

## **MEETING NOTES**

### **SOUTH CAROLINA ELECTRIC & GAS COMPANY Joint RCG Meeting**

**March 28, 2017**

Final KMK 05-02-17

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#### **ATTENDEES:**

Bill Argentieri (SCE&G)  
Ray Ammarell (SCE&G)  
Randy Mahan (SCE&G)  
Beth Trump (SCE&G)  
Caleb Gaston (SCE&G)  
Pace Wilber (NOAA) via conf. call  
Melanie Olds (USFWS)  
Rusty Wenerick (SCDHEC)  
David Eargle (SCDHEC)  
Alex Pellett (SCDNR) via conf. call

Dick Christie (SCDNR)  
Bill Marshall (SCDNR)  
Ron Ahle (SCDNR)  
Lorianne Riggin (SCDNR)  
Gerrit Jobsis (American Rivers)  
Bill Stangler (Congaree Riverkeeper)  
Henry Mealing (Kleinschmidt)  
Alison Jakupca (Kleinschmidt)  
Kelly Kirven (Kleinschmidt)

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

Henry opened the meeting with a safety moment and introductions. The purpose of the meeting was to review the Protection, Mitigation and Enhancement (PME) measures identified thus far throughout relicensing, and to discuss any new PME measures that stakeholders may propose. Specifically, the purpose of this meeting was to discuss environmentally related PMEs; a second meeting was scheduled for March 30<sup>th</sup> to discuss recreation and shoreline related PMEs. Henry said that SCE&G's goal is to file a settlement agreement with FERC at the same time that the Final License Application (FLA) is filed. Also, when the Draft License Application (DLA) is filed with FERC later this summer, SCE&G would like to include as many PMEs as possible, so that stakeholders have an opportunity to comment on them.

A PME memo was distributed to stakeholders prior to the meeting that listed all of the previously identified PME measures and SCE&G proposed response. The PowerPoint presentation that was used during the meeting is attached to the end of these notes.

#### **Monticello Fish Habitat Enhancements**

Due to poor habitat along the shoreline and reservoir fluctuations, stakeholders requested that SCE&G make efforts to enhance aquatic habitat in Monticello Reservoir. SCE&G is proposing to enhance spawning, juvenile and adult fish habitat in the reservoir. This will also help to offset entrainment losses by increasing fish recruitment and attracting fish to another area of the reservoir, away from the intake area. Bill M. asked if there were plans for a long term maintenance of the

program. Juvenile and adult enhancements are made of materials that will last for 40 years and will have no long term monitoring, but spawning enhancements will be monitored and adjusted as needed during the first 5 to 10 years of the new license. Bill A. said that after the enhancement is installed, for compliance purposes, the PME will be complete. He said that we won't be putting in trees or other substances that will decay fairly quickly over time, so maintenance shouldn't be needed. He added that if SCDNR wants to add trees to the reservoir, they are welcome to do so. Henry said that this enhancement plan was included in the Final Reservoir Fluctuation Report. He noted that this and other Adaptive Management Plans (AMPs) will be sent back out to the TWCs this summer to revisit and approve.

### **West Channel Water Quality Enhancements**

Low dissolved oxygen (DO) was found to occur in areas within the west channel downstream of Parr Shoals Dam, so SCE&G is developing an AMP to address this issue. The AMP will be provided to the Water Quality TWC within the next month for review and comment. Gerrit asked about the success criteria for monitoring. Henry said that from SCE&G's standpoint, success would be to meet the state standard for DO. Gerrit asked to see the locations for monitoring DO in the west channel. Henry said that Ron Ahle stated in a previous meeting that he would provide a grid of random sampling locations for monitoring. When SCE&G receives this, it will be included in the AMP. Generally, monitoring will occur at the upper and middle portions of the west channel, but not at the lower section, where the west channel converges with the east channel.

### **Turbine Venting Plan**

Rare occurrences of low DO were identified in the tailrace of Parr Shoals Dam. SCE&G determined that venting the turbines could increase DO slightly, so they developed a plan to vent turbines during the low DO season, generally from June 15 through August 31. Dick asked if there will be an AMP component the Turbine Venting Plan. He said that the window has already been extended through August and it may need to be extended even further if the low DO season shifts over the next 30-50 years. Henry said we will add a line into the Turbine Venting Plan to allow for the possibility of extending or adjusting the venting window if low DO becomes an issue outside of the existing window.

David Eargle asked if venting caused any issues within the Project. Bill A. said that venting does create a loss in efficiency and maybe some additional wear and tear on the turbines. He added that SCE&G is replacing the bearings on the turbines to make them more durable, which may actually allow for more air intake and thus making venting unnecessary.

### **American Eel Monitoring**

During the American eel study that was conducted as part of relicensing, a small number of eels were caught/observed downstream of Parr Shoals Dam. NOAA Fisheries asked SCE&G to conduct monitoring during the term of the new license to see if eels were moving up the Broad River to the base of the Parr Shoals Dam. Monitoring will be based on the number of eels passed at the St. Stephen Fish Lift and will only include electrofishing methods.

Melanie said that she is concerned about the frequency of monitoring. She said that 10 years might be too long between studies, and there is the possibility that the trigger to increase monitoring to

every 5 years could be hit soon after the 10 year monitoring mark. She said that the first 10 year interval may be okay, but after that waiting another 10 years may be too much. Bill A. said that this plan hasn't been completely drafted yet, so we can adjust the frequency. Melanie suggested that the plan allow for monitoring every 10 years or after "X" amount of eel passage occurs at a downstream dam.

Gerrit questioned the method of using only electrofishing to survey eels. Is electrofishing alone enough to accurately document the population? Henry said that in our studies, other gear types weren't effective and electrofishing was the only successful method downstream of the dam. The goal is to detect an increase in numbers of eel that justify passage upstream. Melanie suggested that open wording be used in the plan to allow for the use of new technology that may be available in the next 30-50 years.

Dick noted that the new license for Santee Cooper (issuance is pending) includes a fish passage component that might change things. Maybe this could be used as a check point. After fish passage is installed at Santee Cooper, revisit the eel monitoring efforts at Parr.

Kleinschmidt will draft up an American eel monitoring plan and send it to stakeholders for review.

### **Downstream Flow Fluctuations**

Stakeholders requested that SCE&G work to reduce downstream flow fluctuations year round and during spring spawning. SCE&G has identified several ways to accomplish this and will develop an AMP for this issue. Bill A. said he would like the AMP to account for a meeting each year to discuss the spring spawning flow stabilizations and a second meeting to discuss the year round flow stabilizations. He asked the group if this would be too many meetings. Dick said the meetings could be combined and that the AMP can be written to allow for flexibility with meeting. Melanie added that a two week window in the January timeframe should be included each year for agencies to give input on monitoring. SCE&G plans to have someone on site 24 hours a day for the two 14-day monitoring events to make hourly adjustments to the crest gates as needed.

### **Generator Upgrade at Parr Shoals Development**

SCE&G plans to upgrade the generators so that the turbines can pass more than 4,800 cfs, which is currently the maximum amount of water they can pass with current generator limitations. Ray said SCE&G would like to be able to increase this to 6,000 cfs, and also pass higher inflow through the turbines and reduce downstream flow fluctuations due to crest gate operation. Ray said they are still evaluating this, but they should have a decision on this by the time the DLA is issued.

Gerrit asked about the timeframe for making a definite decision on generator upgrades. Bill A. said this has to be in the FLA, so 2018 at the latest. Gerrit asked if there will be a net generation benefit. Ray said, yes, they should be able to pass more water through the powerhouse instead of spilling it.

### **Santee Basin Accord**

SCE&G is a signatory to and active participant in the Santee River Basin Accord for Diadromous Fish Protection, Restoration, and Enhancement (Accord) and will continue to be involved in this program. Bill S. asked how the flooding issues at the Columbia Hydro Project will affect the

Accord, since fish passage at Parr is based on passage numbers from Columbia. The City of Columbia could forfeit their license and the project could be decommissioned. What would happen to the license requirement of monitoring the fish passage facility? If there is no monitoring, would new triggers for fish passage at Parr be developed? Dick said that monitoring is a big responsibility and so is keeping the fishway operating, and he doesn't know if a state agency could take on this responsibility. No one knows exactly what will happen at Columbia in the future.

Henry suggested that the agencies discuss this with the Accord members and see if they have a suggestion.

### **Downstream Navigation Flows**

SCE&G completed navigation surveys at two ledge sites identified by the stakeholders as points of constriction in the Broad River. The surveys concluded that 700-1000 cfs is needed to safely navigate the two ledges. Gerrit said that American Rivers submitted written comments on this study and said that according to the navigation criteria included in the study plan, a flow of 1000 cfs is needed for navigation. Henry stated that the 700 cfs flow creates a channel over 60 feet wide and that a canoe, kayak, or jon boat should be able to navigate the most constricted ledge even if this doesn't strictly meet the criteria. Henry also noted that the criteria isn't a state statute but a recommendation from SCDNR.

Bill M. said that the Bookman Island complex is very complicated and navigation can be tricky. He asked if information is going to be provided that shows the best route to navigate the complex. Henry said that once minimum flows are settled, anyone who is interested will be invited to boat the area to verify navigation. He also said that a map that shows navigation routes will be developed and posted on SCE&G's website for public use.

### **Downstream Minimum Flows**

SCE&G plans to propose a continuous minimum flow for the new license. The Instream Flows TWC is still actively discussing what the new minimum flows should be. The TWC has agreed that there should be three flows, including a spring spawning flow, a transitional flow, and a low flow for summer months. SCE&G has been gathering additional information since the last TWC meeting and will distribute this information to the stakeholders soon. Stakeholders will have an opportunity to meet outside of the TWC to discuss this information, and then the entire TWC will reconvene to discuss and hopefully negotiate and agree to the three flows.

Dick said that since the last TWC meeting, SCDNR has internally discussed the possibility of having target flows and compliance flows, and giving SCE&G an "incentive" to meet the target flows. If flows aren't met for a certain period of time and are off by a certain amount, SCE&G would have to provide some sort of mitigation.

Gerrit said that the real goal is not to put SCE&G in a compliance bind, but to implement flows that will benefit the river as much as possible. He said if rules are developed that provide better downstream flows, instead of hard numbers for flows that might be more beneficial. He agrees with SCDNR's idea to provide an incentive/mitigation for meeting target flows.

The TWC has discussed possibly using the daily average of the previous day's inflow to develop a target for the following day's minimum flow, as suggested by Melanie at the previous TWC meeting.

Bill M. asked if there would be a low inflow protocol (LIP). Bill A. said that part of the new minimum flow proposal would be to take the place of a LIP. Ray said the compliance flow would be adjusted down until it hits inflow. A LIP can be cumbersome and it would be easier if it is built into the daily flow. Gerrit said he is optimistic that minimum flows can be agreed on, especially looking at how well things worked out during the Saluda relicensing. Melanie said that compliance flows could be set and target flows could be very adaptive. And flows could be readjusted through meetings if habitat goals are not met. Ron said that could mean a lot of field work and Melanie said it doesn't have to be done on a yearly basis. Henry reminded the group that this Project does not have a storage reservoir to supplement low inflows so future adjustments of flows may be limited. He also noted that the biggest driver for annual flows would be the basin hydrology – high, medium, or low water years as this changes from year to year.

Gerrit said that the way he understands the state law, the minimum flow applies to a section of river downstream of the Project. If an entity is withdrawing water downstream, such as the Town of Winnsboro, the withdrawal could bring a section of the river out of compliance during low flow periods. Either the Town of Winnsboro can only withdraw water when river flow is above some minimum flow, or SCE&G must release more water to make up for the Town of Winnsboro's withdraws. This is something for SCDHEC to consider as they approve withdrawals.

### **Dam Removal in the Broad River Basin**

Henry said that American Rivers presented the idea of SCE&G funding dam removals in the Broad River Basin early on in the relicensing. At this time, SCE&G is not proposing this as a PME measure.

Gerrit apologized for not providing information earlier, but is prepared to discuss this items further. He said that Parr Reservoir impounds 15 miles of the Broad River. Fluctuations in the reservoir and downstream cause impacts to aquatic habitat and recreation, and none of the proposed PMEs offset these impacts. He would like SCE&G to create a fund for dam removals, which would create riverine habitat in the basin to offset impacts to the Broad River. He would also like SCE&G to create new recreation resources to offset recreation impacts.

Gerrit provided the following requests to SCE&G:

- Recreation Enhancement – To offset impacts to water based recreation from the combined operation of FPSP and PSP, SCE&G will:
  - Provide funding and donate land for a non-motorize boat launch on the west bank of the Broad River in the vicinity of Haltiwanger Island;
  - Provide funding to develop a website that promotes recreation opportunities at the Broad and Enoree rivers in Richland, Lexington, Fairfield, Newberry, Laurens and Union counties;
  - Provide funding for developing, printing and distributing high quality, waterproof paddling maps for the Broad and Enoree rivers in Richland, Lexington, Fairfield, Newberry, Laurens and Union counties.

Decisions for how the funds are to be spent will be determined by a fiduciary board consisting of representatives of SCE&G, SCDNR, USFWS, Congaree Riverkeeper and American Rivers.

- Aquatic Habitat Enhancement - To offset impacts to aquatic habitat from the combined operation of FPSP and PSP, SCE&G will:
  - Provide funding for voluntary dam removals or floodplain restoration in the Broad, Congaree and lower Saluda watersheds
  - Fund at a rate of \$135,000 per year in 2017 dollars. This amount is based on an average cost of approximately \$410,000 per dam removal in 2017 dollars and the expectation to remove one dam for every three years of the license term.

Decisions for how the funds are to be spent will be determined by a fiduciary board consisting of representatives of SCE&G, SCDNR, USFWS, NMFS, Congaree Riverkeeper and American Rivers.

Henry mentioned that during the Recreation Use and Needs Study, the public did not indicate that there was a need for additional recreation opportunities downstream of the Project. Paddling enhancements were requested and are being addressed by enhancement of the Enoree River Bridge Recreation Site and Highway 34 Recreation Site. Alison J. said that only four people responded to the Recreation Flow Survey and the results didn't indicate a need or interest in additional downstream recreation. Bill A. said that if a recreation site were built outside of the PBL, FERC might want this land to be included in the PBL, and this is a concern for SCE&G. Bill A. asked Bill S. if he talked with SCE&G's Land Department to see if they would be interested in donating a piece of land for recreation, outside of the relicensing process or municipalities that would be interested in building and maintaining a recreation site. Bill S. said he hasn't talked with either of them yet.

Bill A. said that regarding the recreation maps, SCE&G is willing to develop these and house them on their existing website. Gerrit said that would be acceptable, or even house them on a separate website and just include a link on SCE&G's website. Gerrit said the maps could include information on safety, species in the area, and cultural connections in the area to educate recreators. Gerrit said he would provide examples.

Bill A. asked Gerrit if there are potentially 12 or more dams identified within the area that need to be removed. Gerrit said these are voluntary removals and approximately 40 dams have been identified in South Carolina. Once a dam is identified, American Rivers would approach the dam owner to see if they are interested in dam removal. He said they don't have any dams identified as ready for removal currently because there is no funding source. However, if funding becomes available, dams can be identified. Gerrit said he would provide a list of dams in the Broad River Basin and Congaree River tributaries that would be eligible for removal. Rusty said that maybe an application process could be implemented, where people can apply to have their dams removed. He said the SCDHEC dam safety program has lots of staff now, so they might be able to provide assistance.

Bill A. asked what is involved with a dam removal; what types of tasks would the money be used to fund? Gerrit said that the money would be used to fund things such as design engineering, in-channel work, planting, contaminant analysis with sediment sampling, construction/demolition, and permitting.



Ron said that if small dams are removed, there may not be a lot of benefit, but if there is one big dam removal, it might be more beneficial. He said there is so much variability in dam size, the rate of one dam removal for every three years can be confusing. Gerrit said he would like the funding level to be at one dam removal every three years, however, the program might not necessarily take out one dam every three years. A fiduciary committee would determine the best use of money. The committee may elect to save up for many years to provide funding for one large dam removal.

### **Other PME's**

At the end of the meeting, Henry asked the group if there were any other PME's they would like to discuss that had not previously been brought to the table.

Ron said that on the Recreation Lake, the boat ramp is very narrow and is bordered with rip-rap, making it very hard to launch a boat. He said that you have to walk out on the rip-rap, which can be dangerous. Ron asked that a courtesy dock be constructed at this boat ramp.

Ron also said that he would start a baseline study on fisheries in the west channel. He will put together a study proposal with the intention of starting the study this year. He plans to conduct three samples per year for two years to establish the baseline, and repeat the study again as changes are made. He also said he will provide the grid for sampling DO in the west channel, as he indicated at a previous meeting.

Bill M. said that SCDNR has been considering the unavoidable impact to aquatic resources in Parr Reservoir and the unavoidable impacts to the downstream area from flow fluctuations. While SCE&G is trying to minimize flow fluctuations, there will still be some fluctuation that will never be completely eliminated. In response, the PME measure that SCDNR has considered is establishment of a funding mechanism for various programs. He said that SCE&G could provide funding for an existing mitigation and enhancement program such as the Broad River Mitigation Trust Fund or the Santee Accord, or create a new in-license habitat enhancement program that would focus on the entire watershed.

SCDNR is also considering the effects of entrainment. They will continue to discuss how to reduce the impacts of entrainment with SCE&G, including the presence of lights or other “bells and whistles” to scare fish away. Bill M. said that some entrainment studies at other projects have shown that one intake may draw more fish in than others, so making operational changes may help reduce entrainment.

Bill A. said that SCE&G is already planning to make operational changes to reduce downstream flow fluctuations. If SCE&G was to create a fund, would they then not need to implement the operational changes? SCDNR seeks to avoid or minimize impacts as the initial steps of mitigation, and the operational changes are expected to reduce impacts but not eliminate them. Bill M. said there will still be some unavoidable fluctuations that will happen, and the fund will be to address these unavoidable impacts.

Melanie said that she didn't see any PME's that would monitor changes downstream after new minimum flows and reduced flow fluctuations are implemented, such as the mussel population. She said that monitoring could be tied back to the fund that SCDNR is proposing.

Caleb said that requesting funding for external goals should not be considered. Instead, any amount of money contributed to a fund should be based on losses from the Project. Gerrit said that he believes his proposal for contributions to dam removal is reasonable. He estimated that habitat and other losses from the Project are approximately \$96 million due to the impoundment of 15 miles of the Broad River by Parr Reservoir. Henry said that number would be based on pre-Project impacts, for which SCE&G has already mitigated during the Project's re-development. Bill S. said that he thinks there is a benefit in the flexibility of having a fund that will address all of the various unavoidable impacts.

Bill A. suggested that the group hold a meeting to discuss these new PM&E measures, such as a habitat enhancement fund, future entrainment studies, and monitoring studies. The stakeholders need to provide specifics for each of these prior to the meeting so that they can be reviewed and considered with SCE&G management.

With that the meeting adjourned. Action items from this meeting are listed below.

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*ACTION ITEMS:*

- Kleinschmidt will send out the Final Reservoir Fluctuation Report to the TWC for another review.
- Kleinschmidt will add wording to the Turbine Venting Plan to allow for an adjustment of the turbine venting window in the future, if determined as necessary.
- Stakeholders (specifically NOAA and USFWS) to provide comments on what they would like to see in the American Eel Monitoring Plan. Kleinschmidt will use these comments to develop a plan and distribute to Fisheries TWC for additional comments.
- Kleinschmidt will send out the West Channel AMP draft ASAP.
- Once minimum flows are established, SCE&G and Kleinschmidt will schedule demonstration flows, and invite stakeholders to boat the river to verify navigation.
- SCE&G and Kleinschmidt will distribute the additional information on minimum flows ASAP. Stakeholders are encouraged to meet separately and discuss this information. SCE&G will then schedule an Instream Flows TWC meeting to discuss minimum flows.
- Bill Stangler will talk to SCE&G's Land Department to discuss the donation of land and to municipalities for developing and maintaining a recreation site on the Broad River, downstream of the Project.
- Gerrit will send some example recreation maps, similar to what he would like SCE&G to develop for the Project. Gerrit will also send a fact sheet on dam removals, a list of dams identified for removal in South Carolina, and information on removed dams.
- Ron will provide the sampling grid for the West Channel AMP.
- SCDNR, USFWS and other stakeholders will send in specifics for a habitat enhancement fund, future entrainment studies, and monitoring studies prior to the next meeting.
  - USFWS to provide specifics for a Mussel Monitoring Plan – where, when, how, why, who and what is the goal?



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Randy Mahan (SCE&G)  
Beth Trump (SCE&G)  
Corbin Johnson (SCE&G)  
Tommy Boozer (SCE&G)  
Billy Chastain (SCE&G)  
Dan Adams (SCE&G)  
Brandon McCartha (SCE&G)  
Caleb Gaston (SCANA)  
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Alison opened the meeting with a safety moment and introductions. The purpose of the meeting was to review the Protection, Mitigation and Enhancement (PME) measures identified thus far throughout relicensing, and to discuss any new PME measures that stakeholders may propose. Specifically, the purpose of this meeting was to discuss recreation and shoreline related PMEs; a meeting was held earlier in the week on Tuesday, March 28<sup>th</sup> to discuss environmentally related PMEs. Alison reminded the group that SCE&G's goal is to file a settlement agreement with FERC at the same time that the Final License Application (FLA) is filed (June 2018) and include as many PMEs as possible in the Draft License Application (DLA) when it is filed with FERC later this summer.

A PME memo was distributed to stakeholders prior to the meeting that listed all of the previously identified PME measures and SCE&G proposed response. The PowerPoint presentation that was used during the meeting is attached to the end of these notes.

#### **Recreation Site Monitoring/Maintenance/Improvements at Parr Reservoir**

Based on the results of the Recreation Use and Needs Study (RUNS), the Recreation TWC developed a list of proposed recreation enhancements for Parr Reservoir. The informal Highway 34 Recreation Site and the informal Enoree River Bridge Recreation Site will both be improved and formalized. The experimental canoe portage at Parr Shoals Dam will also be formalized. Cannon's

Creek Recreation Site will receive upgrades and improvements. A Recreation Management Plan (RMP) will also be developed for the Project.

David Eargle asked if the channel in Parr Reservoir will be marked for hazards and navigation. Bill A. asked David if he was thinking of marking a path from the Cannon's Creek and Heller's Creek recreation sites into the main reservoir and David said yes. Tommy said that SCDNR would have to do the hazard marking in the reservoir. Bill M. said that there is a Memorandum of Agreement (MOA) from 1979 between SCDNR and SCE&G that SCDNR would like to revisit and possibly update. Hazard markers were part of the original MOA and might need to be carried forward into a new agreement. SCDNR would install the markers with help from SCE&G. Henry said that SCE&G and SCDNR should review the MOA and decide if it needs to be included in the Settlement Agreement or if it should be a separate agreement.

### **Recreation Site Monitoring/Maintenance/Improvements at Monticello Reservoir**

Results from the RUNS were used to develop a list of proposed recreation enhancements at Monticello Reservoir. SCE&G will improve the Project and non-Project portions of the Scenic Overlook. They will also make improvements at the Highway 99 "West" and "East" Recreation Sites. The Highway 99 "East" site is currently informal and it will be formalized after the new license is issued.

At the PME meeting on Tuesday, Ron Ahle asked that SCE&G construct a courtesy dock at the Recreation Lake boat ramp. Dick said he talked with Ron about this and agrees that it would be a good addition. There is a safety concern with walking on the rip-rap when launching a boat. Bill A. said he would talk to SCE&G management about this request.

### **Erosion Monitoring and Control on Parr and Monticello Reservoirs**

Currently, SCE&G monitors the shoreline of Parr Reservoir for erosion annually and the shoreline of Monticello Reservoir bi-annually. Alison said that FERC likes to see formal plans for erosion monitoring and control. This plan will be formalized and included in the DLA.

Melanie asked why Parr is monitored annually and Monticello is monitored bi-annually. Ray said there has always been more concern around Monticello Reservoir for erosion and they wanted to monitor the shoreline more frequently because of this. At Monticello Reservoir, there are areas where the Project Boundary Line (PBL) is close to the shoreline. When there is the potential for encroachment on the PBL, SCE&G obtains a permit from the US Army Corps of Engineers and works with the property owner to get access to add rip rap. Bill A. said that Parr Reservoir doesn't have any significant areas of severe erosion but Monticello does mainly due to significant wind and wave action on the reservoir.

### **Shoreline Management Plans for Parr and Monticello Reservoirs**

SCE&G updated the existing Shoreline Management Plan (SMP) for Monticello Reservoir and created a new SMP for Parr Reservoir. SCE&G also created a Permitting Handbook that will be distributed for public use.

Bill A. said there was land designated as Future Recreation next to the Fairfield tailrace and there was discussion with SCDNR about potentially reclassifying the land as Project Operations and

providing a different tract of land for Future Recreation. However, SCE&G has decided to keep the lands classified as Future Recreation.

Bill M. said SCDNR has some questions about the Broad River Waterfowl Area. The SCDNR boundaries (which are shown on maps sent to Ray A. by Bill M.) include some land that is outside of the PBL and not owned by SCE&G. The group reviewed the maps from Bill M. on the screen and Ray stated that SCE&G does not intend to change the PBL in that area and the original agreement in the 1970s was for the construction of the waterfowl sub-impoundment itself, with some of the surrounding property being denoted on the Exhibit K maps as “Game Management Area”, which is now called Wildlife Management Area. Bill M. said that some of the land that was offered by SCE&G in the potential trade for Future Recreation lands was land that SCDNR already occupies in the Broad River Waterfowl Area. Corbin said this land was offered to SCDNR to include in the waterfowl area so they could have more control over the land. SCE&G will discuss this issue and the Enoree River Waterfowl Area boundary further with SCDNR outside of the meeting.

Alison noted that the SMPs are scheduled for review every 10 years of the new license.

### **Cultural Resources**

SCE&G worked with the State Historic Preservation Office (SHPO) to complete Phase I and Phase II cultural studies.

SCE&G also developed a Historic Properties Management Plan (HPMP) and filed it with FERC. FERC is developing a Programmatic Agreement (PA) which will take effect after the new license is issued. As part of the HPMP and PA two kiosks will be constructed at Cannon’s Creek and the Highway 215 boat ramp. One kiosk includes information on the Lyles Ford area that was impacted by Project operations and the other kiosk has a timeline history of the Project.

Bill A. said that one site is being impacted by erosion from Project operations and SCE&G will do stabilization to prevent further erosion or will complete a data recovery at the site. They have not decided which mitigation they will complete yet. Bill M. mentioned that SCE&G should put the kiosk information on their website as well and Bill A. said they will do that as part of the HPMP requirements.

### **Recreation Resource Maps**

During relicensing, stakeholders requested that SCE&G develop a map that displays recreation areas downstream of Parr Shoals Dam, along with navigation points and Rocky Shoals Spider Lily (RSSL) locations. SCE&G would like to complete this as an off-license agreement. Gerrit said he would like to see recreation information from Neal Shoals through the Parr Reservoir and downstream to Columbia Hydro, including locations of recreation sites on the Enoree River and Cannon’s and Heller’s creeks. SCE&G will develop a draft of the map and send it to the stakeholders to review.

### **RSSL Outreach and Education**

During previous meetings, the Congaree Riverkeeper requested that SCE&G make efforts to educate the public on the RSSL. SCE&G has agreed to do this as an off-license agreement and will provide information on the RSSL on the recreation maps and on their website.

Melanie asked why SCE&G is not doing periodic monitoring of the RSSL. Bill A. said the populations are located downstream outside of the PBL. Henry added that they were never identified as a “driver” for setting minimum flows, so monitoring wasn’t warranted.

Melanie asked if signs are located in the area of the RSSL populations that ask people not to pick the flowers. Bill A. said the flowers are in the middle of the river and he doesn’t know where they would put signs. Melanie said they could put signs on the access points on the Broad River. Bill A. said the access points aren’t owned by SCE&G and the signs could be vandalized. Henry said maybe they could develop a brochure that also includes information on bald eagles and other species in the area to educate the public. It was also mentioned that this information could be included on the recreation resource maps. Dick said it would be nice if the brochure could be posted to SCE&G’s website before the license comes out. The group looked at a similar brochure developed for Saluda Hydro Relicensing on the screen.

### **Downstream Recreation Flows**

Alison said that SCE&G did a study to determine if there was an interest in recreation flows that included a focus group and an online survey. The survey did not provide much feedback, as only four responses were received. The flows that were requested during the summer months are typically during times of low inflow. This Project does not have a storage reservoir, so providing recreation flows when inflow is low is not possible. Recreation flows would only be available during wet summers.

Alison said that when the downstream minimum flows are tested, stakeholders will be able to boat the flows and see how they would work for recreation and navigation. The Recreation TWC will be notified when the demonstration flows are scheduled so they can plan to participate.

Gerrit said that setting the flows for navigation only doesn’t provide for a high quality canoe/kayak experience. He said that there is a huge storage reservoir in Monticello Reservoir that could release water for recreation for short periods of time. Henry reminded the group that Monticello is not a storage reservoir. It is used for the pumped storage facility only. Ray said that releasing water from Monticello and then releasing that water from Parr Shoals Dam for recreation purposes is a loss to the pumped storage system and is counter to the way SCE&G needs to operate Fairfield to meet the needs of the electric system. Ray said that changing the minimum flow from a daily average to a continuous flow should help with recreation.

### **Palmetto Trail Contributions**

Stakeholders requested that SCE&G contribute to the Palmetto Trail, however SCE&G already provides funding, easements, and volunteer labor through the V.C. Summer Facility, and they do not plan to make additional donations as part of Parr Relicensing.

### **Other PME Requests**

SCDNR said that there is currently an informal agreement with SCE&G to coordinate the draining and flooding of the waterfowl impoundments. SCDNR would like this agreement to be formalized and included in the Settlement Agreement. Dick said the agreement needs to be adaptive to changing conditions and focus on communications. This should be discussed each year so SCDNR and SCE&G can come up with a mutually agreeable way to drain and flood the impoundments.

Bill M. and Dick said that they have discussed different ways that SCE&G can mitigate for unavoidable impacts particularly to aquatic resources. There should be something in the PME package that encourages stakeholders to support long term licenses. SCDNR would like to see additional land conservation and protection, particularly riparian lands or wetlands since they are important to aquatic species. Other important lands are those that provide public access and recreation benefits. Bill M. said that SCDNR is also interested in Wildlife Management Area (WMA) property enhancements and large parcels of land that provide public benefits. Henry asked if they had identified any land or if they have an idea of how much land they would want. Bill M. identified 14 parcels of land owned by SCE&G that SCDNR might be interested in. These lands could be put into a conservation easement or a WMA. SCE&G could commit to protect and not develop these lands for the term of the new license. Bill A. asked if it would be okay with SCDNR if SCE&G maintained timber and mineral rights. Bill M. said that probably would be fine. Dick said lands that allow for habitat and species protection are valuable. Lands that also provide public access have an increased value. And lands that, in addition to protecting habitat and species and providing public access, also provide value to SCDNR have the highest value. These lands could be protected for the term of the license instead of in perpetuity.

Melanie asked if the funds that were discussed in Tuesday's PME meeting for dam removal and habitat enhancements could be combined into one fund that provided for all these things. Henry said SCE&G would need details on how much money should go in the fund and exactly what the money would be used for including habitat enhancement, land acquisition, dam removal and floodplain restoration. Gerrit said American Rivers' priority is to use the money on dam removal, but since it is impossible to predict when those projects will come up, they have to be flexible. Gerrit agreed with SCDNR that developing a fund to mitigate for unavoidable adverse impacts is important. There should be a lower priority on studies and a higher priority on actions. Studies don't offset impacts. Rusty said that from a SCDHEC perspective they would place a priority on any improvements or changes that the stakeholders are proposing that would have a positive impact on water quality or quantity of the resource.

Henry asked if the enhancements that SCE&G has already agreed to, including fish habitat enhancements in Monticello Reservoir and recreation enhancements, could be financed through the fund. Gerrit said that those enhancements are minimizing effects and the fund should be separate and used for mitigation.

Alison reviewed the timeline for the remainder of relicensing with stakeholders. SCE&G plans to file the DLA in May 2017. Stakeholders will have 90 days to review and comment. SCE&G hopes to submit the RMP to the TWC for review prior to submitting the DLA. The Settlement Agreement development and discussion will occur from August through October 2017. SCE&G will revise the license application from March through April 2018 and will file the Final License Application in June 2018.

Henry asked Rusty when SCDHEC wants SCE&G to file the 401 water quality certificate application. Could SCE&G file early? Rusty said he would talk with his management. If SCE&G filed early, it could be ready for implementation when FERC issues the new license.

The meeting adjourned. Action items are listed below. After the meetings, American Rivers and SCDNR submitted additional information. This information is attached to the end of the notes.

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*ACTION ITEMS:*

- SCE&G and SCDNR will review the 1979 MOA and explore the channel marking/hazard marking in Parr Reservoir further.
- SCE&G and SCDNR will discuss the land issue at the Broad River Waterfowl Area.
- SCE&G and Kleinschmidt will develop a draft recreation resource map and send it to stakeholders for review and comment.
- Stakeholders need to decide how much money they would like for a mitigation fund and how the fund would be used.
- Rusty will talk to his managers at SCDHEC about the possibility of SCE&G filing an application for the 401 water quality certificate early.
- SCDNR to provide more information and details on a Land Protection Plan.



# Parr Hydroelectric Project Relicensing

PM&E Measures Proposed by SCE&G

March 28, 2017

# Purpose of Meeting

- Relicensing Process “Check and Adjust”
  - Review “to-date” TWC issues, discussions and agreements (not to re-hash issues agreed to or still under discussion)
  - Provide stakeholders with an overview of the analysis included in the Draft License Application

# Monticello Fish Habitat Enhancements

- Issue- Lake level fluctuations may negatively affect spawning and juvenile fish; Fish loss may occur due to turbine entrainment and mortality

# Proposed PME

- Install aquatic habitat enhancements in the upstream portions of Monticello Reservoir
  - Spawning beds and fish structures
- Serve two purposes- (1) Concentrate fish to promote angling success (2) improve recruitment success to adult lifestage





# West Channel Water Quality Enhancements

- Issue- Currently low Dissolved Oxygen (DO) levels may occur in the West Channel during the late spring and summer months

# Proposed PME

- Implementation of an Adaptive Management Plan will help facilitate water quality improvements in the West Channel
  - Identify ways to increase flows to the West Channel - channel modifications or pulse flows
  - Five year plan to monitor DO in West Channel and evaluate flow improvements.



# Turbine Venting Plan

- Issue- DO levels have occasionally dropped below state standards in the Parr tailrace during the spring or summer months

# Proposed PME

- Turbine venting testing conducted by SCE&G showed that venting can increase DO levels.
- Turbine venting proposed to be implemented from June 15- August 31 annually in new license
- SCE&G will notify SCDHEC within 10 days when DO drops below the standard



# American Eel Monitoring

- Issue- American eels were found downstream of Parr Shoals Dam. NOAA Fisheries requested SCE&G perform additional monitoring during the new license to track changes in eel abundance.

# Proposed PME

- Eel sampling would occur first year after new license is in place and every ten years thereafter
- Survey frequency would increase to every 5 years when a target threshold is met
- Target Threshold = 10% of the five year average of eels passed at St. Stephen Dam



# Downstream Flow Fluctuations

- Issue- Stakeholders requested a reduction in downstream flow fluctuations from Parr Shoals Dam
  - General year-round reduction
  - Spawning-specific flow stabilization

# Proposed PME

- Year Round- SCE&G will implement operational changes to reduce fluctuations
- Spawning Stabilization - SCE&G will implement operational changes to reduce/stabilize flows for two 14-day spawning periods to enhance sturgeon, striped bass, American shad, and robust redhorse spawning.



# Parr Shoals Dam Generator Upgrade

- Issue- Parr Shoals Dam turbine generators are not fully developed - an upgrade of the generators will allow more reservoir/flow control and greater energy production

# Proposed PME

- SCE&G investigating the feasibility of upgrading of the Parr Shoals Dam generators
- Upgrades could increase the powerhouse flows max of 6,000 cfs and allow better reservoir and downstream flow control.

# **Santee River Basin ACCORD for Diadromous Fish Protection, Restoration, and Enhancement**

- Issue- Fish passage in the Santee River Basin is impeded by dams in the river basin.
- SCE&G is an active participant in an agreement, the ACCORD, to help restore upstream and downstream fish passage in the basin.

# Proposed PME

- The ACCORD includes a process to provide fish passage at the Parr Shoals Dam that SCE&G has agreed to.
- This process includes meeting downstream fish passage triggers at the Columbia Hydro Fish Passage facility.
- SCE&G will include the appropriate portions of the ACCORD in the Parr Hydroelectric Project License Application to address fish passage concerns at the project during the new license.



# Downstream Navigation Flows

- Issue- Stakeholders expressed a desire to make sure that the Broad River, downstream of Parr Shoals Dam, meets the SC recommendations for downstream navigation.

# Proposed PME

- SCE&G conducted a Downstream Navigation Flow Assessment downstream of Parr Shoals Dam at several “ledge” areas identified by the TWC
- Results suggest 700-1,000 cfs are necessary for navigation
- Downstream navigation will be one factor in determining minimum flow



# Downstream Minimum Flows

- Issue- Stakeholders requested a study to determine a “new” minimum flow from the Parr Shoals Development that takes into account fish habitat and fish passage goals.

# Proposed PME

- A IFIM study was conducted and a range of “continuous” minimum flows have been discussed in the TWC. Areas of agreement:
  - Set 3 flows for the year: spring spawning flow, a low summer/fall flow, and a transition flow for ramping up and down between those two time frames.
  - Minimum flow should be continuous
  - Minimum flow should take into account the inflows to the Parr Reservoir.

# Dam Removal

- Issue- American Rivers requested that SCE&G consider funding removal of a small dam in the Broad River basin, with the intent of restoring stream connectivity and offset impacts caused by original construction of Parr Shoals Dam
- SCE&G has not proposed a PME measure for this issue.

# Timeline for 2018

- File the DLA – May 2017
- Stakeholder Comments – 90 days
- Settlement Agreement Discussion August – October 2017
- Revise License Application March – April 2018
- File License Application – June 2018



# Parr Hydroelectric Project Relicensing

PM&E Measures Proposed by SCE&G

March 30, 2017

# Purpose of Meeting

- Relicensing Process “Check and Adjust”
  - Review “to-date” TWC issues, discussions and agreements (not to re-hash issues agreed to or still under discussion)
  - Provide stakeholders with an overview of the analysis included in the Draft License Application



# Recreation Site Monitoring/ Maintenance/Improvements on Parr Reservoir

- Issue- Stakeholders requested that SCE&G perform a Recreation Use & Needs Study to assess the existing use, and the need for enhancements, at Project and non-Project Parr Recreation sites.

# Proposed PME

- Based on study results – stakeholders requested several recreation improvements.
- SCE&G will include enhancements in a Recreation Management Plan to be filed with the License Application.
- Monitoring, maintenance, and improvements will be implemented on a proposed timeline subsequent to license issuance.

# Recreation Enhancements

- Improve Hwy 34 Recreation Site and include as a “Project Recreation Site”.
- Build a canoe launch on Enoree River within the Project boundary.
- Formalize a canoe portage around Parr Shoals Dam.
- Enhance Cannon’s Creek Site.

# **Recreation Site Monitoring/ Maintenance/Improvements on Monticello Reservoir**

- Issue- Stakeholders requested that SCE&G perform a Recreation Use & Needs Study to assess the existing use, and the need for enhancements, at Project and non-Project Monticello Recreation sites.



# Proposed PME

- Based on study results – stakeholders requested several recreation improvements.
- SCE&G will include changes in a Recreation Management Plan to be filed with the License Application.
- Monitoring, maintenance, and improvements will be implemented on a proposed timeline subsequent to license issuance.



# Recreation Enhancements

- Improve Project and non-Project portions of Scenic Overlook recreation site.
- Improve Hwy 99 “West” recreation site.
- Enhance Hwy 99 “East” recreation site (previously known as Highway 99 Informal site) and bring it into the Project as an official site.

# Canoe Portage

- Issue- SCDNR requested that SCE&G build a canoe portage around Parr Shoals Dam

# Proposed PME

- SCE&G built an experimental canoe portage
- A 1600 ft. trail was cleared and signs were installed
- After license issuance SCE&G will bring the portage into the Project and maintain it, pending agency and public feedback

# Erosion Monitoring and Control on Parr and Monticello Reservoirs (Shoreline Inspection)

- Issue- Reservoir fluctuations on Parr and Monticello Reservoirs associated with Fairfield Pumped Storage operations can cause localized erosion spots.



# Proposed PME

- SCE&G currently monitors Parr shoreline annually, Monticello shoreline bi-annually
- Conditions and areas of erosion are noted
- SCE&G makes appropriate repairs to stabilize the shoreline when severe erosion is noted
- SCE&G proposes to continue these inspections in the new license



# Shoreline Management Plan for Parr Reservoir

- Issue- Currently, there is no Shoreline Management Plan (SMP) for Parr Reservoir.
- Stakeholders requested creation of an SMP for Parr.

# Proposed PME

- New SMP developed in consultation with RCG/TWC
- SCE&G will educate public and enforce rules
- Updates will be made as-needed and/or where FERC guidelines dictate
- Consultation to occur every 10 years

# Shoreline Management Plan for Monticello Reservoir

- Issue- Stakeholders requested that the Monticello Reservoir SMP be reviewed and updated for the new license.

# Proposed PME

- SMP reviewed and revised in consultation with RCG/TWC
- SCE&G will educate public and enforce rules
- Updates will be made as-needed and/or where FERC guidelines dictate
- Consultation to occur every 10 years



# Cultural Resources

- Issue - SCE&G has consulted with the State Historic Preservation Officer to complete Phase I and Phase II studies of cultural resources associated with the Parr Hydroelectric Project.



# Proposed PME

- Ongoing consultation with FERC and SHPO
- Lyles Ford site may be impacted by Project
- Education material and signage will include historical information
- Stabilization or mitigation will occur at one archaeological site

# Recreation Resource Maps

- Issue- Stakeholders requested that SCE&G provide information and maps to the public that include non-project Broad River access areas downstream of Parr Shoals Dam and include downstream navigation information for recreators.

# Proposed PME

- SCE&G will address this as an “Off-license Agreement” with stakeholders
- SCE&G will provide maps of river access and downstream navigation routes on their website.

# RSSL Outreach and Education

- Issue- Congaree Riverkeeper requested that SCE&G provide information to the public on the Rocky Shoals Spider Lily populations that currently exist in the Broad River between Parr Shoals Dam and the Columbia Dam.



# Proposed PME

- SCE&G will address this as an “Off-license Agreement”
- SCE&G will provide information on, and generalized location maps of, Rocky Shoals Spider Lily populations on their website.



# Downstream Rec Flows

- Issue- The Recreation TWC requested that SCE&G schedule recreation flows in the Broad River downstream of Parr Shoals Dam.
- SCE&G has not proposed a PME measure for this issue.
- Inflows to Parr Reservoir are not stored but are released downstream on a daily cycle.

# Palmetto Trail Contribution

- Stakeholders requested SCE&G to make a monetary contribution to the Palmetto Trail
- V.C. Summer Nuclear Plant currently provides funding for this organization
- SCE&G does not plan to support additional funds

# Timeline for 2018

- File the DLA – May 2017
- Stakeholder Comments – 90 days
- Settlement Agreement Discussion August – October 2017
- Revise License Application March – April 2018
- File License Application – June 2018

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**Cc:** [Erin McCombs](#)  
**Subject:** American Rivers' Trial Balloon to reach agreement for offsetting Parr Reservoir fluctuations  
**Date:** Friday, March 31, 2017 5:15:13 PM  
**Attachments:** [American Rivers - SAC Dam Removal Update March 2017.pdf](#)  
[SoutheastDamRemovalFactSheet.pdf](#)  
[BroadRiverDamsPreliminaryQuery.xlsx](#)  
[Median total project costs.pdf](#)

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Relicensing stakeholders:

As discussed at the March 28 and 30, 2017 PM&E meetings, please find below American Rivers' Trial Balloon to reach agreement for offsetting the impacts of Parr Reservoir fluctuations. I am also providing additional information requested:

- Links to American Rivers' Blue Trails website and maps [www.bluetrailsguide.org](http://www.bluetrailsguide.org)
- Congaree River Blue Trail Map  
<http://www.bluetrailsguide.org/assets/pdfs/blue-trails/congareriver-blue-trail-map.pdf?d34d3c>
- Ashley River Blue Trail Map  
North - [http://b3cdn.net/amrivers/a0424eab4b4bd2e825\\_mlbgrbynj.pdf](http://b3cdn.net/amrivers/a0424eab4b4bd2e825_mlbgrbynj.pdf)  
South - [https://s3.amazonaws.com/american-rivers-website/wp-content/uploads/2016/08/16105228/BTG\\_ashley-river-south-map.pdf](https://s3.amazonaws.com/american-rivers-website/wp-content/uploads/2016/08/16105228/BTG_ashley-river-south-map.pdf)
- Waccamaw River Blue Trail Map  
<http://www.bluetrailsguide.org/assets/pdfs/blue-trails/Waccamaw-River-Blue-Trail-Map.pdf?d34d3c>
- American Rivers' fact sheet on dam removals
- American Rivers' spreadsheet showing a preliminary assessment of Broad River watershed dams for voluntary removal.
- American Rivers' March 2017 dam removal project list for the Carolinas and Tennessee demonstrating that finding such projects is doable.
- Median project costs of dam removals.

American Rivers Trial Balloon to reach agreement for offsetting Parr Reservoir fluctuations

Issue: South Carolina Electric and Gas Company operates the Fairfield Pump Storage Project (FPSP) and Parr Shoals Project (PSP) in a manner which results in the substantial loss of habitat and recreation opportunities. Fifteen miles of Broad River are impounded by the Parr Shoals Dam. Combined operation of FPSP and PSP result in substantial Parr Reservoir fluctuations when water is either withdrawn from Parr Reservoir during FPSP pumping or by generation when FPSP discharges water into Parr Reservoir. These operations can result in fluctuations of Parr Reservoir water surface elevations up to 10 feet and a reduction of Parr Reservoir surface area to as little as 1,200 acres. The end result is the loss of riverine habitat for 15 miles of one of South Carolina's major rivers and up to 3,200 acres of aquatic habitat loss in the Parr Reservoir. Similarly, river recreation opportunities are lost for 15 miles of the Broad River and recreation opportunities in Parr Reservoir are substantially reduced.

Proposal: American Rivers proposes the following measures to offset ongoing impacts during the new license of the Parr Shoals dam and reservoir fluctuations by creating new riverine habitat for fish and wildlife and enhanced recreation opportunities in the project vicinity result in a severe reduction in recreation opportunity. We believe this is best treated as an off license agreement due to the limits of mitigating project impacts within the project boundary.

- Recreation Enhancement – To offset impacts to water based recreation from the combined operation of FPSP and PSP, SCE&G will:
  - Provide funding and donate land for a non-motorize boat launch on the west bank of the Broad River in the vicinity of Haltiwanger Island;
  - Provide funding to develop a website that promotes recreation opportunities at the Broad and Enoree rivers in Richland, Lexington, Fairfield, Newberry, Laurens and Union counties;
  - Provide funding for developing, printing and distributing high quality, waterproof paddling maps for the Broad and Enoree rivers in Richland, Lexington, Fairfield, Newberry, Laurens and Union counties.

Decisions for how the funds are to be spent will be determined by a fiduciary board consisting of representatives of SCE&G, SCDNR, USFWS, Congaree Riverkeeper and American Rivers.

- Aquatic Habitat Enhancement - To offset impacts to aquatic habitat from the combined operation of FPSP and PSP, SCE&G will:
  - Provide funding for voluntary dam removals or floodplain restoration in the Broad, Congaree and lower Saluda watersheds
  - Fund at a rate of \$135,000 per year in 2017 dollars. This amount is based on an average cost of approximately \$410,000 per dam removal in 2017 dollars and the expectation to remove one dam for every three years of the license term.

Decisions for how the funds are to be spent will be determined by a fiduciary board consisting of representatives of SCE&G, SCDNR, USFWS, NMFS, Congaree Riverkeeper and American Rivers.

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*Outside magazine named American Rivers one of the best groups to support in 2017. Donate today at [www.AmericanRivers.org/Donate](http://www.AmericanRivers.org/Donate)*

## **Other PM&E Measures for Parr Hydro Relicensing**

### **DNR Comments and Recommendations at Meetings of March 28 and 30, 2017**

#### **March 28 - Parr PM&E Meeting**

Other PM&E measures -- DNR Comments and Recommendations

##### Downstream flows delivery incentive

A new protocol for delivering continuous instream flows from Parr Shoals Dam is under development and we expect the protocol to address target flows (desired for habitat and navigation needs) and required compliance flows. We understand SCE&G will strive to deliver flows according to a new protocol; however, our interest is to assure target flows are delivered when the necessary inflow is available. Therefore, we are requesting SCE&G provide mitigation to compensate for not delivering target flows when inflow to the Project is available to meet or exceed the target flow. For example, mitigation payment is provided when flow delivery deviates more than XX cfs less than the target flow for a continuous period of XX hours during which inflow was adequate to meet the target.

##### Ongoing, unavoidable impacts from operations

We see a need to address the ongoing, unavoidable impacts to aquatic resources caused by fluctuations in Parr Reservoir and the intermittent downstream flow fluctuations in the Broad River, which will not be eliminated because of SCE&G's need to generate at Fairfield station. The fluctuations in Parr Reservoir also have an ongoing negative effect on potential recreational uses of the reservoir.

As a PME measure to address the impacts described above, DNR recommends SCE&G consider funding a habitat enhancement program to support aquatic resource conservation and protection projects that will benefit the Broad River watershed and Congaree River. We foresee options to include creating a new funding program (which may be preferred) or contributing to an existing program such as the Broad River Mitigation Trust Fund.

##### Avoid and minimize fish entrainment mortality

Identify measures that could be implemented and may be effective to avoid or minimize fish entrainment at the Fairfield station. Measures to consider include changes to lighting that may attract fish to forebay areas and sequencing unit start-up to begin away from areas where fish are known to congregate.

#### **March 30 - Parr PM&E Meeting**

Other PM&E measures -- DNR Comments and Recommendations

##### Review and consider provisions of the May 1979 SCE&G-DNR memorandum of agreement

Are there items in the 1979 MOA to be carried forward in the next license? Hazard markers (#5 of MOA) is one item that may need to be addressed.

#### Water management agreement at BRWMA

Establish an SCE&G-DNR communications protocol to address coordination of DNR's water management needs at Broad River Waterfowl Management Area with the operations and water elevations of Parr Reservoir.

#### Land Protection – for habitat conservation and public recreation

DNR's approach to considering "Other PME measures" is based on our assessment of Project impacts and the PMEs already proposed by SCE&G. We consider a mitigation sequence: first avoid and minimize impacts and then compensate for unavoidable impacts. Many of the PMEs already being proposed by SCE&G represent of a good-faith effort to avoid and minimize Project impacts (and provide enhancements to recreational access), and we are supportive of the proposed PMEs. What remains to be addressed are what we see as ongoing, unavoidable impacts to aquatic resources caused by Project operations, primarily the fluctuations in Parr Reservoir and the intermittent downstream flow fluctuations in the Broad River, which will not be eliminated because of SCE&G's need to generate at Fairfield station. The fluctuations in Parr Reservoir also have an ongoing negative effect on potential recreational uses of the reservoir. Finally, as DNR considers PMEs, thought is given to license terms and what PMEs will promote stakeholder support of longer terms.

As part of a total PM&E package, DNR recommends significant, additional land protection be provided for habitat conservation and recreational use. We think land protection can serve to address both mitigation for unavoidable impacts and justification for longer license terms.

DNR has a number of ideas regarding land protection but has not yet developed a specific PME proposal. We think there is potential for PMEs to include both a fund for habitat enhancement (as discussed at the March 28 meeting) and land protection, and there may be interest in structuring a funding program to incorporate credits for land protection.

What lands to consider for protection? Preferred land areas to serve as mitigation for aquatic resource impacts will contain a significant portion of riparian and wetland habitats. Alternatives under consideration: 1) DNR has identified SCE&G lands contiguous with the Project and adjacent to the Broad River downstream of the Project, and these include 14 parcels that total approximately 1900 acres (based on county land-ownership data from the Internet). Six of the 14 parcels are contiguous with the Project boundary, and eight are adjacent to the Broad River downstream of the Project. 2) DNR also has interest in protecting a large contiguous tract, preferably a tract with a significant aquatic and wetland resources, to be leased and managed by SCDNR in the WMA Program for the term of the new license.

Optional means for land protection: DNR would prefer permanent protection of lands or, at a minimum, land protection that extends for the term of the new license. Protection measures could be established in a settlement agreement, MOA, restrictive covenant, lease to DNR, conservation easement, or by fee simple donation to a conservation agency such as DNR.

During the meetings, SCE&G requested DNR to develop a proposal with more specificity on our ideas of land protection and habitat enhancement funding, so that a proposal can be evaluated by SCE&G management. DNR will develop a more specific proposal.