschmidtUSA.com]

Sent: Friday, January 13, 2006 2:54 PM

To: Alan Stuart; Alison Guth; 'bill_hulslander@nps.gov'; 'cheetahtrk@yahoo.com'; 'dlandis1@sc.rr.com';

'dchristie@infoave.net'; 'kayakduke@bellsouth.net'; 'KIRKLAGL@dhec.sc.gov';

'Bkawasi@sc.rr.com';

'Jeff_Duncan@NPS.gov'; 'Elymay2@aol.com'; 'dvklmass@bellsouth.net'; 'lmichalec@aol.com';

'parkin@parkinhunter.com'; 'PatrickM@sccl.org'; 'crafton@usit.net'; 'rjernigan@scfbins.com';

'bellsteve9339@bellsouth.net'; 'suzrhodes@juno.com'; 'truple@sc.rr.com';

'Stonecypher@istreamconsulting.com';

'gjobsis@americanrivers.org'; AMMARELL, RAYMOND R; ARGENTIERI, WILLIAM R; SUMMER, MICHAEL C;

MAHAN, RANDOLPH R; Kristina Massey; 'mark_leao@fws.gov'; 'amanda_hill@fws.gov';

'BadrB@dnr.sc.gov';

'tohunter@scbar.org'; 'marshallb@dnr.sc.gov'; 'mwaddell@esri.sc.edu'; 'r1shealy@aol.com';

'tbeber@scprt.com';

Bret Hoffman

Subject: Operations Resource Group Meeting

When: Thursday, January 26, 2006 9:30 AM-3:00 PM (GMT-05:00) Eastern Time (US & Canada).

Where: Saluda Shoals Park - Rivers Conference Center

~~*~*~*~*~*~*~*~*

Good Afternoon Operations Group

Our next Operations Resource Group meeting will occur on January 26 at 9:30. As you may remember, in the

last meeting we were unable to secure a meeting room at the Lake Murray Training Center for this date.

Subsequently, we will have our meeting at the Rivers Center at Saluda Shoals Park. Please let me know by the

20th if you are planning on attending so that I will know how many lunches to order. Thanks so much and email

me with any questions that you may have.

Sincerely,

Alison

Hello All,

There were a few Action Items and grammatical corrections that were not included in the final copy of the meeting notes that I sent out on August 8. Below is the correct copy of the meeting notes. Sorry about the confusion. Alison

<<2006-07-11 final Meeting Minutes- Generation Review TWC.pdf>>

-----Original Message-----

From: Alison Guth

Sent: Tuesday, August 08, 2006 3:33 PM

To: Theresa Thom; Alan Stuart; Alison Guth; Bill Argentieri; Bill Cutler; Bill Marshall; Jennifer O'Rourke; Karen Kustafik; Mike Waddell; Patrick Moore; Steve Bell

Cc: Tony Bebber; Amanda Hill; Bill Hulslander; Bud Badr; Charlene Coleman; Dave Landis; Dick Christie; Feleke Arega (aregaf@dnr.sc.gov); George Duke; Gerrit Jobsis (American Rivers); Gina Kirkland; Hank McKellar; Jeff Duncan; Joy Downs; Kristina Massey; Larry Michalec; Larry Turner (turnerle@dhec.sc.gov); Mark Leao; Mike Summer (msummer@scana.com); Parkin Hunter; Ralph Crafton; Randal Shealy; Randy Mahan; Ray Ammarell; Russell Jernigan; Suzanne Rhodes; Tom Ruple; Tom Stonecypher; Bret Hoffman

Subject: 7-11-06 Saluda Generation Review notes

Hello all,

Attached are the final meeting notes from the Saluda Generation Review TWC meeting on 7-11-06. Thanks for all of the comments. Alison

<< File: 2006-07-11 final Meeting Minutes- Generation Review TWC.pdf >>

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
101 Trade Zone Drive
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P: (803) 822-3177
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Hello all

We have had a few additions and comments on the meeting notes, so I am sending around a copy of the notes with attached comments for everyone's review before they become final on Friday.

Alison

<<2006-01-26 draft Meeting Minutes comments- Operations.doc>>

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
101 Trade Zone Drive
Suite 21A
West Columbia, SC 29170
P: (803) 822-3177
F: (803) 822-3183

From: [Alison Guth](#)
To: ["Bud Badr";](#)
cc: [Alan Stuart; "Bill Argentieri";](#)
Subject: October 12th and possibly October 26th
Date: Wednesday, September 27, 2006 9:23:34 AM

Hello Bud,

Thanks again for your willingness to give the hydrology presentation at the October 12th meeting. I think this information will be very helpful for the RCG members to hear prior to the discussion on the Model.

Our meeting on October 12th is at 9:30 at the Saluda Shoals Park Environmental Center. We will have our laptop and projector ready for your presentation and it is fine if you bring it on CD. You may want to arrive a couple minutes early so we can get your presentation set up and ready to go. :)

I also have you down tentatively for October 26th at 9 am and 6pm at the Quarterly Public Meetings. Per our discussion, we will see how the presentation is received on the 12th and at that time decide whether it is also needed on the 26th.

Thank you very much and I look forward to your presentation!! Feel free to contact me with any questions or concerns (822-3177). Thanks! Alison

Alison Guth

Licensing Coordinator

Kleinschmidt Associates

101 Trade Zone Drive

Suite 21A

West Columbia, SC 29170

P: (803) 822-3177

F: (803) 822-3183

From: [Alison Guth](#)
To: ["Kustafik, Karen";](#)
Subject: RE: Accepted: Updated: Final Date - All RCG's Meeting - Saluda Operations Model Discussion
Date: Wednesday, October 11, 2006 1:45:48 PM

I think we will have enough food, thanks :) Alison

-----Original Appointment-----

From: Kustafik, Karen [mailto:kakustafik@columbiasc.net]

Sent: Wednesday, October 11, 2006 1:45 PM

To: Alison Guth

Subject: Accepted: Updated: Final Date - All RCG's Meeting - Saluda Operations Model Discussion

When: Thursday, October 12, 2006 9:30 AM-3:00 PM (GMT-05:00) Eastern Time (US & Canada).

Where: Saluda Shoals Park - Environmental Center Auditorium

Alison-

I will attend. Sorry for late response. Will be glad to brown bag, if necessary. KAK

From: [Alison Guth](#)
To: [Tony Bebber](#); [Alan Stuart](#); [Alison Guth](#); [Amanda Hill](#); [Bill Argentieri](#); [Bill Hulslander](#); [Bill Marshall](#); [Bud Badr](#); [Charlene Coleman](#); [Dave Landis](#); [Dick Christie](#); [George Duke](#); [Gerrit Jobsis \(American Rivers\)](#); [Gina Kirkland](#); [Hank McKellar](#); [James Smith](#); [Jeff Duncan](#); [Jennifer O'Rourke](#); [Joy Downs](#); [Kristina Massey](#); [Larry Michalec](#); [Larry Turner \(turnerle@dhec.sc.gov\)](#); [Mark Leao](#); [Mike Summer \(msummer@scana.com\)](#); [Mike Waddell](#); [Parkin Hunter](#); [Patrick Moore](#); [Ralph Crafton](#); [Randal Shealy](#); [Randy Mahan](#); [Ray Ammarell](#); [Russell Jernigan](#); [Steve Bell](#); [Suzanne Rhodes](#); [Tom Ruple](#); [Tom Stonecypher](#); [Bret Hoffman](#); [Tommy Boozer](#); [Aaron Small](#); [Alan Axson](#); [Bill Mathias](#); [Bret Hoffman](#); [Dave Anderson](#); [David Price](#); [Edward Schnepel](#); [Jerry Wise](#); [Jim Devereaux](#); [John and Rob Altenberg](#); [Karen Kustafik](#); [Ken Uschelbec](#); [Kenneth Fox](#); [Lee Barber](#); [Malcolm Leaphart](#); [Miriam Atria](#); [Norm Nicholson](#); [Norman Ferris](#); [Tom Eppink](#);
Subject: ADHOC Meeting Delayed
Date: Thursday, March 23, 2006 6:02:02 PM

Hello all:

Well our attempts to have an ADHOC Safety/Operations meeting next week have hit somewhat of a roadblock. There have been many conflicts with the 29th of next week. The next possible date available is the 6th of April. Hopefully this will be a better day for the group. This meeting will take place at 9:00 at the Saluda Shoals Park Environmental Center because the Training Center is booked. It appears that many of the conflicts will be remedied with this new date. We would like to have this meeting as soon as possible and not extend it out any further. Please let me know if you are going to attend so I can continue to plan. Thanks so much, Alison

-----Original Message-----

From: Alan Stuart
Sent: Thursday, March 23, 2006 12:29 AM
To: Tony Bebber; Alan Stuart; Alison Guth; Amanda Hill; Bill Argentieri; Bill Hulslander; Bill Marshall; Bud Badr; Charlene Coleman; Dave Landis; Dick Christie; George Duke; Gerrit Jobsis (American Rivers); Gina Kirkland; Hank McKellar; James Smith; Jeff Duncan; Jennifer O'Rourke; Joy Downs; Kristina Massey; Larry Michalec; Larry Turner (turnerle@dhec.sc.gov); Mark Leao; Mike Summer (msummer@scana.com); Mike Waddell; Parkin Hunter; Patrick Moore; Ralph Crafton; Randal Shealy; Randy Mahan; Ray Ammarell; Russell Jernigan; Steve Bell; Suzanne Rhodes; Tom Ruple; Tom Stonecypher; Bret Hoffman; Tommy Boozer; Aaron Small; Alan Axson; Bill Mathias; Bret Hoffman; Dave Anderson; David Price; Edward Schnepel; Jerry Wise; Jim Devereaux; John and Rob Altenberg; Karen Kustafik; Ken Uschelbec; Kenneth Fox; Lee Barber; Malcolm Leaphart; Miriam Atria; Norm Nicholson; Norman Ferris; Tom Eppink
Subject: ADHOC Meeting

Good evening all,

I wanted to get back and respond to Steve Bell's request to convene an emergency meeting of the Operations RCG. Based on Steve's request and the flurry of emails that I've noticed going back and forth I support Steve's request to have a meeting. In monitoring the emails, I sense quite of bit of misunderstanding/miscommunication between all of the Parties in this process. I have heard no unreasonable operational alternatives requests proposed by the stakeholders and believe these need to be evaluated as part of this process. To steal a quote from Steve "everything is on the table for consideration" and well it should be during this process. All of the groups have done an outstanding job developing reasonable operational alternatives to evaluate and in my experiences this is half the battle. You have a great deal of participants in this process with very diverse backgrounds which are a great tool in defining the issues and developing potential alternatives for analysis. You should utilize these resources that you have at your disposal to the fullest extent otherwise you are cheating yourselves. Part of our job as Kleinschmidt is to ensure that each and every reasonable alternative is given serious and due consideration throughout this process. Make no mistake; I assure you this will happen because

we do not want to leave any stone unturned when it comes time to evaluate the options for your comprehensive Protection, Mitigation and Enhancement Agreement (PM&EA). Remember our job as Kleinschmidt is to try and bring everyone to the table, keep everyone there, work through the issues/information needs, make sure all reasonable alternatives are given their due consideration and analysis, and ultimately assist the group's endeavors to reach consensus on recommendations.

You all have done an outstanding job identifying and scoping of the issues/interests. This is another huge step in the process that should not be taken lightly. You should be proud of this accomplishment. I have seen a lot of progress made in the Technical Working Committees and RCG's and you should not want all of the positive efforts to deteriorate. One item I would like to touch on, it is becoming very apparent that some of the correspondence we have noticed of late may be directed on a more personal level. Folks, I made this comment early on that there are two major things (among many things) that we must all recognize in the other to make this process move forward to reach a common goal, RESPECT for each other and OPEN and HONEST communication. I know in the "heat of the argument" personalities and emotions tend to take over but let's not lose sight that everyone is in this process because they feel strongly about some issue or issues. We should RESPECT them for their opinion, the time and effort they are putting forth and just because they care that much about the project to be involved. No matter how frustrated we become at times what must be maintained is mutual respect for each other, period no questions asked. Therefore, in the future in an effort to eliminate the potential for personal attacks, I am requesting that all email correspondence for recommendations, operational alternatives analysis etc be directed by all parties to Kleinschmidt (me). I think this will help eliminate the personalization and provide more fruitful results. I'd also like to challenge everyone that in the future we all try to leave the egos and differences at the door and get back to the matter of going through the process in a very stepwise manner in working toward the common goal, the PM&EA.

Now I'll step down from the soapbox and get to the matter at hand. Since there appears to be a strong relationship between the Operations and Safety RCG's regarding operation of Saluda Hydro (with respect to potential alternatives including ramping etc) I'm proposing both the Operations and Safety groups conduct a joint RCG meeting. I believe a meeting will help to re-establish the working relationships and make sure there are no misunderstandings between the parties. Additionally, we can address the items/alternatives/issues raised in the bevy of emails which have been circulating. With that being said, I would like to convene the joint Operations/Safety RCG meeting on Wednesday March 29, 2006 at 9:30 at the Lake Murray Training Center. I have confirmed with Rita that space is available.

I know this is very short notice but feel this is extremely important before moving forward. Please let Alison know no later than Monday March 27 by COB that you are attending so she can get a headcount for lunch. If you have questions please email or give me a call.

Have a great evening all and my apologies for the novel,
Alan

Alan Stuart
Senior Licensing Coordinator
Kleinschmidt Energy and Water Resources
101 Trade Zone Drive Suite 21A
West Columbia, SC 29170
Phone 803.822.3177
Cell 803.640.8765

From: [Alison Guth](mailto:Alison.Guth@KleinschmidtUSA.com)
To: ["bellsteve9339@bellsouth.net"](mailto:bellsteve9339@bellsouth.net):
Subject: RE: Draft operations summary
Date: Friday, February 24, 2006 11:53:36 AM

Hello Steve,

Sorry that I have not responded to your email until now, I have been out of the office at meetings all week, as you know. I have not yet sent out the draft, but I am working on it today. I have another all day meeting Monday so I hope to have the draft out on Tuesday.

Alison

-----Original Message-----

From: bellsteve9339@bellsouth.net [mailto:bellsteve9339@bellsouth.net]

Sent: Thursday, February 23, 2006 10:38 AM

To: Alison Guth

Subject: Draft operations summary

Hi Alison- Have you emailed the draft summary for the last operations meeting? I don't have it. Could have deleted by mistake. steve

>

> From: Alison Guth <Alison.Guth@KleinschmidtUSA.com>

> Date: 2006/02/01 Wed PM 03:51:49 EST

> To: Alan Stuart <Alan.Stuart@KleinschmidtUSA.com>, Alison Guth

> <Alison.Guth@KleinschmidtUSA.com>, "millerca@dhec.sc.gov"

> <millerca@dhec.sc.gov>, "bill_hulslander@nps.gov"

> <bill_hulslander@nps.gov>, "marshallb@dnr.sc.gov"

> <marshallb@dnr.sc.gov>, "network@scpronet.com" <network@scpronet.com>,

> "camlittlejohn@yahoo.com" <camlittlejohn@yahoo.com>,

> "cheetahtk@yahoo.com" <cheetahtk@yahoo.com>, "cstow@sc.edu"

> <cstow@sc.edu>, "tufford@sc.edu" <tufford@sc.edu>,

> "dchristie@infoave.net" <dchristie@infoave.net>,

> "tyle6544@bellsouth.net" <tyle6544@bellsouth.net>,

> "ediebold@riverbanks.org" <ediebold@riverbanks.org>,

> "kayakduke@bellsouth.net" <kayakduke@bellsouth.net>,

> "gjobsis@americanrivers.org" <gjobsis@americanrivers.org>,

> "KIRKLAGL@dhec.sc.gov" <KIRKLAGL@dhec.sc.gov>, "Jeff_Duncan@NPS.gov"

> <Jeff_Duncan@NPS.gov>, "johned44@earthlink.net"

> <johned44@earthlink.net>, "Elymay2@aol.com" <Elymay2@aol.com>,

> "kakustafik@columbiasc.net" <kakustafik@columbiasc.net>,

> "Keith_Ganz_Sarto@hotmail.com" <Keith_Ganz_Sarto@hotmail.com>,

> "Malcolml@mailbox.sc.edu" <Malcolml@mailbox.sc.edu>,

> "Lucky8Lady@aol.com" <Lucky8Lady@aol.com>, "Norm@sc.rr.com"

> <Norm@sc.rr.com>, "PatrickM@scccl.org" <PatrickM@scccl.org>,

> "crafton@usit.net" <crafton@usit.net>, "bbull@sc.rr.com"

> <bbull@sc.rr.com>, "rkidder@pbtcomm.net" <rkidder@pbtcomm.net>,

> "RESKKEENER@PBTComm.Net" <RESKKEENER@PBTComm.Net>, "ahler@dnr.sc.gov"

> <ahler@dnr.sc.gov>, "royparker38@earthlink.net"

> <royparker38@earthlink.net>, Shane Boring

> <Shane.Boring@KleinschmidtUSA.com>, "bellsteve9339@bellsouth.net"

> <bellsteve9339@bellsouth.net>, "ssummer@scana.com" <ssummer@scana.com>,

> "suzrhodes@juno.com" <suzrhodes@juno.com>,

> "Stonecypher@isteamconsulting.com" <Stonecypher@isteamconsulting.com>,

> "mark_Leao@fws.gov" <mark_Leao@fws.gov>, "Prescott.Brownell@noaa.gov"

> <Prescott.Brownell@noaa.gov>, "Amanda_Hill@fws.gov"

> <Amanda_Hill@fws.gov>, "dengff@aol.com" <dengff@aol.com>,

> "JCharlesFloyd@sc.rr.com" <JCharlesFloyd@sc.rr.com>,

> "k.westbury@saludacounty.sc.gov" <k.westbury@saludacounty.sc.gov>,

From: [Alison Guth](#)
To: [Theresa Thom](#); [Alan Stuart](#); [Alison Guth](#); [Bill Argentieri](#); [Bill Cutler](#);
[Bill Marshall](#); [Jennifer O'Rourke](#); [Karen Kustafik](#); [Mike Waddell](#);
[Patrick Moore](#); [Steve Bell](#);
cc: [Tony Bebber](#); [Amanda Hill](#); [Bill Hulslander](#); [Bud Badr](#); [Charlene Coleman](#);
[Dave Landis](#); [Dick Christie](#); [Feleke Arega \(aregaf@dnr.sc.gov\)](#);
[George Duke](#); [Gerrit Jobsis \(American Rivers\)](#); [Gina Kirkland](#); [Hank McKellar](#);
[Jeff Duncan](#); [Joy Downs](#); [Kristina Massey](#); [Larry Michalec](#);
[Larry Turner \(turnerle@dhec.sc.gov\)](#); [Mark Leao](#);
[Mike Summer \(msummer@scana.com\)](#); [Parkin Hunter](#); [Ralph Crafton](#);
[Randal Shealy](#); [Randy Mahan](#); [Ray Ammarell](#); [Russell Jernigan](#);
[Suzanne Rhodes](#); [Tom Ruple](#); [Tom Stonecypher](#); [Bret Hoffman](#);
Subject: Saluda Generation Review Draft Notes
Date: Monday, July 17, 2006 2:44:04 PM
Attachments: [2006-07-11 draft Meeting Minutes - Generation Review TWC.DOC](#)

Hello all,
Attached is the draft set of notes from the Saluda Generation Review TWC that was held July 11th.
Please have any comments to me by July 31st. Thanks, Alison

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
101 Trade Zone Drive
Suite 21A
West Columbia, SC 29170
P: (803) 822-3177
F: (803) 822-3183

From: Alison Guth
To: [Theresa Thom](#); [Alan Stuart](#); [Alison Guth](#); [Bill Argentieri](#); [Bill Cutler](#); [Bill Marshall](#); [Jennifer O'Rourke](#); [Karen Kustafik](#); [Mike Waddell](#); [Patrick Moore](#); [Steve Bell](#);
Subject: Saluda Generation Review TWC Meeting
Start: Monday, June 26, 2006 9:30:00 AM
End: Monday, June 26, 2006 3:00:00 PM
Location: Lake Murray Training Center

Hello All,

In light of the recent emails and distribution of information, we have scheduled a meeting Monday, June 26th at the Lake Murray Training Center. The focus of this meeting will be to discuss the Generation Information that was distributed by Bill on June 14th. Please RSVP by Wednesday, June 21, if you plan on attending. Thank you, Alison

From: Alison Guth
To: [Theresa Thom](#); [Alan Stuart](#); [Alison Guth](#); [Bill Argentieri](#); [Bill Cutler](#); [Bill Marshall](#); [Jennifer O'Rourke](#); [Karen Kustafik](#); [Mike Waddell](#); [Patrick Moore](#); [Steve Bell](#);
Subject: Updated: Saluda Generation Review TWC Meeting
Start: Monday, June 26, 2006 9:30:00 AM
End: Monday, June 26, 2006 3:00:00 PM
Location: Lake Murray Training Center

Hello All,

In light of the recent emails and distribution of information, we have scheduled a meeting Monday, June 26th at the Lake Murray Training Center. The focus of this meeting will be to discuss the Generation Information that was distributed by Bill on June 14th. Please RSVP by Wednesday, June 21, if you plan on attending. Thank you, Alison

From: Alison Guth
To: [Ray Ammarell](#); [Alan Stuart](#); [Bill Argentieri](#); [Bob Olsen](#); [Bret Hoffman](#); [Bud Badr](#); [Feleke Arega \(aregaf@dnr.sc.gov\)](mailto:aregaf@dnr.sc.gov); [Larry Turner \(turnerle@dhec.sc.gov\)](mailto:turnerle@dhec.sc.gov); [Mike Waddell](#); [Patrick Moore](#); [Mike Schimpff](#); [Mike Schimpff](#); [Bret Hoffman](#);
cc: [Mike Schimpff](#); [Bret Hoffman](#);
Subject: Updated: Final Date - Operations TWC Meeting
Start: Wednesday, August 23, 2006 9:30:00 AM
End: Wednesday, August 23, 2006 3:00:00 PM
Location: Lake Murray Training Center - Room 115

Hey Guys,

I have heard positive responses from the majority of you on the tentative meeting date of August 23rd. I would like to inform you that this date has now become final. I look forward to seeing all of you then. Thanks, Alison

Previous Message :

Hello Operations TWC,

I am in the process of scheduling an Operations TWC meeting the week of August 21st in order to discuss the model. Due to limited space it appears that Wednesday, August 23rd is the best time during the week in terms of meeting space. Please let me know if this date is satisfactory by next Wednesday (7-19) and I will send out a final meeting notice. Thanks, Alison

From: [ARGENTIERI, WILLIAM R](#)
To: [Alan Stuart](#); [Gerrit Jobsis](#); [PatrickM@sccl.org](#); [Amanda_Hill@fws.gov](#); [dchristie@infoave.net](#); [Hal Beard](#); [Prescott.Brownell@noaa.gov](#); [Gina Kirkland](#); [rrcollins@n-h-i.org](#); [Julie Gantenbein](#); [SUMMER, MICHAEL C](#); [SUMMER, STEPHEN E](#); [RMAHAN@scana.com](#); [BOWLES, THOMAS M](#); [BJMcManus@jonesday.com](#); [Alison Guth](#); [Jim Ruane](#); [AMMARELL, RAYMOND R](#); [BLALOCK, JOHN TROY](#); [Amy Bennett](#);
Subject: 2007 Meeting to discuss Operation of Saluda Hydro and effects on dissolved oxygen in the Lower Saluda River
Date: Monday, March 26, 2007 9:58:17 AM

This is to notify you that the starting time for the subject meeting scheduled for Tuesday, March 27 has been changed to 10:00 AM. Please make a note of this on your calendars. **Please note: The meeting location is Carolina Research Park (SCE&G Engineering Office) on the northeast side of town (111 Research Drive, Columbia, SC 29203).**

Julie – The phone number in the conference room for you to call in is 803-217-7397.

[William R. Argentieri](#)
South Carolina Electric & Gas Company
111 Research Drive
Columbia, SC 29203

Phone - (803) 217-9162
Fax - (803) 933-7849
Cell - (803) 331-0179

From: Alison Guth
To: [Theresa Thom](#); [Alison Guth](#); [Amanda Hill](#); [Bill Argentieri](#); [Bud Badr](#); [Dick Christie](#); [Gerrit Jobsis \(American Rivers\)](#); [Hal Beard](#); [Jennifer Hand](#); [Jim Glover](#); [Malcolm Leaphart](#); [Mike Waddell](#); [Milton Quattlebaum \(mquattlebaum@scana.com\)](#); [Prescott Brownell](#); [Randy Mahan](#); [Ron Ahle](#); [Scott Harder](#); [Shane Boring](#); [Steve Summer](#); [Brandon Kulik](#); [Alan Stuart](#);
Subject: IFIM Conference Call
Start: Tuesday, April 10, 2007 9:00:00 AM
End: Tuesday, April 10, 2007 11:00:00 AM
Location: Conf. Call - phone number information forthcoming

Hello All,

At Shane's request, I am issuing the formal meeting notice for the IFIM conference call to discuss substrate criteria. It has been scheduled for next Tuesday from 9:00am to 11:00am. The discussion information is included in the memo attached to Shane's previous email (sent 3-30). We will be using the SCE&G 1-800 number for our call and I will send you that information by Monday. Thanks, and feel free to email Shane or I with any questions that you may have regarding this call. Alison

From: [Alison Guth](#)
To: [Alison Guth](#); [Alan Stuart](#); ["Gerrit Jobsis"](#); ["PatrickM@scccl.org"](#); ["Prescott. Brownell@noaa.gov"](#); ["Julie Gantenbein"](#); ["Amy Bennett"](#); ["Ray Ammarell"](#);
cc: ["Bill Argentieri"](#); ["Mike Summer"](#); ["Steve Summer"](#); ["RMahan@scana.com"](#);
["BOWLES, THOMAS M"](#); ["BJMcManus@jonesday.com"](#); ["Jim Ruane"](#);
Subject: DO Settlement Meeting final Notes
Date: Friday, May 25, 2007 11:45:31 AM
Attachments: [2007-3-27 final Meeting Minutes - Annual Saluda Hydro DO Settlement Meeting.pdf](#)

Hello all,

Attached are the Final Meeting Notes from the March 27th Settlement Meeting. Thanks! Alison

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
101 Trade Zone Drive
Suite 21A
West Columbia, SC 29170
P: (803) 822-3177
F: (803) 822-3183

From: [Alison Guth](#)
To: ["Julie Gantenbein"](#); ["Gerrit Jobsis"](#); [Alan Stuart](#); ["Amanda_Hill@fws.gov"](#);
["Hal Beard"](#); ["Prescott.Brownell@noaa.gov"](#); ["Gina Kirkland"](#); ["Richard Roos-Collins"](#); ["Jim Cumberland"](#); ["Dchristie@coporium.net"](#);
cc: [BARGENTIERI@scana.com](#); ["Mike Summer"](#); ["Steve Summer"](#);
[RMAHAN@scana.com](#); ["BOWLES, THOMAS M"](#); ["BJMcManus@jonesday.com"](#); ["Jim Ruane"](#);
Subject: RE: 2007 Operations Report For Saluda Hydro
Date: Friday, March 21, 2008 10:52:30 AM

Hello all,

For those of you who are calling into the meeting on Wednesday, the call-in information will be sent out on Monday. The SCE&G contact who has the call-in information is out of the office until that time.

Thanks,
Alison

-----Original Message-----

From: Julie Gantenbein [mailto:JGantenbein@n-h-i.org]
Sent: Friday, March 21, 2008 10:47 AM
To: 'Gerrit Jobsis'; Alan Stuart; Alison Guth; Amanda_Hill@fws.gov; Hal Beard; Prescott.Brownell@noaa.gov; Gina Kirkland; Richard Roos-Collins; Jim Cumberland; Dchristie@coporium.net
Cc: BARGENTIERI@scana.com; Mike Summer; Steve Summer; RMAHAN@scana.com; BOWLES, THOMAS M; BJMcManus@jonesday.com; Jim Ruane
Subject: RE: 2007 Operations Report For Saluda Hydro

Alan and/or Alison:

Will you also please send out call-in information? Thank you. Julie

*Julie Gantenbein
Staff Attorney
Natural Heritage Institute
1423 Marshall Street
Houston, Texas 77006
(707) 931-0034
(866) 779-4316 (efax)
jgantenbein@n-h-i.org
www.n-h-i.org*

From: Gerrit Jobsis [mailto:gjobsis@americanrivers.org]
Sent: Thursday, March 20, 2008 2:57 PM
To: Alan Stuart; Alison Guth; Amanda_Hill@fws.gov; Hal Beard; Prescott. Brownell@noaa.gov; Gina Kirkland; Richard Roos-Collins; Julie Gantenbein; Jim Cumberland; Dchristie@coporium.net
Cc: Bill Argentieri; Mike Summer; Steve Summer; RMahan@scana.com; BOWLES, THOMAS M; BJMcManus@jonesday.com; Jim Ruane
Subject: RE: 2007 Operations Report For Saluda Hydro

Alan,

We're looking forward to the meeting. Can you send out the time and location. I can't find it.

Thanks

Gerrit

Gerrit Jobsis, American Rivers
Southeast Regional Director
2231 Devine Street, Suite 202, Columbia, S.C. 29205
803.771.7114 (t) 803.771.7580 (f)
gjobsis@americanrivers.org

Stand up for healthy rivers: Join the eRiver Community to download music, wallpaper and more. www.AmericanRivers.org/eRiver

From: Alan Stuart [mailto:Alan.Stuart@KleinschmidtUSA.com]
Sent: Monday, March 17, 2008 2:24 PM
To: Alison Guth; Gerrit Jobsis; Amanda_Hill@fws.gov; Hal Beard; Prescott. Brownell@noaa.gov; Gina Kirkland; rrcollins@n-h-i.org; Julie Gantenbein; Jim Cumberland; Dchristie@coporium.net
Cc: Bill Argentieri; Mike Summer; Steve Summer; RMahan@scana.com; BOWLES, THOMAS M; BJMcManus@jonesday.com; Jim Ruane
Subject: 2007 Operations Report For Saluda Hydro

Good afternoon all,

Attached to this email is a draft copy of the 2007 Operations report for Saluda Hydro. As was the case in 2006, dissolved oxygen levels were

kept at or above standards for most of the low DO season during 2007. Please review the document and be prepared to ask any questions at our meeting next Wednesday (March 26th). Our goal as always will be to discuss the findings from 2007 and begin developing the operating plan for the 2008 low DO season.

On another note, you will also be receiving on Wednesday or Thursday of this week a report on the turbine venting work conducted last year. If you have questions on that work you will also have a chance to ask them next week.

thanks !

Alan

From: [Alison Guth](#)
To: [Alison Guth](#); ["Julie Gantenbein"](#); ["Gerrit Jobsis"](#); [Alan Stuart](#); ["Amanda_Hill@fws.gov"](#); ["Hal Beard"](#); ["Prescott.Brownell@noaa.gov"](#); ["Gina Kirkland"](#); ["Richard Roos-Collins"](#); ["Jim Cumberland"](#); ["Dchristie@coporium.net"](#);
cc: [BARGENTIERI@scana.com](#); ["Mike Summer"](#); ["Steve Summer"](#); [RMAHAN@scana.com](#); ["BOWLES, THOMAS M"](#); ["BJMcManus@jonesday.com"](#); ["Jim Ruane"](#);
Subject: Operations Meeting For Saluda Hydro
Date: Monday, March 24, 2008 4:22:23 PM

Hello folks,

For those of you who have notified me that you will be attending the 2008 DO Settlement Meeting Wednesday via conference call, the call-in information is below:

Long Distance Phone Number – 888-500-7717 Meeting ID 2580

The conference call will begin at 9:30. We only have 4 call-in slots available which are reserved for those individuals out of town and unable to make the meeting (Julie Gantenbein, Richard Roos-Collins and Amanda Hill). Thus there is one available call in position if an emergency arises.

Hope everyone had a happy Easter,

Alison

-----Original Message-----

From: Alison Guth

Sent: Friday, March 21, 2008 10:52 AM

To: 'Julie Gantenbein'; 'Gerrit Jobsis'; Alan Stuart; [Amanda_Hill@fws.gov](#); Hal Beard; [Prescott.Brownell@noaa.gov](#); Gina Kirkland; Richard Roos-Collins; [Jim Cumberland](#); [Dchristie@coporium.net](#)

Cc: [BARGENTIERI@scana.com](#); Mike Summer; Steve Summer; [RMAHAN@scana.com](#); BOWLES, THOMAS M; [BJMcManus@jonesday.com](#); Jim Ruane

Subject: RE: 2007 Operations Report For Saluda Hydro

[Hello all,](#)

[For those of you who are calling into the meeting on Wednesday, the call-in information will be sent out on Monday. The SCE&G contact who has the call-in information is out of the office until that time.](#)

Thanks,
Alison

-----Original Message-----

From: Julie Gantenbein [mailto:JGantenbein@n-h-i.org]
Sent: Friday, March 21, 2008 10:47 AM
To: 'Gerrit Jobsis'; Alan Stuart; Alison Guth; Amanda_Hill@fws.gov; Hal Beard; Prescott.Brownell@noaa.gov; Gina Kirkland; Richard Roos-Collins; Jim Cumberland; Dchristie@coporium.net
Cc: BARGENTIERI@scana.com; Mike Summer; Steve Summer; RMAHAN@scana.com; BOWLES, THOMAS M; BJMcManus@jonesday.com; Jim Ruane
Subject: RE: 2007 Operations Report For Saluda Hydro

Alan and/or Alison:

Will you also please send out call-in information? Thank you. Julie

Julie Gantenbein
Staff Attorney
Natural Heritage Institute
1423 Marshall Street
Houston, Texas 77006
(707) 931-0034
(866) 779-4316 (efax)
jgantenbein@n-h-i.org
www.n-h-i.org

From: Gerrit Jobsis [mailto:gjobsis@americanrivers.org]
Sent: Thursday, March 20, 2008 2:57 PM
To: Alan Stuart; Alison Guth; Amanda_Hill@fws.gov; Hal Beard; Prescott.Brownell@noaa.gov; Gina Kirkland; Richard Roos-Collins; Julie Gantenbein; Jim Cumberland; Dchristie@coporium.net
Cc: Bill Argentieri; Mike Summer; Steve Summer; RMahan@scana.com; BOWLES, THOMAS M; BJMcManus@jonesday.com; Jim Ruane
Subject: RE: 2007 Operations Report For Saluda Hydro

Alan,

We're looking forward to the meeting. Can you send out the time and location. I can't find it.

Thanks

Gerrit

Gerrit Jobsis, American Rivers
Southeast Regional Director
2231 Devine Street, Suite 202, Columbia, S.C. 29205
803.771.7114 (t) 803.771.7580 (f)
gjobsis@americanrivers.org

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From: Alan Stuart [mailto:Alan.Stuart@KleinschmidtUSA.com]
Sent: Monday, March 17, 2008 2:24 PM
To: Alison Guth; Gerrit Jobsis; Amanda_Hill@fws.gov; Hal Beard; Prescott.Brownell@noaa.gov; Gina Kirkland; rrcollins@n-h-i.org; Julie Gantenbein; Jim Cumberland; Dchristie@coporium.net
Cc: Bill Argentieri; Mike Summer; Steve Summer; RMahan@scana.com; BOWLES, THOMAS M; BJMcManus@jonesday.com; Jim Ruane
Subject: 2007 Operations Report For Saluda Hydro

Good afternoon all,

Attached to this email is a draft copy of the 2007 Operations report for Saluda Hydro. As was the case in 2006, dissolved oxygen levels were kept at or above standards for most of the low DO season during 2007. Please review the document and be prepared to ask any questions at our meeting next Wednesday (March 26th). Our goal as always will be to discuss the findings from 2007 and begin developing the operating plan for the 2008 low DO season.

On another note, you will also be receiving on Wednesday or Thursday of this week a report on the turbine venting work conducted last year. If you have questions on that work you will also have a chance to ask them next week.

thanks !
Alan

Dave: I read the recreational flow recommendations and from the IFIM TWC flows exceeding 4000 cfs is detrimental to all the aquatic life in the river, except for sturgeon. So TU position is fish first. I will be attending this meeting.

Mike

From: Dave Anderson [mailto:Dave.Anderson@KleinschmidtUSA.com]

Sent: Wednesday, February 06, 2008 3:39 PM

To: Tony Bebbler; Bill Argentieri; Bill Marshall; Charlene Coleman; Dave Anderson; Guy Jones; J. Hamilton Hagood; Jennifer Summerlin; Jim Cumberland ; Karen Kustafik; Kelly Maloney; Malcolm Leaphart; Mike Waddell

Cc: Randy Mahan

Subject: Recreational Flow Recommendations and Meeting

Downstream Flows TWC Members,

Attached is the initial draft issue recommendation that includes a recreational flow schedule for the lower Saluda River. This schedule is based on flow requests submitted by American Whitewater.

We will be meeting on Monday, February 18th at 10 am at the Lake Murray Training Center to discuss these requests and recommendation.

Let me know if you have any questions.

Dave

<<Recreational Flow Releases Recommendation (2008-02-05;DRAFT).doc>>

Carl Bussells

From: Alison Guth
Sent: Tuesday, February 26, 2008 11:00 AM
To: 'Amanda_Hill@fws.gov'
Subject: RE: 2008 Meeting to discuss Operation of Saluda Hydro and effects on dissolved oxygen in the Lower Saluda River

Hey Amanda,

Unfortunately, I think this is the only day that Jim can come down before the required meeting due date. I could send you the conference call-in information closer to the date of the meeting if you would like. You could call in for as long or as little as you are able.

Sorry about the inconvenience,

Alison

-----Original Message-----

From: Amanda_Hill@fws.gov [mailto:Amanda_Hill@fws.gov]

Sent: Monday, February 25, 2008 11:59 AM

To: Alison Guth

Cc: Alan Stuart; BARGENTIERI@scana.com; Hal Beard; BJMcManus@jonesday.com; dchristie@infoave.net; Julie Gantenbein; Gerrit Jobsis; Jim Cumberland; Jim Ruane; Gina Kirkland; Mike Summer; Prescott.Brownell@noaa.gov; RMAHAN@scana.com; rrcollins@n-h-i.org; Steve Summer; BOWLES, THOMAS M

Subject: Re: 2008 Meeting to discuss Operation of Saluda Hydro and effects on dissolved oxygen in the Lower Saluda River

Alison, I am unable to attend meetings out of town on Wednesdays.

Amanda Hill
Fisheries Biologist
U.S. Fish and Wildlife Service
176 Croghan Spur Rd., Suite 200
Charleston, SC 29407
843-727-4707 ext. 303
843-727-4218 fax
amanda_hill@fws.gov

"For all at last returns to the sea -
to Oceanus, the ocean river,
like the everflowing stream of time,
the beginning and the end." -Rachel Carson

"Alison Guth" <Alison.Guth@KleinschmidtUSA.com>

02/22/2008 01:57 PM

To
"Alan Stuart" <Alan.Stuart@KleinschmidtUSA.com>, "Gerrit Jobsis" <gjobsis@americanrivers.org>, <Amanda_Hill@fws.gov>, <dchristie@infoave.net>, "Hal Beard" <BeardH@scdnr.state.sc.us>, <Prescott.Brownell@noaa.gov>, "Gina Kirkland" <KIRKLAGL@dhec.sc.gov>, <rrcollins@n-h-i.org>, "Julie Gantenbein" <gantenbein@n-h-i.org>, "Jim Cumberland" <jimc@scccl.org>

cc
"Bill Argentieri" <BArgentieri@scana.com>, "Mike Summer" <MSummer@scana.com>, "Steve Summer" <SSummer@scana.com>, <RMahan@scana.com>, "BOWLES, THOMAS M" <TBOWLES@scana.com>, <BJMcManus@jonesday.com>, "Jim Ruane" <jimruane@comcast.net>
Subject

2008 Meeting to discuss Operation of Saluda Hydro and effects on dissolved oxygen in the Lower Saluda River

Good Afternoon Everyone,

It is time to convene our annual meeting to review the operation of Saluda Hydro and the potential effects on dissolved oxygen levels in the lower Saluda River. As you know, the terms of the settlement agreement require SCE&G to meet with the South Carolina Coastal Conservation League, American Rivers and resource agencies before March 31st of each year. Additionally, an operations plan for 2008 must be developed and submitted by June 30th. Since we are quickly approaching these due dates, we would like to meet with all of you from 9:00 to 2:00 on Wednesday, March 26, 2008. The location of this year's meeting will be at SCE&G's Lake Murray Training Center.

We are currently preparing the operational report for 2007 and should have this our for your review in the upcoming weeks.

If you know of anyone from your department or organization that was not included on this email , but you feel should be present at the meeting please let me know.

Lunch will be provided so please let me know if you plan on attending and if you have any special dietary needs.

If you have any questions please contact Alan Stuart or myself.

Thanks,
Alison

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
204 Caughman Farm Lane, Suite 301
Lexington, SC 29072
Phone 803-951-2077
Fax 803-951-2124

From: Amanda_Hill@fws.gov
To: [Alison Guth](mailto:Alison_Guth);
cc: [Alan Stuart](mailto:Alan_Stuart); BARGENTIERI@scana.com; [Hal Beard](mailto:Hal_Beard); BJMcManus@jonesday.com; dchristie@infoave.net;
[Julie Gantenbein](mailto:Julie_Gantenbein); [Gerrit Jobis](mailto:Gerrit_Jobis); [Jim Cumberland](mailto:Jim_Cumberland); [Jim Ruane](mailto:Jim_Ruane); [Gina Kirkland](mailto:Gina_Kirkland); [Mike Summer](mailto:Mike_Summer); [Prescott Brownell@noaa.gov](mailto:Prescott_Brownell@noaa.gov); RMAHAN@scana.com; rrcollins@n-h-i.org; [Steve Summer](mailto:Steve_Summer); [BOWLES, THOMAS M](mailto:BOWLES_THOMAS_M);
Subject: Re: 2008 Meeting to discuss Operation of Saluda Hydro and effects on dissolved oxygen in the Lower Saluda River
Date: Monday, February 25, 2008 12:20:55 PM

Alison, I am unable to attend meetings out of town on Wednesdays.

Amanda Hill
Fisheries Biologist
U.S. Fish and Wildlife Service
176 Croghan Spur Rd., Suite 200
Charleston, SC 29407
843-727-4707 ext. 303
843-727-4218 fax
amanda_hill@fws.gov

"For all at last returns to the sea -
to Oceanus, the ocean river,
like the everflowing stream of time,
the beginning and the end." -Rachel Carson

"Alison Guth" <Alison.Guth@KleinschmidtUSA.com>

02/22/2008 01:57 PM

To "Alan Stuart" <Alan.Stuart@KleinschmidtUSA.com>, "Gerrit Jobis" <gjobis@americanrivers.org>, <Amanda_Hill@fws.gov>, <dchristie@infoave.net>, "Hal Beard" <BeardH@scdnr.state.sc.us>, <Prescott.Brownell@noaa.gov>, "Gina Kirkland" <KIRKLAGL@dhec.sc.gov>, <rrcollins@n-h-i.org>, "Julie Gantenbein" <gantenbein@n-h-i.org>, "Jim Cumberland" <jimc@sccl.org>
cc "Bill Argentieri" <BArgentieri@scana.com>, "Mike Summer" <MSummer@scana.com>, "Steve Summer" <SSummer@scana.com>, <RMahan@scana.com>, "BOWLES, THOMAS M" <TBOWLES@scana.com>, <BJMcManus@jonesday.com>, "Jim Ruane" <jimruane@comcast.net>

Subject 2008 Meeting to discuss Operation of Saluda Hydro and effects on dissolved oxygen in the Lower Saluda River

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We are currently preparing the operational report for 2007 and should have this out for your review in the upcoming weeks.

If you know of anyone from your department or organization that was not included on this email , but you feel should be present at the meeting please let me know.

Lunch will be provided so please let me know if you plan on attending and if you have any special dietary needs.

If you have any questions please contact Alan Stuart or myself.

Thanks,
Alison

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
204 Caughman Farm Lane, Suite 301
Lexington, SC 29072
Phone 803-951-2077
Fax 803-951-2124

From: [Alison Guth](#)
To: ["Rebecca Spratlin";](#)
Subject: RE: Saluda FERC meetings
Date: Wednesday, May 21, 2008 4:42:54 PM

Hello,

There is actually one tomorrow at the Saluda Shoals Park River's Conference Center that begins at 9:30 to discuss the water allocation model developed for Saluda. You would probably be most interested in the water quality TWC and RCG (Technical Working Committee and Resource Conservation Group). Mark Giffin from DHEC also attends these meetings. We can talk about this more tomorrow however if you are able to make the meeting. I will add you to all the distribution list and let you decide which meetings you would like to attend.

Alison

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
204 Caughman Farm Lane, Suite 301
Lexington, SC 29072
Phone 803-951-2077
Fax 803-951-2124

-----Original Message-----

From: Rebecca Spratlin [mailto:SPRATLRH@dhec.sc.gov]
Sent: Wednesday, May 21, 2008 8:32 AM
To: Alison Guth
Subject: Saluda FERC meetings

Alison,

I'd like to start attending some of the meetings. Although, I'm not sure what all the acronyms stand for on the website calendar. Can you tell me which meetings would be appropriate for DHEC to attend? And/or is there an email list for meeting notifications you could add me to?

Thanks,

Rebecca Haynes Spratlin
Watershed Manager - Saluda and Savannah Basins

SC Dept. of Health and Environmental Control
Bureau of Water
Division of Water Quality
2600 Bull Street
Columbia, SC 29201
office: 803-898-4211
fax: 803-898-4140

Carl Bussells

Subject: Meeting to Discuss Low Inflow Protocol for Saluda
Location: Carolina Reserach Park
Start: Wed 4/9/2008 2:00 PM
End: Wed 4/9/2008 4:00 PM
Show Time As: Tentative
Recurrence: (none)
Meeting Status: Not yet responded

Hello all,

As arraigned yesterday, there will be a meeting to discuss the Low Inflow Protocol at Saluda on Wednesday, April 9 at 2:00. The meeting will take place at the SCE&G offices at Carolina Research Park (directions below). Email me if you have any questions. Thanks, Alison

<<Carolina Research Park - Directions.pdf>>



Carolina Research
Park - Direc...

My comments are in "track changes".

Tony Bebber, AICP

Planning Manager, Recreation, Planning & Engineering Office
SC Department of Parks, Recreation & Tourism
1205 Pendleton Street
Columbia, SC 29201
Phone 803-734-0189
Fax 803-734-1042
tbebber@scprt.com

Shaping & Sharing a Better South Carolina

websites: www.DiscoverSouthCarolina.com www.SouthCarolinaParks.com www.SCTrails.net

From: Jennifer Hand [mailto:Jennifer.Hand@KleinschmidtUSA.com]

Sent: Friday, February 29, 2008 3:27 PM

To: Tony Bebber; Alan Stuart; Bill Argentieri; Bill Marshall; Charlene Coleman; Dave Anderson; Guy Jones; J. Hamilton Hagood; Jennifer Summerlin; Jim Cumberland ; Karen Kustafik; Malcolm Leaphart; Matthew Rice ; Mike Waddell; Randy Mahan

Subject: Saluda Relicensing: February 25, 2008 Downstream Flows TWC draft meeting notes

All:

Attached for your review and comment are the February 25, 2008 Downstream Flows Technical Working Committee draft meeting notes. Please have comments back to me by March 14, 2008.

<<2008-02-25 Saluda Downstream Flows Meeting Notes DRAFT jms.doc>>

Thanks,

Jennifer S. Hand

Biologist

Kleinschmidt Associates

204 Caughman Farm Lane, Suite 301

Lexington, SC 29072

P:803.951.2077

F:803.951.2124

From: [Alison Guth](#)
To: ["Carl Sundius"](#)
Subject: RE: Updated: All RCG's Meeting - Operations Model
Date: Friday, May 16, 2008 2:10:48 PM

Hey Carl,

I am still trying to work out the details... Tommy is getting with Bell to see what exactly they want to look at. I will keep you posted. Thanks! Alison

-----Original Message-----

From: Carl Sundius [mailto:CSundius@SC.RR.com]
Sent: Wednesday, May 14, 2008 9:44 AM
To: Alison Guth
Subject: RE: Updated: All RCG's Meeting - Operations Model

Alison

Some how I must have deleted the email regarding the boat. Yes the offer still stands, just give me times and date again. I could start here; people living on this side can meet here, and then pick up the rest of the people some where on the other side.

Just let me know

Carl

-----Original Message-----

From: Alison Guth [mailto:Alison.Guth@KleinschmidtUSA.com]
Sent: Monday, May 12, 2008 9:56 AM
To: All RCG & TWC Members; Gerrit Jobsis; Dave Anderson; Kustafik, Karen; RMAHAN@scana.com; David Price; Feleke Arega; SUMMER, STEPHEN E; Mark Giffin; BARGENTIERI@scana.com; BOWLES, THOMAS M; SUMMER, MICHAEL C; skeener@sc.rr.com; adventurec@mindspring.com; HOFFMAN, VAN B; rbull@davisfloyd.com; Mike Waddell; Alan Stuart; James Glover; Vivianne Vejdani; Dobrasko, Rebekah; Jim Cumberland; Shane Boring; Larry Turner; Gina Kirkland; Bret Hoffman; BOOZER, THOMAS C; Irvin Pitts; AMMARELL, RAYMOND R; Ed Diebold; Ron Ahle; QUATTLEBAUM, MILTON; Carl Sundius
Subject: Updated: All RCG's Meeting - Operations Model

When: Thursday, May 22, 2008 9:30 AM-3:00 PM (GMT-05:00)

Eastern Time (US & Canada).

Where: Saluda Shoals Park, Rivers Conference Center

~~*~*~*~*~*~*~*~*

Hello Folks,

Just an update, we will be holding this meeting at the Saluda Shoals Park Rivers Conference Center (up at the top of the hill). Email me with any questions. Thanks, Alison

Previous Message:

Hello all,

Well, after much hard work from all of the TWC's, many of the inputs have been identified for the Operations Model. Jon Quebbeman is scheduled to join us in order to review and discuss the model results on Thursday, May 22, at 9:30. the meeting will likely last into the early afternoon. I would like to get a head count ASAP in order to book a room of the appropriate size, as this is an All RCG's Meeting. So please let me know if you can attend, or will likely attend, as soon as possible. Thanks, and I will email out location information soon.
Alison

Carl Bussells

From: LEAPHART, JR., MALCOLML [MALCOLML@mailbox.sc.edu]
Sent: Friday, February 22, 2008 4:25 PM
To: Dave Anderson
Cc: mwaddell@esri.sc.edu; marshallb@dnr.sc.gov; christied@dnr.sc.gov; tbeber@scprt.com; mrice@americanrivers.org; ahler@dnr.sc.gov; beardh@dnr.sc.gov; selfr@dnr.sc.gov
Subject: RE: Meeting Dates and Documents to Review



RECFLOWX.doc (32 KB)

Dave,

Attached is a Word doc with suggested revisions to the coldwater fishery recommendations for the Recreation group, including a new title and an emphasis on the recommendations next going to the Fish & Wildlife group. Look forward to having these discussed at an upcoming Rec. meeting. Please circulate to others on the Rec RCG beyond those included in this note. Thanks...

From: Dave Anderson [mailto:Dave.Anderson@KleinschmidtUSA.com]

Sent: Thu 2/14/2008 2:33 PM

To: LEAPHART, JR., MALCOLML

Cc: mwaddell@esri.sc.edu; marshallb@dnr.sc.gov; christied@dnr.sc.gov; tbeber@scprt.com; mrice@americanrivers.org; ahler@dnr.sc.gov; beardh@dnr.sc.gov; selfr@dnr.sc.gov

Subject: RE: Meeting Dates and Documents to Review

Malcolm,

The recommendation as written is considered "draft". I would welcome any suggestions for improving the recommendation and we can discuss your suggestions at an upcoming TWC meeting.

Dave

-----Original Message-----

From: LEAPHART, JR., MALCOLML [mailto:MALCOLML@mailbox.sc.edu]

Sent: Tuesday, February 12, 2008 8:41 AM

To: Dave Anderson

Cc: mwaddell@esri.sc.edu; marshallb@dnr.sc.gov; christied@dnr.sc.gov; tbeber@scprt.com; mrice@americanrivers.org; ahler@dnr.sc.gov; beardh@dnr.sc.gov; selfr@dnr.sc.gov

Subject: RE: Meeting Dates and Documents to Review

Are the trout fisheries recommendations in your 2/6/2008 email intended for input to the Fish & Wildlife RCG for further refinement? Or, do you intend to publish them as drafted from the Recreation Management TWC? TU considers the recommendations to be weak as written now, but we are not sure to which group to offer our comments for improving them... The Fish and Wildlife RCG seems more appropriate as the recommendations should reflect not only the recreational point of view, but the concerns and needs for a healthy fishery which is of course the driver for angling as a recreation. Look forward to your clarification.

From: Dave Anderson [mailto:Dave.Anderson@KleinschmidtUSA.com]

Sent: Wed 2/6/2008 4:28 PM

To: Van Hoffman; Bill Argentieri; Bill Marshall; Dave Anderson; David Hancock; dchristie@comporium.net; George Duke; Jennifer Summerlin; Jim Cumberland ; Joy Downs; Lee Barber; LEAPHART, JR., MALCOLML; Randy Mahan; Steve Bell; Tim Vinson; Tommy Boozer; Tony Bebber; Alison Guth; Alan Stuart

Subject: Meeting Dates and Documents to Review

Recreation Management TWC Members,

I know things have been a little quiet in our group lately, but things are getting ready to pick up substantially. I have attached several draft "issue recommendations" for you to begin to review that will ultimately become part of the Recreation Plan. The issues come from our "Identified Issues" that are not covered under the Recreation Plan itself (facilities).

The first of these is the issue recommendation for "conservation of lands". We will be having a meeting on February 20th at 10 am at the Lake Murray Training Center to discuss this issue in light of the "focus group proposal" that Jim Cumberland sent around a couple of weeks ago.

<<Natural-Undeveloped Lands Issue Recommendation (2008-02-05;DRAFT).doc>>

The other two issue recommendations that I would like to introduce are for "protecting the coldwater fishery on the LSR" and "impacts of lake level".

<<Coldwater Fishery Issue Recommendation (2008-02-05;DRAFT).doc>> <<Lake Level Issue Recommendation (2008-02-05;DRAFT).doc>>

We can discuss these on the 20th, but I want to make sure we cover the focus group proposal first. If we don't get to them on the 20th, we have other meetings scheduled where we can discuss them.

Finally, we will be having meetings on March 3 and March 4. Right now, the Lake Murray Training Center is only available on March 3, but may be available on March 4. I will let everyone know the specifics of this meeting as it approaches. I will be sending out the draft Recreation Plan soon and we will use these two dates to present the Plan, hear any other recommendations from stakeholders (DNR, PRT, etc.), and answer any questions you may have on the Plan.

As always, let me know if you have any questions.

Dave

Carl Bussells

From: Matt Rice [MRice@americanrivers.org]
Sent: Friday, February 22, 2008 4:44 PM
To: LEAPHART, JR., MALCOLML; Dave Anderson
Cc: mwaddell@esri.sc.edu; marshallb@dnr.sc.gov; christied@dnr.sc.gov; tbebber@scprt.com; ahler@dnr.sc.gov; beardh@dnr.sc.gov; selfr@dnr.sc.gov
Subject: RE: Meeting Dates and Documents to Review

Dave,

TU's comments on the coldwater fishery recommendation are consistent with American Rivers'. Thanks and see you Monday.

Matt

Matthew Rice

Associate Director Southeast Conservation

American Rivers

2231 Devine Street, Suite 202, Columbia, SC 29205

Phone: 803-771-7206

Fax: 803-771-7580

mrice@americanrivers.org

www.americanrivers.org

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www.americanrivers.org/eriver

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As always, let me know if you have any questions.

Dave

Carl Bussells

Subject: Economics TWC - Lake and Land Subcommittee
Location: Lake Murray Training Center

Start: Fri 12/14/2007 9:30 AM
End: Fri 12/14/2007 12:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Required Attendees: Lake and Land - Economic Resource Values Subcommittee

Hello folks,

Hope everyone is doing well. Just a reminder that we will be having an Economics TWC sub-committee meeting next Friday, December 14th at the Lake Murray Training Center. Tommy and David will be presenting a re-balancing presentation and we should adjourn before lunch. Thanks! Alison

Alison Guth

Licensing Coordinator

Kleinschmidt Associates

204 Caughman Farm Lane, Suite 301

Lexington, SC 29072

Phone 803-951-2077

Fax 803-951-2124

Carl Bussells

Subject: Economics TWC - Lake and Land Subcommittee
Location: Lake Murray Training Center

Start: Fri 12/14/2007 9:30 AM
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Alison Guth

Licensing Coordinator

Kleinschmidt Associates

204 Caughman Farm Lane, Suite 301

Lexington, SC 29072

Phone 803-951-2077

Fax 803-951-2124

From: [Alison Guth](#)
To: "gjobsis@americanrivers.org";
cc: [Alan Stuart](#);
Subject: FW: 2008 Meeting to discuss Operation of Saluda Hydro and effects on dissolved oxygen in the Lower Saluda River
Date: Thursday, March 20, 2008 4:46:47 PM

[Here you go...](#)

-----Original Message-----

From: Alison Guth

Sent: Friday, February 22, 2008 1:59 PM

To: Alan Stuart; 'Gerrit Jobsis'; 'Amanda_Hill@fws.gov'; 'dchristie@infoave.net'; 'Hal Beard'; 'Prescott. Brownell@noaa.gov'; 'Gina Kirkland'; 'rrcollins@n-h-i.org'; 'Julie Gantenbein'; 'Jim Cumberland'

Cc: BARGENTIERI@scana.com; 'Mike Summer'; 'Steve Summer'; RMAHAN@scana.com; 'BOWLES, THOMAS M'; 'BJMcManus@jonesday.com'; 'Jim Ruane'

Subject: 2008 Meeting to discuss Operation of Saluda Hydro and effects on dissolved oxygen in the Lower Saluda River

Good Afternoon Everyone,

It is time to convene our annual meeting to review the operation of Saluda Hydro and the potential effects on dissolved oxygen levels in the lower Saluda River. As you know, the terms of the settlement agreement require SCE&G to meet with the South Carolina Coastal Conservation League, American Rivers and resource agencies before March 31st of each year. Additionally, an operations plan for 2008 must be developed and submitted by June 30th. Since we are quickly approaching these due dates, we would like to meet with all of you from 9:00 to 2:00 on Wednesday, March 26, 2008. The location of this year's meeting will be at SCE&G's Lake Murray Training Center.

We are currently preparing the operational report for 2007 and should have this our for your review in the upcoming weeks.

If you know of anyone from your department or organization that was not included on this email , but you feel should be present at the meeting please let me know.

Lunch will be provided so please let me know if you plan on attending and if you have any special dietary needs.

If you have any questions please contact Alan Stuart or myself.

Thanks,
Alison

Alison Guth

Licensing Coordinator

Kleinschmidt Associates

204 Caughman Farm Lane, Suite 301

Lexington, SC 29072

Phone 803-951-2077

Fax 803-951-2124

Carl Bussells

From: Tony Bebber [tbebbber@scprt.com]
Sent: Tuesday, February 26, 2008 9:46 AM
To: Matt Rice; Dave Anderson; Alan Stuart; BARGENTIERI@scana.com; Bill Marshall; Charlene Coleman; Guy Jones; J. Hamilton Hagood; Jennifer Hand; Jim Cumberland ; Karen Kustafik; Malcolm Leaphart; Mike Waddell; RMAHAN@scana.com
Cc: Bret Hoffman; Alison Guth
Subject: RE: 02-25-08 Downstream Flows TWC Meeting Agenda

Thanks for the summary Matt. I think you caught most of the discussion. Changes I would suggest for improved clarity are:

The May-Sept. "wade fishing" flows should probably be listed as "wade fishing/swim" as we discussed because part of the concern is for the rock hoppers and current/future park and greenway users.

It was my understanding from the discussion that flows for striped bass passage are needed April 15-May 15. If additional flows are not needed in early April and late May, I would list those flows as 700-1000 cfs to give SCE&G more flexibility there. If additional flows are needed then, leave them as listed at 1000.

Thanks again for the summary while it was still fresh in our minds. And thanks to SCE&G for considering the request.

Tony Bebber, AICP

Planning Manager, Recreation, Planning & Engineering Office

SC Department of Parks, Recreation & Tourism
1205 Pendleton Street
Columbia, SC 29201
Phone 803-734-0189
Fax 803-734-1042
tbebbber@scprt.com

Shaping & Sharing a Better South Carolina

websites: www.DiscoverSouthCarolina.com www.SouthCarolinaParks.com www.SCTrails.net

From: Matt Rice [mailto:MRice@americanrivers.org]
Sent: Monday, February 25, 2008 7:04 PM
To: Dave Anderson; Tony Bebber; Alan Stuart; Bill Argentieri; Bill Marshall; Charlene Coleman; Guy Jones; J. Hamilton Hagood; Jennifer Hand; Jim Cumberland ; Karen Kustafik; Malcolm Leaphart; Mike Waddell; Randy Mahan
Cc: Bret Hoffman; Alison Guth
Subject: RE: 02-25-08 Downstream Flows TWC Meeting Agenda

Here are some brief notes from today's meeting. I also updated Bill Marshall's recreation chart because I figured it was easiest to follow.

See you all soon,

Matt

Matthew Rice

Associate Director Southeast Conservation

American Rivers

2231 Devine Street, Suite 202, Columbia, SC 29205

Phone: 803-771-7206

Fax: 803-771-7580

mrice@americanrivers.org

www.americanrivers.org

Stand up for Healthy Rivers; Join the eRiver Community to download music, wallpapers, and more.
www.americanrivers.org/eriver

From: Dave Anderson [mailto:Dave.Anderson@KleinschmidtUSA.com]

Sent: Thursday, February 21, 2008 11:52 AM

To: Dave Anderson; Tony Bebbler; Alan Stuart; Bill Argentieri; Bill Marshall; Charlene Coleman; Dave Anderson; Guy Jones; J. Hamilton Hagood; Jennifer Hand; Jim Cumberland ; Karen Kustafik; Malcolm Leaphart; Matt Rice; Mike Waddell; Randy Mahan

Cc: Bret Hoffman; Alison Guth

Subject: RE: 02-25-08 Downstream Flows TWC Meeting Agenda

Good morning;

Attached is the flow schedule that Matt Rice will presenting at next week's meeting. See y'all on Monday.

Dave

<<Recommendations for Recreational Flow Releases on the Lower Saluda River.doc>>

Carl Bussells

From: Matt Rice [MRice@americanrivers.org]
Sent: Monday, February 25, 2008 7:04 PM
To: Dave Anderson; Tony Bebbler; Alan Stuart; BARGENTIERI@scana.com; Bill Marshall; Charlene Coleman; Guy Jones; J. Hamilton Hagood; Jennifer Hand; Jim Cumberland ; Karen Kustafik; Malcolm Leaphart; Mike Waddell; RMAHAN@scana.com
Cc: Bret Hoffman; Alison Guth
Subject: RE: 02-25-08 Downstream Flows TWC Meeting Agenda



Revised Draft
Recommendations ...



Draft RecFlows
table.doc (58 K...

Here are some brief notes from today's meeting. I also updated Bill Marshall's recreation chart because I figured it was easiest to follow.

See you all soon,

Matt

Matthew Rice

Associate Director Southeast Conservation

American Rivers

2231 Devine Street, Suite 202, Columbia, SC 29205

Phone: 803-771-7206

Fax: 803-771-7580

mrice@americanrivers.org

www.americanrivers.org

Stand up for Healthy Rivers; Join the eRiver Community to download music, wallpapers, and more.

www.americanrivers.org/eriver

From: Dave Anderson [mailto:Dave.Anderson@KleinschmidtUSA.com]

Sent: Thursday, February 21, 2008 11:52 AM

To: Dave Anderson; Tony Bebbler; Alan Stuart; Bill Argentieri; Bill Marshall; Charlene Coleman; Dave Anderson; Guy Jones; J. Hamilton Hagood; Jennifer Hand; Jim Cumberland ; Karen Kustafik; Malcolm Leaphart; Matt Rice; Mike Waddell; Randy Mahan

Cc: Bret Hoffman; Alison Guth

Subject: RE: 02-25-08 Downstream Flows TWC Meeting Agenda

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Attached is the flow schedule that Matt Rice will presenting at next week's meeting. See y'all on Monday.

Dave

<<Recommendations for Recreational Flow Releases on the Lower Saluda River.doc>>

-----Original Message-----

From: Dave Anderson

Sent: Tuesday, February 19, 2008 12:07 PM

To: Tony Bebber; Alan Stuart; Bill Argentieri; Bill Marshall; Charlene Coleman; Dave Anderson; Guy Jones; J. Hamilton Hagood; Jennifer Summerlin; Jim Cumberland ; Karen Kustafik; Malcolm Leaphart; Matthew Rice ; Mike Waddell; Randy Mahan

Cc: Bret Hoffman; Alison Guth

Subject: 02-25-08 Downstream Flows TWC Meeting Agenda

Downstream Flows TWC Members:

Attached is the agenda for our meeting on February 25th at 10 am at the Lake Murray Training Center.

I have also attached the recommendation that I sent around previously--remember the flow schedule in this document was requested by American Whitewater.

SCPRT also requested some additional flows in a letter from Tony B. dated February 8, 2008:

"add some portions of days where flows will be "no more than 1,000 cfs." State holidays and a couple of weekends per month would be appreciated (something wade anglers could "count on" to be relatively safe). Half days are fine (mornings in warm weather, maybe 11 to mid-afternoon in cold weather). Some of those December-February days can be great for fishing – since DNR usually stocks in early December. Spring months definitely need some "wade fishing time periods." If I was going to leave out some days for wade fishing, it'd be Sept-Nov., but if the DO levels continue to improve, that may be hard to give up too."

Also, Matt Rice, with American Rivers, has also requested some meeting time to present a proposal that, as I understand it, was crafted by some people in our TWC.

Finally, I have not forgotten about the DVDs. I will bring copies of the DVDs to the meeting on the 25th; if you are unable to attend the meeting and would still like a copy, let me know your mailing address and I will send you some via snail mail.

Please reply back to Alison if you are planning on attending the meeting so we can get a count for lunch.

See y'all next week,

Dave

<< File: 2008-02-25 Downstream Flows TWC Agenda.doc >> << File: Recreational Flow Releases Recommendation (2008-02-05;DRAFT).doc >>

Carl Bussells

From: Bill Marshall [MarshallB@dnr.sc.gov]
Sent: Thursday, February 21, 2008 3:04 PM
To: Dave Anderson; Tony Bebbler; Alan Stuart; BARGENTIERI@scana.com; Charlene Coleman; Guy Jones; J. Hamilton Hagood; Jennifer Hand; Jim Cumberland ; Karen Kustafik; Malcolm Leaphart; Matthew Rice ; Mike Waddell; RMAHAN@scana.com
Cc: Bret Hoffman; Alison Guth
Subject: RE: 02-25-08 Downstream Flows TWC Meeting Agenda



Draft RecFlows
table.doc (47 K...

For your assistance -- as I was thinking through this proposed flow schedule, I decided to put the text into a table and account for the requested days and hours. See attachment. It may be helpful to us (me) on Monday. The table also includes some edits/questions in red.

Bill

From: Dave Anderson [mailto:Dave.Anderson@KleinschmidtUSA.com]
Sent: Thursday, February 21, 2008 11:52 AM
To: Dave Anderson; Tony Bebbler; Alan Stuart; Bill Argentieri; Bill Marshall; Charlene Coleman; Dave Anderson; Guy Jones; J. Hamilton Hagood; Jennifer Hand; Jim Cumberland ; Karen Kustafik; Malcolm Leaphart; Matthew Rice ; Mike Waddell; Randy Mahan
Cc: Bret Hoffman; Alison Guth
Subject: RE: 02-25-08 Downstream Flows TWC Meeting Agenda

Good morning;

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Dave

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-----Original Message-----

From: Dave Anderson
Sent: Tuesday, February 19, 2008 12:07 PM
To: Tony Bebbler; Alan Stuart; Bill Argentieri; Bill Marshall; Charlene Coleman; Dave Anderson; Guy Jones; J. Hamilton Hagood; Jennifer Summerlin; Jim Cumberland ; Karen Kustafik; Malcolm Leaphart; Matthew Rice ; Mike Waddell; Randy Mahan

Cc: Bret Hoffman; Alison Guth
Subject: 02-25-08 Downstream Flows TWC Meeting Agenda

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Also, Matt Rice, with American Rivers, has also requested some meeting time to present a proposal that, as I understand it, was crafted by some people in our TWC.

Finally, I have not forgotten about the DVDs. I will bring copies of the DVDs to the meeting on the 25th; if you are unable to attend the meeting and would still like a copy, let me know your mailing address and I will send you some via snail mail.

Please reply back to Alison if you are planning on attending the meeting so we can get a count for lunch.

See y'all next week,

Dave

<< File: 2008-02-25 Downstream Flows TWC Agenda.doc >> << File: Recreational Flow Releases Recommendation (2008-02-05;DRAFT).doc >>

Carl Bussells

From: Matt Rice [MRice@americanrivers.org]
Sent: Friday, February 22, 2008 10:55 AM
To: Dave Anderson; Tony Bebbler; Alan Stuart; BARGENTIERI@scana.com; Bill Marshall; Charlene Coleman; Guy Jones; J. Hamilton Hagood; Jennifer Hand; Jim Cumberland ; Karen Kustafik; Malcolm Leaphart; Mike Waddell; RMAHAN@scana.com
Cc: Bret Hoffman; Alison Guth
Subject: RE: 02-25-08 Downstream Flows TWC Meeting Agenda



Recommendations
for Recreation...

Hi Dave,

I made a few updates on the recommendations after receiving some feedback from members of the TWC. Specifically, I included recreational releases for holidays and attempted to clear up any confusion concerning safe recreational flows—flows that do not exceed 1000cfs at any time during hours/days dedicated wade fishing and flows that do not exceed target releases for boating.

Thanks,

Matt

Matthew Rice

Associate Director Southeast Conservation

American Rivers

2231 Devine Street, Suite 202, Columbia, SC 29205

Phone: 803-771-7206

Fax: 803-771-7580

mrice@americanrivers.org

www.americanrivers.org

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www.americanrivers.org/eriver

From: Dave Anderson [mailto:Dave.Anderson@KleinschmidtUSA.com]

Sent: Thursday, February 21, 2008 11:52 AM

To: Dave Anderson; Tony Bebber; Alan Stuart; Bill Argentieri; Bill Marshall; Charlene Coleman; Dave Anderson; Guy Jones; J. Hamilton Hagood; Jennifer Hand; Jim Cumberland ; Karen Kustafik; Malcolm Leaphart; Matt Rice; Mike Waddell; Randy Mahan

Cc: Bret Hoffman; Alison Guth

Subject: RE: 02-25-08 Downstream Flows TWC Meeting Agenda

Good morning;

Attached is the flow schedule that Matt Rice will presenting at next week's meeting. See y'all on Monday.

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-----Original Message-----

From: Dave Anderson

Sent: Tuesday, February 19, 2008 12:07 PM

To: Tony Bebber; Alan Stuart; Bill Argentieri; Bill Marshall; Charlene Coleman; Dave Anderson; Guy Jones; J. Hamilton Hagood; Jennifer Summerlin; Jim Cumberland ; Karen Kustafik; Malcolm Leaphart; Matthew Rice ; Mike Waddell; Randy Mahan

Cc: Bret Hoffman; Alison Guth

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Please reply back to Alison if you are planning on attending the meeting so we can get a count for lunch.

See y'all next week,

Dave

<< File: 2008-02-25 Downstream Flows TWC Agenda.doc >> << File: Recreational Flow Releases Recommendation (2008-02-05;DRAFT).doc >>

From: Alison Guth
To: [Vivianne Vejdani](#) ; [Alan Stuart](#); [Bill Argentieri](#); [Bill Marshall](#);
[Charlene Coleman](#); [Dave Anderson](#); [Guy Jones](#); [J. Hamilton Hagood](#);
[Jennifer Hand](#); [Jim Cumberland](#) ; [Karen Kustafik](#); [Malcolm Leaphart](#);
[Matthew Rice](#) ; [Mike Waddell](#); [Randy Mahan](#); [Tony Bebber](#);
Subject: Downstream Flows TWC Meeting
Start: Wednesday, April 23, 2008 9:30:00 AM
End: Wednesday, April 23, 2008 3:00:00 PM
Location: Lake Murray Training Center

Hello all,

Just a reminder that there will be a Downstream Flows TWC meeting next Wednesday to discuss recreational flow requests. It will begin at 9:30 in room 103 of the Lake Murray Training Center. Please RSVP for lunch by Monday. Thanks! Alison

Carl Bussells

From: Alison Guth
Sent: Tuesday, March 25, 2008 4:19 PM
To: Alison Guth; Alan Stuart; 'Gerrit Jobsis'; 'Amanda_Hill@fws.gov'; 'dchristie@infoave.net'; 'Hal Beard'; 'Prescott.Brownell@noaa.gov'; 'Gina Kirkland'; 'rrcollins@n-h-i.org'; 'Julie Gantenbein'; 'Jim Cumberland'
Cc: BARGENTIERI@scana.com; 'Mike Summer'; 'Steve Summer'; RMAHAN@scana.com; 'BOWLES, THOMAS M'; 'BJMcManus@jonesday.com'; 'Jim Ruane'
Subject: 2008 DO Meeting 9:30 start

Hello folks,

We look forward to meeting with everyone tomorrow. One item to note, there was a typo in my original message that said we would be convening at 9:00. However, those of you who have been involved in our many meetings know that the general meeting start-up time is 9:30. **So just to clarify, the meeting will begin promptly at 9:30.** Sorry for the late notice and hope to see or speak with all of you tomorrow.

Alison

Alison Guth

Licensing Coordinator

Kleinschmidt Associates

204 Caughman Farm Lane, Suite 301

Lexington, SC 29072

Phone 803-951-2077

Fax 803-951-2124

-----Original Message-----

From: Alison Guth

Sent: Friday, February 22, 2008 1:59 PM

To: Alan Stuart; 'Gerrit Jobsis'; 'Amanda_Hill@fws.gov'; 'dchristie@infoave.net'; 'Hal Beard';

'Prescott.Brownell@noaa.gov'; 'Gina Kirkland'; 'rrcollins@n-h-i.org'; 'Julie Gantenbein'; 'Jim Cumberland'

Cc: BARGENTIERI@scana.com; 'Mike Summer'; 'Steve Summer'; RMAHAN@scana.com; 'BOWLES, THOMAS M'; 'BJMcManus@jonesday.com'; 'Jim Ruane'

Subject: 2008 Meeting to discuss Operation of Saluda Hydro and effects on dissolved oxygen in the Lower Saluda River

Good Afternoon Everyone,

It is time to convene our annual meeting to review the operation of Saluda Hydro and the potential effects on dissolved oxygen levels in the lower Saluda River. As you know, the terms of the settlement agreement require SCE&G to meet with the South Carolina Coastal Conservation League, American Rivers and resource agencies before March 31st of each year. Additionally, an operations plan for 2008 must be developed and submitted by June 30th. Since we are quickly approaching these due dates, we would like to meet with all of you from 9:00 to 2:00 on Wednesday, March 26, 2008. The location of this year's meeting will be at SCE&G's Lake Murray Training Center.

We are currently preparing the operational report for 2007 and should have this out for your review in the upcoming weeks.

If you know of anyone from your department or organization that was not included on this email ,

but you feel should be present at the meeting please let me know.

Lunch will be provided so please let me know if you plan on attending and if you have any special dietary needs.

If you have any questions please contact Alan Stuart or myself.

Thanks,
Alison

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
204 Caughman Farm Lane, Suite 301
Lexington, SC 29072
Phone 803-951-2077
Fax 803-951-2124

Carl Bussells

Subject: Updated: All RCG's Meeting - Operations Model
Location: Saluda Shoals Park, Rivers Conference Center

Start: Thu 5/22/2008 9:30 AM
End: Thu 5/22/2008 3:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Required Attendees: Alison Guth; All RCG & TWC Members; 'Gerrit Jobsis'; Dave Anderson; 'Kustafik, Karen'; RMAHAN@scana.com; 'David Price'; 'Feleke Arega'; 'SUMMER, STEPHEN E'; 'Mark Giffin'; BARGENTIERI@scana.com; 'BOWLES, THOMAS M'; 'SUMMER, MICHAEL C'; 'skeener@sc.rr.com'; 'adventurec@mindspring.com'; 'HOFFMAN, VAN B'; 'rbull@davisfloyd.com'; 'Mike Waddell'; Alan Stuart; 'James Glover'; 'Vivianne Vejdani'; 'Dobrasko, Rebekah'; 'Jim Cumberland'; Shane Boring; 'Larry Turner'; 'Gina Kirkland'; Bret Hoffman; 'BOOZER, THOMAS C'; Irvin Pitts; AMMARELL, RAYMOND R; 'Ed Diebold'; 'Ron Ahle'; QUATTLEBAUM, MILTON; Carl Sundius

Hello Folks,

Just an update, we will be holding this meeting at the Saluda Shoals Park Rivers Conference Center (up at the top of the hill). Email me with any questions. Thanks, Alison

Previous Message:

Hello all,

Well, after much hard work from all of the TWC's, many of the inputs have been identified for the Operations Model. Jon Quebbeman is scheduled to join us in order to review and discuss the model results on Thursday, May 22, at 9:30. the meeting will likely last into the early afternoon. I would like to get a head count ASAP in order to book a room of the appropriate size, as this is an All RCG's Meeting. So please let me know if you can attend, or will likely attend, as soon as possible. Thanks, and I will email out location information soon. Alison

Carl Bussells

From: Alison Guth
Sent: Tuesday, April 22, 2008 2:32 PM
To: 'Mark Giffin'
Subject: RE: All RCG's Meeting - Operations Model

Hello Mark,

We are not sure yet where the meeting on May 22nd will be but I will send out an email when something is booked. I will go ahead and forward you the meeting notice for the 21st as well.

Alison

-----Original Message-----

From: Mark Giffin [mailto:GIFFINMA@dhec.sc.gov]
Sent: Tuesday, April 22, 2008 7:53 AM
To: Alison Guth
Cc: Charles Hightower
Subject: Re: All RCG's Meeting - Operations Model

Alison-

Please let me know where this meeting will take place. Also, I was made aware by our staff that there is a TWC meeting to discuss the operations model on the 21st and that I am the designated attendee. Can you tell me where and when that meeting will take place? Thanks.

Mark A. Giffin
Project Manager
SCDHEC
Bureau of Water
(803) 898-4179
giffinma@dhec.sc.gov

>>> "Alison Guth" <Alison.Guth@KleinschmidtUSA.com> 4/17/2008 4:28 PM

>>> >>>

When: Thursday, May 22, 2008 9:30 AM-3:00 PM (GMT-05:00) Eastern Time (US & Canada).

Where: To Be Determined

~~*~*~*~*~*~*~*~*

Hello all,

Well, after much hard work from all of the TWC's, many of the inputs have been identified for the Operations Model. Jon Quebbeman is scheduled to join us in order to review and discuss the model results on Thursday, May 22, at 9:30. the meeting will likely last into the early afternoon. I would like to get a head count ASAP in order to book a room of the appropriate size, as this is an All RCG's Meeting. So please let me know if you can attend, or will likely attend, as soon as possible. Thanks, and I will email out location information soon. Alison

Carl Bussells

From: Alison Guth
Sent: Tuesday, April 29, 2008 9:01 AM
To: 'Sandra R'
Subject: RE: All RCG's Meeting - Operations Model

Hello Sandra,

There was no attachment but it was sent out as a Microsoft Calendar Reminder, so that may be why you had problems reading it. Below is the text of the email, email me if you have any questions. Alison

Hello all,

Well, after much hard work from all of the TWC's, many of the inputs have been identified for the Operations Model. Jon Quebbeman is scheduled to join us in order to review and discuss the model results on Thursday, May 22, at 9:30. the meeting will likely last into the early afternoon. I would like to get a head count ASAP in order to book a room of the appropriate size, as this is an All RCG's Meeting. So please let me know if you can attend, or will likely attend, as soon as possible. Thanks, and I will email out location information soon. Alison

-----Original Message-----

From: Sandra R [mailto:sandrar@ccppcrafts.com]
Sent: Monday, April 28, 2008 4:20 PM
To: Alison Guth
Subject: Re: All RCG's Meeting - Operations Model

Hi Alison,
I was not able to open the attachment. Can you re-send?
Thanks,
Sandra

On Thu, 17 Apr 2008 16:28:33 -0400, Alison Guth wrote

> When: Thursday, May 22, 2008 9:30 AM-3:00 PM (GMT-05:00) Eastern Time (US & Canada).

> Where: To Be Determined

> *~*~*~*~*~*~*~*~*~*

> Hello all,

> Well, after much hard work from all of the TWC's, many of the inputs have been identified for the Operations Model. Jon Quebbeman is scheduled to join us in order to review and discuss the model results on Thursday, May 22, at 9:30. the meeting will likely last into the early afternoon. I would like to get a head count ASAP in order to book a room of the appropriate size, as this is an All RCG's Meeting. So please let me know if you can attend, or will likely attend, as soon as possible. Thanks, and I will email out location information soon. Alison

Sandra Reinhardt
Catawba Indian Nation
THPO Archaeology Dept.
1536 Tom Steven Road
Rock Hill, SC 29730

803-328-2427 ext. 233

--

Open WebMail Project (<http://openwebmail.org>)

Carl Bussells

From: Alison Guth
Sent: Wednesday, April 30, 2008 4:13 PM
To: 'Miriam Atria'
Subject: RE: All RCG's Meeting - Operations Model

Hello,

I am a little unsure of what plan you are referring to. If you are referring to the Draft License Application it is posted to the website at <http://www.saludahydrorelicense.com/DraftApplication.htm>

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
204 Caughman Farm Lane, Suite 301
Lexington, SC 29072
Phone 803-951-2077
Fax 803-951-2124

-----Original Message-----

From: Miriam Atria [<mailto:miriam@lakemurraycountry.com>]
Sent: Wednesday, April 30, 2008 4:06 PM
To: Alison Guth
Subject: RE: All RCG's Meeting - Operations Model

Would you send me a copy of the draft plan.

Miriam Atria
President/CEO
(803) 781-5940 or 781-2105
(803) 781-6197 (Fax)
miriam@lakemurraycountry.com

...A Regional Tourism District
Promoting Columbia, Lexington, Newberry, Richland and Saluda

-----Original Appointment-----

From: Alison Guth [<mailto:Alison.Guth@KleinschmidtUSA.com>]
Sent: Thursday, April 17, 2008 4:29 PM
To: Winward point Yacht Club ; Aaron Small; Alan Axson; Alan Stuart; aharmon@lpagroup.com; Alison Guth; Amanda Hill; Amy Bennett; Bertina Floyd; Bill Argentieri; Bill Brebner ; Bill East; Bill Hulslander; Bill Marshall; Bill Mathias; bseibels@yahoo.com; Brandon Stutts ; Bret Hoffman; Brett Bursey; btrump@scana.com; Bud Badr; Buddy Baker ; Charlene Coleman; Charles Floyd; Charlie Compton; Charlie Rentz; Chris Page; ccantley@scdah.state.sc.us; Chuck Hightower ; Daniel Tufford; Dave Anderson; Dave Landis; David Allen; David Hancock; David Jones; David Price; Dee Dee Simmons ; dchristie@comporium.net; Don Tyler; Donald Eng; Ed Diebold; Edward Schnepel; aregaf@dnr.sc.gov; George Duke; Gerrit Jobsis (American Rivers); Gina Kirkland; Guy Jones; Hal Beard; Hank McKellar; ipitts@scprt.com; J. Hamilton Hagood; Jay Schabacher ; Jeff Duncan; Jennifer Price ; Jim Cumberland ; Jim

Devereaux; Jim Glover; Jim Goller; Jim Ruane ; JoAnn Butler; Joe Logan; Joel Huggins ; John and Rob Altenberg; johned44@bellsouth.net; John Frick; Jon Leader; Joy Downs; Karen Kustafik; Keith Ganz-Sarto; Ken Styer ; Ken Uschelbec; Kenneth Fox; Kristina Massey; turnerle@dhec.sc.gov; Lee Barber; Linda Lester ; Linda Schneider ; Malcolm Leaphart; giffinma@dhec.sc.gov; Matthew Rice ; Michael Murrell; Mike Duffy; Mike Sloan; msummer@scana.com; Mike Waddell; Miriam Atria; Norm Nicholson; Norman Ferris; Parkin Hunter; Phil Hamby ; Prescott Brownell; Randal Shealy; Randy Mahan; Ray Ammarell; Rebekah Dobrasko; rbull@davisfloyd.com; Rhett Bickley; Richard Kidder; Richard Mikell; SKEENER@sc.rr.com; Robert Lavisky; Ron Ahle; Ronald Scott; Roy Parker; ryanity@scana.com; S padget; Sandra Reinhardt; Sean Norris; Shane Boring; Sheri Armstrong ; Skeet Mills ; sjones@imichotels.net; Steve Bell; Steve Summer; Suzanne Rhodes; Synithia Williams; Theresa Powers; Theresa Thom; Tim Vinson; tbowles@scana.com; Tom Ruple; Tommy Boozer; Tony Bebbler; tylehowe@nc-chokeee.com; Van Hoffman; Vivianne Vejdani ; Wenonah Haire

Subject: All RCG's Meeting - Operations Model

When: Thursday, May 22, 2008 9:30 AM-3:00 PM (GMT-05:00) Eastern Time (US & Canada).

Where: To Be Determined

Hello all,

Well, after much hard work from all of the TWC's, many of the inputs have been identified for the Operations Model. Jon Quebbeman is scheduled to join us in order to review and discuss the model results on Thursday, May 22, at 9:30. the meeting will likely last into the early afternoon. I would like to get a head count ASAP in order to book a room of the appropriate size, as this is an All RCG's Meeting. So please let me know if you can attend, or will likely attend, as soon as possible. Thanks, and I will email out location information soon. Alison

Carl Bussells

Subject: Updated: All RCG's Meeting - Operations Model
Location: Saluda Shoals Park, Rivers Conference Center

Start: Thu 5/22/2008 9:30 AM
End: Thu 5/22/2008 3:00 PM
Show Time As: Tentative

Recurrence: (none)

Meeting Status: Not yet responded

Required Attendees: Alison Guth; All RCG & TWC Members; 'Gerrit Jobsis'; Dave Anderson; 'Kustafik, Karen'; RMAHAN@scana.com; 'David Price'; 'Feleke Arega'; 'SUMMER, STEPHEN E'; 'Mark Giffin'; BARGENTIERI@scana.com; 'BOWLES, THOMAS M'; 'SUMMER, MICHAEL C'; 'skeener@sc.rr.com'; 'adventurec@mindspring.com'; 'HOFFMAN, VAN B'; 'rbull@davisfloyd.com'; 'Mike Waddell'; Alan Stuart; 'James Glover'; 'Vivianne Vejdani'; 'Dobrasko, Rebekah'; 'Jim Cumberland'; Shane Boring; 'Larry Turner'; 'Gina Kirkland'; Bret Hoffman; 'BOOZER, THOMAS C'; Irvin Pitts; AMMARELL, RAYMOND R; 'Ed Diebold'; 'Ron Ahle'; QUATTLEBAUM, MILTON; Carl Sundius

Hello Folks,

Just an update, we will be holding this meeting at the Saluda Shoals Park Rivers Conference Center (up at the top of the hill). Email me with any questions. Thanks, Alison

Previous Message:

Hello all,

Well, after much hard work from all of the TWC's, many of the inputs have been identified for the Operations Model. Jon Quebbeman is scheduled to join us in order to review and discuss the model results on Thursday, May 22, at 9:30. the meeting will likely last into the early afternoon. I would like to get a head count ASAP in order to book a room of the appropriate size, as this is an All RCG's Meeting. So please let me know if you can attend, or will likely attend, as soon as possible. Thanks, and I will email out location information soon. Alison

Carl Bussells

From: Alison Guth
Sent: Wednesday, May 07, 2008 3:33 PM
To: 'Jim Ruane'
Subject: RE: All RCG's Meeting - Operations Model

Hey Jim,

Yes, I will forward you the information...

-----Original Message-----

From: Jim Ruane [mailto:jimruane@comcast.net]
Sent: Wednesday, May 07, 2008 3:28 PM
To: Alison Guth
Subject: Re: All RCG's Meeting - Operations Model

Hi Alison

I plan to attend

is there also a TWC meeting about this too, like on the previous day? I think Alan said there would be and that maybe I should attend that one, too(??)

Thanks, Jim

Richard J. Ruane, Reservoir Environmental Mgt., Inc.
900 Vine Street Suite 5
Chattanooga, TN 37403
423-265-5820; cell: 423-605-5820; Fax: 423-266-5217; jim@chatt.net

----- Original Message -----

From: [Alison Guth](#)
To: [Winward point Yacht Club](#); [Aaron Small](#); [Alan Axson](#); [Alan Stuart](#); [aharmon@lpagroup.com](#); [Alison Guth](#); [Amanda Hill](#); [Amy Bennett](#); [Bertina Floyd](#); [Bill Argentieri](#); [Bill Brebner](#); [Bill East](#); [Bill Hulslander](#); [Bill Marshall](#); [Bill Mathias](#); [bseibels@yahoo.com](#); [Brandon Stutts](#); [Bret Hoffman](#); [Brett Bursey](#); [btrump@scana.com](#); [Bud Badr](#); [Buddy Baker](#); [Charlene Coleman](#); [Charles Floyd](#); [Charlie Compton](#); [Charlie Rentz](#); [Chris Page](#); [ccantley@scdah.state.sc.us](#); [Chuck Hightower](#); [Daniel Tufford](#); [Dave Anderson](#); [Dave Landis](#); [David Allen](#); [David Hancock](#); [David Jones](#); [David Price](#); [Dee Dee Simmons](#); [dchristie@comporium.net](#); [Don Tyler](#); [Donald Eng](#); [Ed Diebold](#); [Edward Schnepel](#); [aregaf@dnr.sc.gov](#); [George Duke](#); [Gerrit Jobsis \(American Rivers\)](#); [Gina Kirkland](#); [Guy Jones](#); [Hal Beard](#); [Hank McKellar](#); [ipitts@scprt.com](#); [J. Hamilton Hagood](#); [Jay Schabacher](#); [Jeff Duncan](#); [Jennifer Price](#); [Jim Cumberland](#); [Jim Devereaux](#); [Jim Glover](#); [Jim Goller](#); [Jim Ruane](#); [JoAnn Butler](#); [Joe Logan](#); [Joel Huggins](#); [John and Rob Altenberg](#); [johned44@bellsouth.net](#); [John Frick](#); [Jon Leader](#); [Joy Downs](#); [Karen Kustafik](#); [Keith Ganz-Sarto](#); [Ken Styer](#); [Ken Uschelbec](#); [Kenneth Fox](#); [Kristina Massey](#); [turnerle@dhec.sc.gov](#); [Lee Barber](#); [Linda Lester](#); [Linda Schneider](#); [Malcolm Leaphart](#); [giffinma@dhec.sc.gov](#); [Matthew Rice](#); [Michael Murrell](#); [Mike Duffy](#); [Mike Sloan](#); [msummer@scana.com](#); [Mike Waddell](#); [Miriam Atria](#); [Norm Nicholson](#); [Norman Ferris](#); [Parkin Hunter](#); [Phil Hamby](#); [Prescott Brownell](#); [Randal Shealy](#); [Randy Mahan](#); [Ray Ammarell](#); [Rebekah Dobrasko](#);

rbull@davisfloyd.com ; [Rhett Bickley](#) ; [Richard Kidder](#) ; [Richard Mikell](#) ; SKEENER@sc.rr.com ; [Robert Lavisky](#) ; [Ron Ahle](#) ; [Ronald Scott](#) ; [Roy Parker](#) ; ryanity@scana.com ; [S padget](#) ; [Sandra Reinhardt](#) ; [Sean Norris](#) ; [Shane Boring](#) ; [Sheri Armstrong](#) ; [Skeet Mills](#) ; sjones@imichotels.net ; [Steve Bell](#) ; [Steve Summer](#) ; [Suzanne Rhodes](#) ; [Synithia Williams](#) ; [Theresa Powers](#) ; [Theresa Thom](#) ; [Tim Vinson](#) ; tbowles@scana.com ; [Tom Ruple](#) ; [Tommy Boozer](#) ; [Tony Bebber](#) ; tylehowe@nc-cherokee.com ; [Van Hoffman](#) ; [Vivianne Vejdani](#) ; [Wenonah Haire](#)

Sent: Thursday, April 17, 2008 4:28 PM

Subject: All RCG's Meeting - Operations Model

When: Thursday, May 22, 2008 9:30 AM-3:00 PM (GMT-05:00) Eastern Time (US & Canada).

Where: To Be Determined

~~*~*~*~*~*~*~*~*

Hello all,

Well, after much hard work from all of the TWC's, many of the inputs have been identified for the Operations Model. Jon Quebbeman is scheduled to join us in order to review and discuss the model results on Thursday, May 22, at 9:30. the meeting will likely last into the early afternoon. I would like to get a head count ASAP in order to book a room of the appropriate size, as this is an All RCG's Meeting. So please let me know if you can attend, or will likely attend, as soon as possible. Thanks, and I will email out location information soon. Alison

Carl Bussells

From: Jim Cumberland [jimc@scccl.org]
Sent: Tuesday, February 19, 2008 3:08 PM
To: Alison Guth
Cc: bellsteve9339@bellsouth.net; Dave Anderson
Subject: rebalancing proposal



Rec. Focus group
sum. proposal...

Alison,

Could you please do me a big favor & print 20 or so copies of this document: it is the summary of the "focus group" rebalancing proposal. I'll have it w/me in electronic form tomorrow, but don't have access to a copy machine.

Thanks,

Jim

Jim Cumberland
Project Manager
Coastal Conservation League
2231 Devine Street, Suite 202
Columbia, SC 29205
803.771.7750 (telephone)
803.771.7580 (facsimile)
jimc@scccl.org
www.coastalconservationleague.org

From: Alison Guth
To: [Jon Quebbeman](#); [Mike Schimpff](#); ["Feleke Arega"](#);
["AMMARELL, RAYMOND R"](#); ["ARGENTIERI, WILLIAM R"](#); [Alan Stuart](#);
["Bud Badr"](#); ["Vivianne Vejdani"](#); ["Jim Cumberland"](#); ["Larry Turner"](#);
[Bret Hoffman](#); ["Mark Giffin"](#); ["Jim Ruane"](#); [Alison Guth](#); [Alan Stuart](#);
[Amy Bennett](#); [Bob Olsen](#); [Bret Hoffman](#); [Mike Waddell](#);
Subject: Updated: Operations TWC Meeting
Start: Wednesday, May 21, 2008 9:30:00 AM
End: Wednesday, May 21, 2008 2:00:00 PM
Location: Lake Murray Training Center - Room 115

Hello all,

Just a reminder that there will be an Operations TWC meeting to discuss model outputs on Wednesday, May 21, beginning at 9:30. The meeting will be located at the Lake Murray Training Center, room 115. Please let me know if you will be attending so that I may make arrangements for lunch. Thanks, Alison

From: [Alison Guth](#)
To: "gjobsis@americanrivers.org";
cc: [Alan Stuart](#);
Subject: FW: 2008 Meeting to discuss Operation of Saluda Hydro and effects on dissolved oxygen in the Lower Saluda River
Date: Thursday, March 20, 2008 4:46:47 PM

[Here you go...](#)

-----Original Message-----

From: Alison Guth

Sent: Friday, February 22, 2008 1:59 PM

To: Alan Stuart; 'Gerrit Jobsis'; 'Amanda_Hill@fws.gov'; 'dchristie@infoave.net'; 'Hal Beard'; 'Prescott. Brownell@noaa.gov'; 'Gina Kirkland'; 'rrcollins@n-h-i.org'; 'Julie Gantenbein'; 'Jim Cumberland'

Cc: BARGENTIERI@scana.com; 'Mike Summer'; 'Steve Summer'; RMAHAN@scana.com; 'BOWLES, THOMAS M'; 'BJMcManus@jonesday.com'; 'Jim Ruane'

Subject: 2008 Meeting to discuss Operation of Saluda Hydro and effects on dissolved oxygen in the Lower Saluda River

Good Afternoon Everyone,

It is time to convene our annual meeting to review the operation of Saluda Hydro and the potential effects on dissolved oxygen levels in the lower Saluda River. As you know, the terms of the settlement agreement require SCE&G to meet with the South Carolina Coastal Conservation League, American Rivers and resource agencies before March 31st of each year. Additionally, an operations plan for 2008 must be developed and submitted by June 30th. Since we are quickly approaching these due dates, we would like to meet with all of you from 9:00 to 2:00 on Wednesday, March 26, 2008. The location of this year's meeting will be at SCE&G's Lake Murray Training Center.

We are currently preparing the operational report for 2007 and should have this our for your review in the upcoming weeks.

If you know of anyone from your department or organization that was not included on this email , but you feel should be present at the meeting please let me know.

Lunch will be provided so please let me know if you plan on attending and if you have any special dietary needs.

If you have any questions please contact Alan Stuart or myself.

Thanks,
Alison

Alison Guth

Licensing Coordinator

Kleinschmidt Associates

204 Caughman Farm Lane, Suite 301

Lexington, SC 29072

Phone 803-951-2077

Fax 803-951-2124

From: [Alison Guth](#)
To: [Alison Guth](#); [Alan Stuart](#); ["Gerrit Jobsis"](#); ["Amanda_Hill@fws.gov"](#); ["dchristie@infoave.net"](#); ["Hal Beard"](#); ["Prescott.Brownell@noaa.gov"](#); ["Gina Kirkland"](#); ["rrcollins@n-h-i.org"](#); ["Julie Gantenbein"](#); ["Jim Cumberland"](#); [Dick Christie \(dchristie@comporium.net\)](#);
cc: [BARGENTIERI@scana.com](#); ["Mike Summer"](#); ["Steve Summer"](#); [RMAHAN@scana.com](#); ["BOWLES, THOMAS M"](#); ["BJMcManus@jonesday.com"](#); ["Jim Ruane"](#);
Subject: 2008 DO Meeting 9:30 start
Date: Tuesday, March 25, 2008 4:25:05 PM

Hello folks,

We look forward to meeting with everyone tomorrow. One item to note, there was a typo in my original message that said we would be convening at 9:00. However, those of you who have been involved in our many meetings know that the general meeting start-up time is 9:30. **So just to clarify, the meeting will begin promptly at 9:30.** Sorry for the late notice and hope to see or speak with all of you tomorrow.

Alison

Alison Guth
Licensing Coordinator
Kleinschmidt Associates

204 Caughman Farm Lane, Suite 301
Lexington, SC 29072
Phone 803-951-2077
Fax 803-951-2124

-----Original Message-----

From: Alison Guth
Sent: Friday, February 22, 2008 1:59 PM
To: Alan Stuart; 'Gerrit Jobsis'; 'Amanda_Hill@fws.gov'; 'dchristie@infoave.net'; 'Hal Beard'; 'Prescott.Brownell@noaa.gov'; 'Gina Kirkland'; 'rrcollins@n-h-i.org'; 'Julie Gantenbein'; 'Jim Cumberland'
Cc: BARGENTIERI@scana.com; 'Mike Summer'; 'Steve Summer'; RMAHAN@scana.com; 'BOWLES, THOMAS M'; 'BJMcManus@jonesday.com'; 'Jim Ruane'
Subject: 2008 Meeting to discuss Operation of Saluda Hydro and effects on dissolved oxygen in the Lower Saluda River

From: [Jennifer Hand](#)
To: ["Tony Bebber"; Alan Stuart; "Bill Argentieri"; "Bill Marshall"; "Charlene Coleman"; Dave Anderson; "Guy Jones"; "J. Hamilton Hagood"; Jennifer Hand; "Jim Cumberland "; "Karen Kustafik"; "Malcolm Leaphart"; "Matthew Rice "; "Mike Waddell"; "Randy Mahan";](#)
Subject: Saluda Relicensing: February 25, 2008 Downstream Flows TWC draft meeting notes
Date: Friday, February 29, 2008 3:27:28 PM
Attachments: [2008-02-25 Saluda Downstream Flows Meeting Notes DRAFT jms.doc](#)

All:

Attached for your review and comment are the February 25, 2008 Downstream Flows Technical Working Committee draft meeting notes. Please have comments back to me by March 14, 2008.

Thanks,
Jennifer S. Hand
Biologist
Kleinschmidt Associates
204 Caughman Farm Lane, Suite 301
Lexington, SC 29072
P:803.951.2077
F:803.951.2124

From: [Feleke Arega](#)
To: [Alison Guth](#);
Subject: RE: Updated: Operations TWC Meeting
Date: Tuesday, May 20, 2008 1:50:11 PM

Alison, if it is not late the following people from DNR would like to attend tomorrow meeting.

- 1) Scott Harder
- 2) Titus Rotich

Thanks
Feleke Arega

From: Alison Guth [mailto:Alison.Guth@KleinschmidtUSA.com]
Sent: Thursday, May 15, 2008 3:36 PM
To: Feleke Arega
Subject: RE: Updated: Operations TWC Meeting

It is on the Lexington side. Thanks!

-----Original Message-----

From: Feleke Arega [mailto:AreagaF@dnr.sc.gov]
Sent: Thursday, May 15, 2008 3:32 PM
To: Alison Guth
Subject: RE: Updated: Operations TWC Meeting

[Lake Murray Training Center](#) , Is it on Lexington side or Irmo side?
thanks

Count me and Bud.

From: Alison Guth [mailto:Alison.Guth@KleinschmidtUSA.com]
Sent: Thursday, May 15, 2008 2:45 PM
To: Feleke Arega
Subject: RE: Updated: Operations TWC Meeting

Hello,

Yes, that is a mistake that I just realized. The operations TWC will be meeting separately on May 21 at the Lake Murray Training Center to review through the model before the larger "All RCG's Meeting" at Saluda Shoals Park on May 22.

Email if you have any other questions, Alison

-----Original Message-----

From: Feleke Arega [mailto:AregaF@dnr.sc.gov]

Sent: Thursday, May 15, 2008 2:27 PM

To: Alison Guth

Subject: RE: Updated: Operations TWC Meeting

Alison, is it May 21 or 22? The previous schedule was for May 22.

-----Original Appointment-----

From: Alison Guth [<mailto:Alison.Guth@KleinschmidtUSA.com>]

Sent: Thursday, May 15, 2008 2:27 PM

To: Jon Quebbeman; Mike Schimpff; Feleke Arega; AMMARELL, RAYMOND R; ARGENTIERI, WILLIAM R; Alan Stuart; Bud Badr; Vivianne Vejdani; Jim Cumberland; Larry Turner; Bret Hoffman; Mark Giffin; Jim Ruane; Alison Guth; Alan Stuart; Amy Bennett; Bob Olsen; Bret Hoffman; Mike Waddell

Subject: Updated: Operations TWC Meeting

When: Wednesday, May 21, 2008 9:30 AM-2:00 PM (GMT-05:00) Eastern Time (US & Canada).

Where: Lake Murray Training Center - Room 115

Hello all,

Just a reminder that there will be an Operations TWC meeting to discuss model outputs on **Wednesday, May 21**, beginning at 9:30. The meeting will be located at the **Lake Murray Training Center, room 115**. Please let me know if you will be attending so that I may make arrangements for lunch. Thanks, Alison

From: [Alison Guth](#)
To: [Tom Bowles \(tbowles@scana.com\)](#); [\(HDELK@scana.com\)](#); [Alan Stuart](#);
[Alison Guth](#); [Amanda Hill](#); [Amy Bennett](#); [Bill Argentieri](#);
["bjmcmanus@jonesday.com"](#); [Carlton Wood](#);
[Dick Christie \(dchristie@comporium.net\)](#); [Gerrit Jobsis \(CCL\)](#); [Gina Kirkland](#);
[Hal Beard](#); [Jim Cumberland](#) ; [Jim Ruane](#) ; [John Shelton \(jmshelto@usgs.gov\)](#); [Mark Giffin \(giffinma@dhec.sc.gov\)](#); [Mike Summer \(msummer@scana.com\)](#); [Milton Quattlebaum \(mquattlebaum@scana.com\)](#); [Prescott Brownell](#);
[Randy Mahan](#); [Ray Ammarell](#); [Sarah Ellisor](#) ; [Steve Summer](#);
Subject: Draft Meeting Notes from 3-26-08
Date: Tuesday, April 29, 2008 11:11:45 AM
Attachments: [2008-3-](#)
[26 draft Meeting Minutes - Annual Saluda Hydro DO Settlement Meeting.doc](#)

Hello all,
Attached are the draft meeting notes from the 2008 DO Settlement meeting that was held on March 26th. Please have any comments on these back to me by May 13th. Thanks, Alison

Alison Guth
Licensing Coordinator
Kleinschmidt Associates
204 Caughman Farm Lane, Suite 301
Lexington, SC 29072
Phone 803-951-2077
Fax 803-951-2124

From: [ARGENTIERI, WILLIAM R](#)
To: [Dave Anderson](#); [Bill Marshall](#); [Matt Rice](#); [Alison Guth](#); [Alan Stuart](#); [Charlene Coleman](#);
[Tony Bebber](#); [Mike Waddell](#); [LEAPHART, JR., MALCOLM](#); [Kustafik, Karen](#);
[Gerrit Jobsis](#); [Jim Cumberland](#); [Dave Anderson](#); [RMAHAN@scana.com](#);
Subject: Response to Recreation TWC Requests during June 11 Downstream Flow TWC Meeting
Date: Thursday, June 26, 2008 12:38:50 PM
Attachments: [ReleasePatterns.doc](#)

All,

At the Recreational Flow TWC meeting on June 11, SCE&G was asked to provide a write-up of our ability to accommodate two requests from the group. These two stakeholder requests were ramping during non-reserve generation events and for SCE&G to change their release pattern during non-reserve generation events. Attached is our response to these two requests.

[William R. Argentieri](#)
South Carolina Electric & Gas Company
111 Research Drive
Columbia, SC 29203

Phone - (803) 217-9162
Fax - (803) 933-7849
Cell - (803) 331-0179

From: [Prescott Brownell](#)
To: [Alison Guth](#);
cc: [Julie Gantenbein](#); [Gerrit Jobsis](#); [Alan Stuart](#); [Amanda_Hill@fws.gov](#);
[Hal Beard](#); [Gina Kirkland](#); [Richard Roos-Collins](#); [Jim Cumberland](#);
[Dchristie@coporium.net](#); [BARGENTIERI@scana.com](#); [Mike Summer](#);
[Steve Summer](#); [RMAHAN@scana.com](#); [BOWLES, THOMAS M](#);
[BJMcManus@jonesday.com](#); [Jim Ruane](#);
Subject: Re: Operations Meeting For Saluda Hydro
Date: Monday, March 24, 2008 6:00:38 PM

Thank you for arranging the meeting on Wednesday. I will be out of town with family to take advantage of the high school spring break. I look forward to hearing the meeting outcomes.

P. Brownell

Alison Guth wrote:

Hello folks,

For those of you who have notified me that you will be attending the 2008 DO Settlement Meeting Wednesday via conference call, the call-in information is below:

Long Distance Phone Number – 888-500-7717 Meeting ID 2580

The conference call will begin at 9:30. We only have 4 call-in slots available which are reserved for those individuals out of town and unable to make the meeting (Julie Gantenbein, Richard Roos-Collins and Amanda Hill). Thus there is one available call in position if an emergency arises.

Hope everyone had a happy Easter,

Alison

-----Original Message-----

From: Alison Guth

Sent: Friday, March 21, 2008 10:52 AM

To: 'Julie Gantenbein'; 'Gerrit Jobsis'; Alan Stuart;
[Amanda_Hill@fws.gov](#); Hal Beard; [Prescott.Brownell@noaa.](#)

[gov](#); Gina Kirkland; Richard Roos-Collins; Jim Cumberland;
Dchristie@coporium.net

Cc: BARGENTIERI@scana.com; Mike Summer; Steve
Summer; RMAHAN@scana.com; BOWLES, THOMAS M;
BJMcManus@jonesday.com; Jim Ruane

Subject: RE: 2007 Operations Report For Saluda Hydro

Hello all,

For those of you who are calling into the meeting on
Wednesday, the call-in information will be sent out on
Monday. The SCE&G contact who has the call-in
information is out of the office until that time.

Thanks,
Alison

-----Original Message-----

From: Julie Gantenbein [<mailto:JGantenbein@n-h-i.org>]

Sent: Friday, March 21, 2008 10:47 AM

To: 'Gerrit Jobsis'; Alan Stuart; Alison Guth;
Amanda_Hill@fws.gov; Hal Beard; [Prescott.](mailto:Prescott.Brownell@noaa.gov)

Brownell@noaa.gov; Gina Kirkland; Richard Roos-
Collins; Jim Cumberland; Dchristie@coporium.net

Cc: BARGENTIERI@scana.com; Mike Summer; Steve
Summer; RMAHAN@scana.com; BOWLES, THOMAS
M; BJMcManus@jonesday.com; Jim Ruane

Subject: RE: 2007 Operations Report For Saluda
Hydro

Alan and/or Alison:

Will you also please send out call-in information?
Thank you. Julie

*Julie Gantenbein
Staff Attorney
Natural Heritage Institute
1423 Marshall Street
Houston, Texas 77006*

(707) 931-0034
(866) 779-4316 (efax)
jgantenbein@n-h-i.org
www.n-h-i.org

From: Gerrit Jobsis [<mailto:gjobsis@americanrivers.org>]

Sent: Thursday, March 20, 2008 2:57 PM

To: Alan Stuart; Alison Guth; Amanda_Hill@fws.gov;
Hal Beard; Prescott.Brownell@noaa.gov; Gina
Kirkland; Richard Roos-Collins; Julie Gantenbein; Jim
Cumberland; Dchristie@coporium.net

Cc: Bill Argentieri; Mike Summer; Steve Summer;
RMahan@scana.com; BOWLES, THOMAS M;
BJMcManus@jonesday.com; Jim Ruane

Subject: RE: 2007 Operations Report For Saluda
Hydro

Alan,

We're looking forward to the meeting. Can you send out the time and location. I can't find it.

Thanks

Gerrit

Gerrit Jobsis, American Rivers
Southeast Regional Director
2231 Devine Street, Suite 202, Columbia, S.C. 29205
803.771.7114 (t) 803.771.7580 (f)
gjobsis@americanrivers.org

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Community to download music, wallpaper and
more. www.AmericanRivers.org/eRiver***

From: Alan Stuart [<mailto:Alan.Stuart@KleinschmidtUSA.com>]

Sent: Monday, March 17, 2008 2:24 PM

To: Alison Guth; Gerrit Jobsis; Amanda_Hill@fws.gov;
Hal Beard; Prescott.Brownell@noaa.gov; Gina
Kirkland; rrollins@n-h-i.org; Julie Gantenbein; Jim
Cumberland; Dchristie@coporium.net
Cc: Bill Argentieri; Mike Summer; Steve Summer;
RMahan@scana.com; BOWLES, THOMAS M;
BJMcManus@jonesday.com; Jim Ruane
Subject: 2007 Operations Report For Saluda Hydro

Good afternoon all,

Attached to this email is a draft copy of the 2007 Operations report for Saluda Hydro. As was the case in 2006, dissolved oxygen levels were kept at or above standards for most of the low DO season during 2007. Please review the document and be prepared to ask any questions at our meeting next Wednesday (March 26th). Our goal as always will be to discuss the findings from 2007 and begin developing the operating plan for the 2008 low DO season.

On another note, you will also be receiving on Wednesday or Thursday of this week a report on the turbine venting work conducted last year. If you have questions on that work you will also have a chance to ask them next week.

thanks !

Alan

From: [Alison Guth](#)
To: ["Feleke Arega";](#)
Subject: RE: Updated: Operations TWC Meeting
Date: Thursday, May 15, 2008 2:45:12 PM

Hello,

Yes, that is a mistake that I just realized. The operations TWC will be meeting separately on May 21 at the Lake Murray Training Center to review through the model before the larger "All RCG's Meeting" at Saluda Shoals Park on May 22.

Email if you have any other questions, Alison

-----Original Message-----

From: Feleke Arega [mailto:AregaF@dnr.sc.gov]
Sent: Thursday, May 15, 2008 2:27 PM
To: Alison Guth
Subject: RE: Updated: Operations TWC Meeting

Alison, is it May 21 or 22? The previous schedule was for May 22.

-----Original Appointment-----

From: Alison Guth [<mailto:Alison.Guth@KleinschmidtUSA.com>]
Sent: Thursday, May 15, 2008 2:27 PM
To: Jon Quebbeman; Mike Schimpff; Feleke Arega; AMMARELL, RAYMOND R; ARGENTIERI, WILLIAM R; Alan Stuart; Bud Badr; Vivianne Vejdani; Jim Cumberland; Larry Turner; Bret Hoffman; Mark Giffin; Jim Ruane; Alison Guth; Alan Stuart; Amy Bennett; Bob Olsen; Bret Hoffman; Mike Waddell
Subject: Updated: Operations TWC Meeting
When: Wednesday, May 21, 2008 9:30 AM-2:00 PM (GMT-05:00) Eastern Time (US & Canada).
Where: Lake Murray Training Center - Room 115

Hello all,

Just a reminder that there will be an Operations TWC meeting to discuss model outputs on **Wednesday, May 21**, beginning at 9:30. The meeting will be located at the **Lake Murray Training Center, room 115**. Please let me know if you will be attending so that I may make arrangements for lunch. Thanks, Alison

From: Tony Bebber
To: [Alison Guth;](#)
Subject: Accepted: Updated: All RCG"s Meeting - Operations Model
Start: Thursday, May 22, 2008 9:30:00 AM
End: Thursday, May 22, 2008 3:00:00 PM
Location: Saluda Shoals Park, Rivers Conference Center

From: [Alison Guth](#)
To: ["regis parsons";](#)
Subject: RE:
Date: Thursday, May 15, 2008 9:57:36 AM

Hello Regis,

It will begin at 9:30 at the Saluda Shoals Park Rivers Conference Center. There is no written agenda at this time but we will be running the Water Allocation model (operations model). I do need to order lunches for this meeting, so I do need a head count by close of business today.

Thanks, Alison

-----Original Message-----

From: regis parsons [mailto:rparsons12@alltel.net]
Sent: Thursday, May 15, 2008 9:26 AM
To: Alison Guth
Subject:

Alison

The Saluda Hydro website mentions a meeting of all RCGs set for May 22, 2008. Please tell me the time and place of this meeting. Also please send me a copy of the agenda if you have one.

Thanks!
Regis