Appendix Y

Response to Comments

Appendix Y

Response To Comments

Comment from the Catawba Indian Nation

-----Original Message-----
From: Caitlin Haire
[mailto:caitlinh@ccppcrafts.com] Sent:
Wednesday, July 16, 2014 10:56 AM
To: Morgan, Julie A SAS
Subject: [EXTERNAL] update of 1968 Operating Agreement

Ms. Morgan,

We wish to be a signatory to this Operating Agreement. Under the signatory section William Harris, Chief needs to be changed to the Catawba Indian Nation and we would also like a signatory line for Wenonah G. Haire, DMD - Tribal Historic Preservation Officer - Catawba Indian Nation. If you have any questions let me know. Thanks

Caitlin

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Caitlin Totherow
Catawba Indian Nation
Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, SC 29730

803-328-2427 ext. 226
Caitlinh@ccppcrafts.com

Responses to Comment from Catawba Indian Nation

Comment: We wish to be a signatory to this Operating Agreement.

Response: The Corps will add the Catawba Nation as a signatory party to the Programmatic Agreement for Section 106 compliance (Appendix X).

Comments from Southeastern Power Administration (SEPA)

Sent: Thursday, July 17, 2014 10:23 AM
To: Bailey, William G SAS
Cc: Herb R. Nadler; Simpson, Stanley L SAS
Subject: RE: Review of Draft EA - New Operating Agreement with Duke Energy

Mr. Bailey,

Below is a list of SEPA's comments on the Draft Environmental Assessment for the new Operating Agreement.

Page	Location on page	Comment
FONSI-1	Bottom paragraph, second bullet	Regarding USACE requiring Large Water Intake owners to implement coordinated water conservation measures during drought, this is not typically a Corps function. Will USACE do this?
FONSI-2	Top of page, first bullet	Regarding USACE requiring Large Water Intakes to be capable of operating at their permitted capacities at reservoir elevations as low as the applicable hydroelectric station can operate. Will USACE do this?
FONSI-2	Middle paragraph, last sentence	"Both organizations would implement the Low Inflow Protocols which describe how they will work with large water intake owners within their reservoirs to conserve water during droughts." Does USACE have an LIP, and will they work with owners to conserve water during a drought?
ES-3	Last bullet on page	Regarding USACE requiring Large Water Intake owners to implement coordinated water conservation measures during drought, this is not typically a Corps function. Will USACE do this?
ES-4	Last bullet in paragraph	Regarding USACE requiring Large Water Intakes to be capable of operating at their permitted capacities at reservoir elevations as low as the applicable hydroelectric station can operate. Will USACE do this?
2-13	Top of page, last sentence of section 2.4.1	"Power produced from the Hartwell Project is sold through SEPA to private power companies and public cooperatives in the Southeastern U.S…." "Private power companies and public cooperatives" should be deleted and replaced with "public bodies and cooperatives".
6-2	Second bullet under "A3 also includes the following…"	Regarding USACE requiring Large Water Intake owners to implement coordinated water conservation measures during drought, this is not typically a Corps function. Will USACE do this?
6-2	Fourth bullet under "A3 also includes the following…"	Regarding USACE requiring Large Water Intakes to be capable of operating at their permitted capacities at reservoir elevations as low as the applicable hydroelectric station can operate. Will USACE do this?
Appendix A Water Supply Study Page 4 of 42	Top of page, Public Water/Wastewater Utilities	For Anderson Regional Joint Water System—Hartwell Lake Filter Plant, there is a substantial increase in the Projected Water Use from BASE to 2016, from 17.7 MGD to 31.4 MGD in a short time span. Is this correct?

Thank you,

Dixie K. Cordell
Dixie K. Cordell, PE
U. S. Department of Energy
Southeastern Power Administration
1166 Athens Tech Road
Elberton, GA 30635-6711

Responses to Comments from SEPA

Comment FONSI-1: Regarding USACE requiring Large Water Intake owners to implement coordinated water conservation measures during drought, this is not typically a Corps function. Will USACE do this?

Response: Yes, the District intends to include that requirement in all new water storage contracts for its three reservoirs on the Savannah River.

Comment FONSI-2: Regarding USACE requiring Large Water Intakes to be capable of operating at their permitted capacities at reservoir elevations as low as the applicable hydroelectric station can operate. Will USACE do this?

Response: Yes, the District intends to include that requirement in all new water storage contracts for its three reservoirs on the Savannah River.

Comment FONSI-3: "Both organizations would implement the Low Inflow Protocols which describe how they will work with large water intake owners within their reservoirs to conserve water during droughts." Does USACE have an LIP, and will they work with owners to conserve water during a drought?

Response: The District will follow the procedures described in the Selected Plan. During droughts, the District will coordinate with large water intake owners within the Corps reservoirs and encourage them to conserve water. As stated in Section 6 of the EA, the Corps will require owners of Large Water Intakes (capacity >=1 MGD) that receive a new allocation from the Corps Projects after the effective date of the new Operating Agreement to implement coordinated water conservation measures when the Corps Drought Plan is in effect.

Comment ES-1: Regarding USACE requiring Large Water Intake owners to implement coordinated water conservation measures during drought, this is not typically a Corps function. Will USACE do this?

Response: Yes, the District intends to include that requirement in all new water storage contracts for its three reservoirs on the Savannah River.

Comment ES-2: Regarding USACE requiring Large Water Intakes to be capable of operating at their permitted capacities at reservoir elevations as low as the applicable hydroelectric station can operate. Will USACE do this?

Response: Yes, the District intends to include that requirement in all new water storage contracts for its three reservoirs on the Savannah River.

Comment 6: "Power produced from the Hartwell Project is sold through SEPA to private power companies and public cooperatives in the Southeastern U.S…." "Private power companies and public cooperatives" should be deleted and replaced with "public bodies and cooperatives".

Response: The District has included the suggested revision in the Final EA.

Comment 7: Regarding USACE requiring Large Water Intake owners to implement coordinated water conservation measures during drought, this is not typically a Corps function. Will USACE do this?

Response: Yes, the District intends to include that requirement in all new water storage contracts for its three reservoirs on the Savannah River.

Comment 8: Regarding USACE requiring Large Water Intakes to be capable of operating at their permitted capacities at reservoir elevations as low as the applicable hydroelectric station can operate. Will USACE do this?

Response: Yes, the District intends to include that requirement in all new water storage contracts for its three reservoirs on the Savannah River.

Comment 9: For Anderson Regional Joint Water System—Hartwell Lake Filter Plant, there is a substantial increase in the Projected Water Use from BASE to 2016, from 17.7 MGD to 31.4 MGD in a short time span. Is this correct?

Response: Those levels of withdrawals are greater than what Anderson Regional provided Savannah District in May 2014. In their latest water demands, their 2010 actual withdrawals were identified as being 18.2 MGD and their projected total withdrawals for 2016 are 27.0 MGD. The smaller growth in future water withdrawals (than was used in the modeling for this EA) would result in slightly higher pool levels during droughts for all alternatives.

Comments from National Marine Fisheries Service (NMFS)

Bailey, William G SAS

From: Pace Wilber - NOAA Federal [mailto:pace.wilber@noaa.gov]
Sent: Monday, August 04, 2014 8:07 AM
To: Bailey, William G SAS
Cc: Kay Davy - NOAA Federal; Kelly Shotts - NOAA Federal
Subject: [EXTERNAL] Re: Review of Draft EA - New Operating Agreement with Duke Energy (UNCLASSIFIED)

Hi Bill.

The NMFS Habitat Conservation Division has reviewed the public notice, dated June 27, 2014, for the new operating agreement the Savannah District proposes to establish with the Southeastern Power Administration and Duke Energy Carolinas for release of water from Lake Keowee into the upper Savannah River. The NMFS Habitat Conservation Division lacks sufficient staff at this time to review the public notice, proposed agreement, and Environmental Assessment prepared by the Savannah District. Accordingly, the NMFS Habitat Conservation Division offers no comments in support of or objecting to the proposed agreement other than to note concurrence with the Savannah District's determination that no adverse impacts to essential fish habitat (EFH) are likely from implementation of the new agreement. Please note this "no staffing response" does not include the NMFS Protected Resources Division which the Savannah District contacted separately about the new operating agreement. If you have any questions about the response from the NMFS Habitat Conservation Division, please let me know.

Pace

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Pace Wilber, Ph.D.
HCD Atlantic Branch Supervisor
NOAA Fisheries Service
219 Ft Johnson Road
Charleston, SC 29412

Voice: 843-762-8601
FAX: 843-953-7205
Pace.Wilber@noaa.gov

Responses to Comment from NMFS Habitat Conservation Division

Comment 1: The NMFS Habitat Conservation Division offers no comments in support of or objecting to the proposed agreement other than to note concurrence with Savannah District's determination that no adverse impacts to essential fish habitat (EFH) are likely from implementation of the new agreement.

Response: The Corps is pleased that NMFS concurs in the District's determination that no adverse impacts are expected to Essential Fish Habitat from the Selected Plan.

Comment 2: Please note this "no staffing response" does not include the NMFS Protected Resources Division which the Savannah District contacted separately about the new operating agreement.

Response: The District recognizes that the NMFS Protected Resources Division conducts a separate review of proposed Federal actions. The District received no response from the Protected Resources Division on this proposed action.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407

July 24, 2014

Mr. William G. Bailey
U.S. Army Corps of Engineers
Planning Division
100 West Oglethorpe Avenue
Savannah, GA, 31401

Re: Notice of Availability of Draft Environmental Assessment and Draft Finding of No Significant Impact for New Operating Agreement between U.S. Army Corps of Engineers, Southeastern Power Administration, and Duke Energy Carolinas, LLC; FWS Log No. 2014-CPA-0111

Dear Mr. Bailey:

The U.S. Fish and Wildlife Service (Service) reviewed your June 27, 2014, joint public notice of availability of a Draft Environmental Assessment (DEA) and Draft Finding of No Significant Impact (FONSI) for a New Operating Agreement (Agreement) between U.S. Army Corps of Engineers (USACE), Southeastern Power Administration (SEPA), and Duke Energy Carolinas, LLC (DE). The Agreement updates and defines water release allocation from DE reservoirs to downstream USACE reservoirs on the Savannah River Basin.

The USACE is soliciting comments from the Service to consider and evaluate the impacts of the proposed Agreement. The Service submits the following comments and recommendations regarding this project in accordance with the provisions of the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e); section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (ESA); the Federal Power Act (16 U.S.C. 791 *et seq.*); the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*).

Project Description

The last operating agreement between DE, USACE, and the SEPA was established in 1968. The 1968 Agreement described how DE would release water from the Keowee-Toxaway Project (FERC No. 2503) to accommodate hydropower generation required by USACE and SEPA for Lake Hartwell and Thurmond reservoir downstream on the Savannah River. Since 1968, the USACE has constructed the Richard B. Russell reservoir pumped storage project (RBR) located between Hartwell and Thurmond reservoirs on the Savannah River. Additionally, DE has constructed the Oconee Nuclear Station (ONS) on Lake Keowee, and the Bad Creek pumped storage project (FERC No. 2740) since the 1968 Agreement.

Alternatives Analysis

The proposed action seeks to account for these water regulation activities in the Savanah River Basin since the 1968 Agreement and to satisfy the USACE July 2012 Drought Plan and electricity generation needs of signatory parties. The DEA evaluated five alternative operations in DE and USACE reservoirs, and their impact on lower Savannah River habitats using reservoir modeling analysis (HEC-ResSim). A 73-year period of record (1939-2011), with consideration for future withdrawals and climatic change were used to model reservoir elevations and discharge flows to evaluate the alternatives' effect on:

1) Reservoir littoral habitats for mussels, fish, and fish spawning;
2) Pelagic fish habitat;
3) Entrainment risk at the Bad Creek Project;
4) Rare, threatened, and endangered species (primarily below Lake Thurmond);
5) Impacts to submerged aquatic vegetation;
6) Impacts to reservoir-dependent or fringe wetlands;
7) Wildlife and their habitats affected by reservoir fluctuation for seasonal breeding; and
8) Wetlands and wildlife at the Savannah National Wildlife Refuge.

According to the DEA, the difference in ecological effect among alternatives is minimal. However, the proposed Alternative would result in slightly lower mean monthly flows in the Lower Savannah River during the spring spawning season and fall juvenile fish outmigration compared to the no action alternative.

Proposed Action

Of the five alternatives considered, the USACE proposes the following action, Alternative 3 (A3), which modifies the 1968 Agreement to include these primary measures:

1) Update the remaining usable storage and weekly water release requirements from Lake Keowee by incorporating the additional storage capacity of Bad Creek Reservoir;
2) Equalize the proportion of combined remaining usable storage capacity at USACE reservoirs (Hartwell, RBR, and Thurmond) with that of DE reservoirs (Bad Creek, Jocassee, and Keowee);
3) Allow for a 10 foot drawdown of Lake Keowee (full pool is 800 feet);
4) Allow the ONS to operate down to Lake Keowee elevations of 790 feet;
5) Allow for a 30 foot drawdown of Lake Jocassee (full pool is 1,110 feet) and exclude the volume of pumped water in the weekly release calculation to reflect the volume that is actually available downstream; and
6) Incorporate USACE Drought Plan protocols and DE Low Inflow Protocols.

The USACE has concluded that the proposed action may affect, but is not likely to have significant adverse effects on threatened or endangered species that may occur in the impact area. Further, the Agreement would not cause any significant adverse impacts to wetlands and would not result in unacceptable adverse cumulative or secondary impacts.

Service Priorities

The Service's goals regarding this proposed Agreement are to conserve, protect, and enhance Federal trust species and their habitats. These priority species in the Savannah River Basin that may be affected by the proposed Agreement include: bald eagle (*Haliaeetus leucocephalus*), wood stork (*Mycteria americana*), shortnose sturgeon (*Acipenser brevirostrum*), Atlantic sturgeon (*Acipenser oxyrinchus*), robust redhorse (*Moxostoma robustum*), American eel (*Anguilla rostrata*), yellow lampmussel (*Lampsilis cariosa*), Atlantic pigtoe (*Fusconaia masoni*), Savannah lilliput (*Toxolasma pullus*), rocky shoals spider-lily (*Hyemocallis coronaria*), Altamaha arcmussel (*Alasmidonta arcula*), Brother spike (*Elliptio fraterna*), and blueback herring (*Alosa aestivalis*). Our focal objective for this Agreement is to ensure that these species are afforded sufficient aquatic habitat to sustain or enhance foraging and breeding with additional consideration for species that require naturally variable river flows.

Studies indicate that flow-mediated habitats downstream of the Lake Thurmond suitable for robust redhorse spawning are limited to just two central gravel bars (Cantrell *et al.* 2014). Drought flows expose these already limited habitats and flow fluctuations exacerbate mortality of robust redhorse eggs and juveniles by redistributing sediment fines (Fisk *et al.* 2013). Suitable spawning depths for this species occur between approximately 6,500 – 9,300 cubic feet per second (cfs). The Service recovery goal for robust redhorse is to establish and maintain at least six self-sustaining populations distributed throughout the species' historical range (RRCC 2006). Actions towards achieving this goal include, ensuring sufficient seasonal flows for successful spawning, protecting the limited remaining gravel bar habitat, and restoring habitat connectivity on the Savannah River.

Savannah lilliput, yellow lampmussel, and Altamaha arcmussel occur on the Savannah River downstream of Lake Thurmond. Flow studies suggest that suitable habitat declines when discharge is less than 3,600 cfs (Duncan *et al.* 2014). Moreover, the rate of flow fluctuation, specifically flow attenuation, resulted in mussel stress or mortality due to stranding. Service priorities for these species include ensuring sufficient discharges to support suitable mussel habitat, reducing the rate of flow fluctuation to prevent associated stranding stress and mortality, and restoring habitat connectivity for host fish.

Blueback herring, Atlantic sturgeon, and shortnose sturgeon are anadromous fish that occur on the Savannah River. Service priorities for these species include restoring habitat connectivity, seasonal flows, and successful spawning in the Savannah River.

General Comments

Appendix F and Section 2.9.5 (*Protected Species*) of the DEA, did not include three species of Federal concern. These species are: Altamaha arcmussel (*Alasmidonta arcula*), Brother spike (*Elliptio fraterna*), and blueback herring (*Alosa aestivalis*). The Service considers these as At-

Risk-Species[1]. We request that you include these species for consideration in the Final Environmental Assessment.

The Service's priorities revolve around the general goal of restoring flows and habitat connectivity to that of, or that which mimics, the natural regime prior to river regulation. We assert that establishing run-of-river operations at hydropower facilities (where instantaneous inflow equals instantaneous outflow) would alleviate many stressors to sensitive populations, would aid in the recovery of federally-listed species, and may help preclude listing of additional species.

Concurrence with USACE Determination

After reviewing the DEA, the Service concurs with your determination that the proposed action (A3), may affect, but is not likely to have significant adverse effects on threatened or endangered species in the impact area. However, due to obligations under the ESA, this project must be reconsidered if: (1) new information reveals impacts of this identified action may affect any listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner, which was not considered in this assessment; or (3) a new species is listed or critical habitat is designated that may be affected by the identified action. Additionally, the Service concurs with your determination that the proposed Agreement is not likely to cause significant adverse impacts to wetlands, and would not result in unacceptable adverse cumulative or secondary impacts.

The Service appreciates the opportunity to provide comments for the DEA and draft FONSI for the proposed project. If you need further assistance, please contact Mr. Byron Hamstead at (843) 727-4707, ext. 205, and reference FWS Log No. 2014-CPA-0111.

Sincerely,

for Thomas D. McCoy
Acting Field Supervisor

TDM/BAH

cc: Ms. Alice Lawrence, USFWS, Athens, GA
Mr. Mark Cantrell, USFWS, Asheville, NC
Mr. Wilson Laney, USFWS, Raleigh, NC

[1] At-Risk-Species are species that the Service has been petitioned to list and for which a positive 90-day finding has been issued (listing may be warranted). While these species are not afforded any federal legal protection, conservation actions to improve their status may preclude the need to list them as threatened or endangered species under the ESA.

References

Cantrell, M.A., W.W. Duncan, and E. Krueger. 2014. Evaluation of low discharge effects on Savannah River mid-channel gravel bars, with an emphasis on habitat suitability for spawning Robust Redhorse (*Moxostoma robustum*). USFWS Report to the U.S. Army Corps of Engineers, Part II of "A compendium of Savannah River studies conducted by the U. S. Fish and Wildlife Service intended to inform flow management."

Duncan, W.W., M.A. Cantrell and M. Wolf. 2014. Effects of discharge changes on freshwater mussels and habitats in the lower Savannah River. USFWS Report to the U.S. Army Corps of Engineers, Part II of "A compendium of Savannah River studies conducted by the U. S. Fish and Wildlife Service intended to inform flow management."

Fisk, J.M. II, T.J. Kwak, R.J. Heise, and F.W. Sessions. 2013. Redd dewatering effects on hatching and larval survival of the robust redhorse. River Research and Applications 29:574-581.

Robust Redhorse Conservation Committee Habitat Technical Working Group. 2006. Habitat Restoration Management Plan.

Responses to Comments from USFWS

Comment 1: Appendix F and Section 2.9.5 *(Protected Species)* of the DEA, did not include three species of Federal concern. These species are: Altamaha arcmussel *(Alasmidonta arcula*), Brother spike *(Elliptio fraterna),* and blueback herring *(Alosa aestivalis).* The Service considers these as At-Risk-Species. We request that you include these species for consideration in the Final Environmental Assessment.

Response: Concur. These species are addressed in Section 4.4.1.8 of the Final EA.

Comment 2: The Service's priorities revolve around the general goal of restoring flows and habitat connectivity to that of, or that which mimics, the natural regime prior to river regulation. We assert that establishing run-of-river operations at hydropower facilities (where instantaneous inflow equals instantaneous outflow) would alleviate many stressors to sensitive populations, would aid in the recovery of federally-listed species, and may help preclude listing of additional species.

Response: Establishing run-of-river operations at the Corps hydropower facilities would be a substantial change in their operation and the effects of such operations. Such a proposal goes well beyond the scope of the present proposed action, which is updating the 1968 Operating Agreement between Duke Energy, SEPA, and the Corps.

Comment 3: After reviewing the DEA, the Service concurs with your determination that the proposed action (A3), may affect, but is not likely to have significant adverse effects on threatened or endangered species in the impact area.

Response: The Corps appreciates the Service’s concurrence in the determination of effects on threatened and endangered species.

Comment 4: The Service concurs with your determination that the proposed Agreement is not likely to cause significant adverse impacts to wetlands, and would not result in unacceptable adverse cumulative or secondary impacts.

Response: The Corps appreciates the Service’s concurrence in the expected effects on wetlands and cumulative impacts.

U.S. Environmental Protection Agency – Region 4

New Operating Agreement between U.S. Army Corps of Engineers, Southeastern Power Administration, and Duke Energy Carolinas, LLC
Environmental Assessment
June 2014

U.S. Environmental Protection Agency Comments (July 30, 2014):

1. Water Quality:

a. EPA recommends that the Corps commit to ensuring that this new action will not cause or contribute to water quality standards violations (particularly Dissolved Oxygen (D.O.) in the Hartwell, Richard B Russell (RBR), and J. Strom Thurmond (JST) Project tailraces and the Savannah River from the Seaboard Coastline Railroad Bridge (RM 27.4) to the coast) by including a statement in the FONSI that states the proposed project will not cause or contribute to violations of SC or GA water quality standards.

b. The EA contains confusing statements regarding D.O. in the tailwaters of the Corps projects. For example, Page 2-39 states that, "Water released from JST Dam has D.O. concentrations of at least 3 mg/L throughout the year (USACE 2008a)." Using the same citation, Page 2-40 states that, "The D.O. concentrations of water released from JST Dam are at or above 5 mg/L throughout the year (USACE 2008a)." The second reference appears to be unsubstantiated, since the oxygenation system began operating in June 2011, three years after the cited publication (U.S. Army Corps of Engineers. 2008a. Draft Environmental Assessment and Finding of No Significant Impact, Temporary Deviation Drought Contingency Plan Savannah River Basin. Savannah District). Additionally, Page 4-2 states that, "Flow releases from JST Dam generally contain at least 5 mg/L of D.O." Please quantify the term "generally." EPA is concerned that the D.O. in the tailrace falls below the GA and SC water quality criterion of 5.0 mg/L. EPA requests that documentation of D.O. conditions post-June 2011 be included. Additionally, on page 2-43, the Corps states, "The recently installed oxygen injection system in the forebay of JST Lake is expected to improve water quality below the JST Dam. Flows immediately below JST Dam are expected to contain at least 5 mg/L of D.O. throughout the year, which would meet both the Georgia and South Carolina standards for D.O." Are financial and logistical structures in place to ensure the continued operation of oxygen injection systems for the duration of the proposed action?

c. Daily Average Drawdown Elevations are used as a modeling parameter for the Reservoir Temperature and DO as summarized in Tables ES-3 and 5.0-2. Likewise "Average JST Flow Release" was used to quantify the impacts on Lower Savannah River DO and Salinity, and Biotic Communities in the Lower Savannah – including "Fish and Mussel Habitat", "Aquatic Plants, Wetlands and Wildlife," "Savannah National Wildlife Refuge" and "Protected Species." EPA requests clarification as to why these are appropriate modeling parameters for these diverse resources. For example, how can temperature and DO be measured by daily average drawdown

elevation, and is the mean flow the best measure of impacts on water quality and biological resources?

2. Model Assumptions for Climate Change Hydrology: On page 3-15, the Corps discusses model assumptions and future water withdrawals with climate change hydrology, but there is no explanation as to how the Corps determined "climate change" hydrology. EPA is encouraged that the Corps is considering climate change in modeling assumptions, but recommends the Corps include documentation on of how these assumptions were produced or refer to an appendix with documentation.

3. Adaptive Management and JST Releases: Throughout the document and specifically in Section 3.3.3, the Corps discusses the Drought Plan. Particularly, on page 3-22, the Corps states, "the USACE could gradually bump the minimum required flow releases up to 3800 cfs over time. Therefore, setting the minimum JST flow release at 3800 cfs is a conservative assumption." However, many times the Corps will seek temporary deviations from the normal release regime (i.e., April 2012 EA had flows below 3800 cfs). EPA requests clarification as to whether the modeling included occasions when the flows will dip below 3800 cfs? EPA also requests clarification as to whether a number below 3800 cfs would be a more appropriate conservative number when predicting reservoir storage and adaptive management approaches? EPA recommends the Corps clarify the relationship between temporary deviations that go below 3800 cfs and usable storage.

Responses to Comments from US EPA

Comment 1: EPA recommends that the Corps commit to ensuring that this new action will not cause or contribute to water quality standards violations (particularly Dissolved Oxygen in the Hartwell, Richard B Russell, and J. Strom Thurmond Project tailraces and the Savannah River from the Seaboard Coastline Railroad Bridge to the coast) by including a statement in the FONSI that states the proposed project will not cause or contribute to violations of SC or GA water quality standards.

Response: The FONSI has been revised as suggested.

Comment 2: The EA contains confusing statements regarding D.O. in the tailwaters of the Corps projects. EPA is concerned that the D.O. in the tailrace falls below the GA and SC water quality criterion of 5.0 mg/L. EPA requests that documentation of D.O. conditions post-June 2011 be included.

Response: Information has been added to page 2-40 to show D.O. data for releases from JST in 2013. That is the most recent information for D.O. levels in the JST discharges.

Comment 3: Are financial and logistical structures in place to ensure the continued operation of JST oxygen injection systems for the duration of the proposed action?

Response: Construction and continued operation of the oxygenation system in JST is one of the mitigation commitments for operation of the pumpback units in RBR. Operation of that system is now part of the Corps' regular budget requests for the RBR Project.

Comment 4: EPA requests clarification as to why (1) Daily Average Drawdown Elevations is an appropriate modeling parameter to identify impacts to Reservoir Temperature and DO.

Response: The Corps does not expect daily average pool elevations to significantly affect reservoir temperatures or D.O. levels because the operational model tries to limit daily pool fluctuations to less than 1 foot/day, except when in flood control.

Comment 5: EPA requests clarification as to why (2) Average JST Flow Releases are appropriate modeling parameters for identifying impacts on Lower Savannah River DO and Salinity, and Biotic Communities in the Lower Savannah – including "Fish and Mussel Habitat", "Aquatic Plants, Wetlands and Wildlife," "Savannah National Wildlife Refuge" and "Protected Species."

Response: Aquatic resources downstream of JST dam are greatly influenced by the flow releases from that structure. Such resources include fish and mussel habitats, aquatic plants, wetlands, wildlife, and protected species. The influences from those releases extend all the way to Savannah Harbor, where the Savannah National Wildlife Refuge is located. Since flow rates tend to smooth out with distance downstream from the dam, average flow releases are appropriate for assessing conditions in the 20-200 mile reach downstream of the dam over an extended period, such as an entire season.

Comment 6: On page 3-15, the Corps discusses model assumptions and future water withdrawals with climate change hydrology, but there is no explanation as to how the Corps determined "climate change" hydrology. EPA is encouraged that the Corps is considering climate change in modeling assumptions, but recommends the Corps include documentation on of how these assumptions were produced or refer to an appendix with documentation.

Response: There is no uniformly agreed-upon amounts for which climate may change in the foreseeable future. Many predictions have been made about the extent of change that will occur, and those predictions have changed with time. To address this uncertainty, Duke and the Corps considered how changes in climate could adversely affect the issues most pertinent in this evaluation. The main issue is the amount of water moving down in the Savannah River system. To assess possible effects of adverse climatological changes on that issue, the hydrologic modelers considered (1) a 3 degree temperature rise (which would lead to a 10% increase in evaporation) and no reduction in inflows, and (2) a 6 degree temperature rise (which would lead to a 20% increase in evaporation) and a 10% reduction in inflows. We have revised page 3-15 to include this information.

Comment 7: Throughout the document and specifically in Section 3.3.3, the Corps discusses the Drought Plan. EPA requests clarification as to whether the modeling included occasions when the flows will dip below 3,800 cfs?

Response: Yes, the modeling does include the approved decreases in flow that are approved in the July 2012 Drought Plan. Those include instances of zero discharge from JST during floods when the river flow at Augusta equals and exceeds 30,000 cfs. The modeling also includes the winter flow reduction from 3,800 cfs to 3,600 and 3,100 cfs when in Drought Levels 2, 3 and 4.

Comment 8: Throughout the document and specifically in Section 3.3.3, the Corps discusses the Drought Plan. EPA also requests clarification as to whether a number below 3,800 cfs would be a more appropriate conservative number when predicting reservoir storage and adaptive management approaches?

Response: The Corps believes that 3,800 cfs is the appropriate number to use to assess impacts from low flows because that rate is approved discharge rate for the Spring, Summer, and Fall months during Drought Levels 1-3. The Corps is only authorized to release less than that during Winter months when in Drought Levels 2 and 3 and after the reservoirs have reached the bottom of their Conservation Pools.

Comment 9: Throughout the document and specifically in Section 3.3.3, the Corps discusses the Drought Plan. EPA recommends the Corps clarify the relationship between temporary deviations that go below 3,800 cfs and usable storage.

Response: From time to time, the Corps has asked for public and agency approval of temporary deviations from its approved Drought Plan operations. Each such deviation was temporary in nature during a severe drought and was intended to retain additional water in the reservoirs to delay the point at which their Conservation Pools would be empty (zero useable storage).

United States Department of the Interior

U.S. GEOLOGICAL SURVEY
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http://ga.water.usgs.gov

Mr. William G. Bailey
Chief, Planning Division
U.S. Army Corps of Engineers-Savannah District
100 W. Oglethorpe Avenue
Savannah, Georgia 31401-3604

Mr. Bailey,

Thank you for the opportunity to reply to your Draft Environmental Assessment. We apologize for the tardiness of this reply, but it needed to be circulated to a number of people within USGS.

Our only comment regarding this is that this Operating Agreement partnership should consider the re-activation of the streamgage on the Savannah River at 5th Street in downtown Augusta, Georgia. We have been in discussions with numerous stakeholders for several years about the need for this gage to be re-activated for both drought monitoring and flood threats. While this group of stakeholders is attempting to pull together the necessary funds for this streamgage, inclusion of it in this Draft EA would open up potential new funding opportunities and help make it a reality.

If you have any questions regarding this response, please do not hesitate to contact me at (678) 924-6672 or bemccall@usgs.gov

Sincerely,

Brian E. McCallum

Brian E. McCallum
Assistant Director
USGS Georgia Water Science Center

Response to Comments from USGS

Comment: Our only comment regarding this is that this Operating Agreement partnership should consider the re-activation of the streamgage on the Savannah River at 5th Street in downtown Augusta, Georgia.

Response: Although the Corps supports having sufficient technical information from which to make informed decisions, it does not believe that information from a streamgage on the Savannah River at 5th Street in Augusta is needed to implement the Selected Plan.

South Carolina Department of
Natural Resources

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Alvin A. Taylor
Director
Robert D. Perry
Director, Office of
Environmental Programs

July 28, 2014

William G. Bailey, Chief
Planning Division
U.S. Army Corps of Engineers, Savannah District
100 West Ogelthorpe Avenue
Savannah, GA 31401

REFERENCE: Draft Environmental Assessment and Draft Finding of No Significant Impact for New Operating Agreement between U.S. Army Corps of Engineers, Southeastern Power Administration, and Duke Energy

Dear Mr. Bailey,

Personnel of the South Carolina Department of Natural Resources (DNR) have reviewed the Draft EA and Draft FONSI for the New Operating Agreement between the USACE, SEPA and Duke Energy and offer the following comments.

Background

On October 1, 1968, the USACE, SEPA and Duke Energy (formerly Duke Power Company) entered into an Operating Agreement intended to equalize the percentage of remaining usable storage in USACE's Hartwell and J. Strom Thurmond (JST) Reservoirs with the percentage of remaining usable storage in Duke Energy's Jocassee and Keowee lakes on a weekly basis. Since the inception of the 1968 Agreement, significant developments by both USACE and Duke Energy have taken place to include:

- During the 1970s, Duke Energy constructed the 2,538 megawatt Oconee Nuclear Station (ONS) on Lake Keowee,
- In 1991, Duke Energy constructed the Bad Creek Pumped Storage Station,
- In 1985, USACE began operating the Richard B. Russell Project, a pumped storage station located between Lakes Hartwell and JST,
- In 1989, USACE implemented a Drought Plan (with subsequent revisions, the most recent in 2012).

Duke Energy also has proposed a Low Inflow Protocol (LIP) as a part of the Relicensing Agreement (RA), to which DNR is a signatory, for the Keowee-Toxaway Project (K-T Project). Duke Energy's Federal Energy Regulatory Commission license for the K-T Project expires in 2016. The RA is the product of the collaboration of a diverse group of stakeholders, including state, federal and local agencies, water suppliers and non-governmental organizations, to balance the need for power with other uses, such as recreation, navigation, water supply and natural resource protection and enhancement. The RA incorporates, by reference, the provisions of the Draft Agreement between USACE, SEPA and Duke Energy.

Alternatives Considered

The Draft EA evaluates potential environmental, engineering and economic impacts of 4 alternatives, summarized below:

- No Action Alternative (NAA): The NAA represents operations in accordance with the 1968 Agreement with no changes other than incorporating the USACE's 2012 DP. The NAA assumes Duke Energy would draw down the Lake Keowee reservoir elevation below 793 feet AMSL when required. Such an action would require Duke to temporarily cease generation at the Oconee Nuclear Station, as specified in their license for that facility from the Nuclear Regulatory Commission.

- Alternative 1: Duke Energy would modify the ONS to allow it to meet flow requirements of the 1968 Agreement and allows the ONS to operate down to a Lake Keowee pool elevation of 778 ft AMSL. Alternative 1 also incorporates USACE's DP. Alternative 1 equalizes the percent of combined remaining usable storage capacity at the Hartwell and JST reservoirs with the percent of combined remaining usable storage capacity at Lakes Jocassee and Keowee.

- Alternative 2: Duke Energy would operate in accordance with the 1968 Agreement, with the exception that no water would be released from Lake Keowee if that release would result in a Lake Keowee elevation below 794.6 ft AMSL. A2 also incorporates USACE's DP.

- Alternative 3: Alternative 3 incorporates updated storage volumes to include the Bad Creek and RBR Projects, revision of the minimum elevation for Lake Keowee to 790 ft AMSL, revision of the minimum pool elevation for Lake Jocassee to 1080 ft AMSL, additional storage in Lake Keowee provided through modifications to the intake for the ONS, USACE's DP and the LIP provisions as described in the RA and Operating Agreement.

- Alternative 4: Alternative 4 evaluates the same reservoir storage volumes as Alternative 3, but does not include the provisions of the K-T Project LIP as described in the RA. Alternative 4 does include USACE's DP provisions.

Mr. William G. Bailey
Draft EA/FONSI for New Operating Agreement between USACE, SEPA and Duke Energy
July 28, 2014

Summary

The Draft EA and FONSI concludes that Alternative 3 is the preferred alternative, as it best balances the competing interests of reservoir levels, downstream flow releases, hydroelectric generation, risks to ONS operations, social and biological communities, recreation and economic costs. DNR staff has been active in the relicensing process of the KT Project, participating over the past five years in numerous technical working committees, which explored the potential impacts of various operating scenarios to natural resources, navigation and water supply.

DNR concurs that A3 is the preferred alternative that best protects and enhances natural resources, and finds it consistent with the Operating Agreement.

In addition, DNR supports and encourages any and all efforts that can be put forth by USACE to collaborate with all water users/withdrawers in the Savannah Basin toward water conservation efforts during times of drought.

DNR appreciates the opportunity to review and comment on the Draft EA and FONSI for the Operating Agreement. If your office should require any additional information regarding these comments, please contact me at your earliest convenience.

Sincerely,

Bob Perry
Director, Office of Environmental Programs

ec: Tom McCoy – FWS
Sandra Tucker – FWS
Pace Wilber – NMFS
Jeff Larson – GA DNR
David Baize – SC DHEC
Heather Preston – SCDHEC
Alvin A. Taylor
Ken Rentiers
Emily Cope
Breck Carmichael
Bill Marshall

Responses to Comments from SC DNR

Comment 1: DNR concurs that A3 is the preferred alternative that best protects and enhances natural resources, and finds it consistent with the Operating Agreement.

Response: The Corps is pleased that SC DNR concurs in the Selected Plan.

Comment 2: DNR supports and encourages any and all efforts that can be put forth by USACE to collaborate with all water users/withdrawers in the Savannah Basin toward water conservation efforts during times of drought.

Response: The Corps is pleased that SC DNR supports the actions the Corps intends to take to encourage water users to limit their water use during severe droughts.

South Carolina -- Savannah River Maritime Commission

WILLOUGHBY & HOEFER, P.A.

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July 7, 2014

VIA E-MAIL

Mr. William Bailey
Savannah District
US Army Corps of Engineers
100 W. Oglethorpe Ave.
Savannah, GA 31401

Re: Savannah River Maritime Commission

Dear Mr. Bailey:

Thank you for the recent notices to the Savannah River Maritime Commission (Commission) of proposed actions on the Savannah River by the United States Army Corps of Engineers' (Corps).

There appear to be three pending matters for which the Corps has sought comment from the Commission: (1) an application for the Dredged Material Management Plan of the Atlantic Intracoastal Waterway (DMMP); (2) a proposed action to revise the mitigation plan for the Savannah National Wildlife Refuge; and (3) proposed action related to an operating agreement between the Corps, Duke Energy Carolina, and the Southeastern Power Administration.

To clarify, the Commission has permitting authority and jurisdiction over the DMMP and is currently reviewing that permit application. However, the Commission does not have permitting authority or jurisdiction over the revised mitigation plan or the proposed operating agreement, as those matters are not directly within the Commission authority or jurisdiction or represent a related collateral matter.

If you have any questions, please do not hesitate to contact me. Thank you.

Very truly yours,

WILLOUGHBY & HOEFER, P.A.

Randolph R. Lowell

cc: The Honorable Alan Wilson
The Honorable W. Dean Moss, Jr.

Response to Comment from
South Carolina Savannah River Maritime Commission

Comment: The Commission does not have permitting authority or jurisdiction over the proposed operating agreement

Response: Comment noted. No approval or permit is needed from SC Savannah River Maritime Commission.

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

July 28, 2014

Bill Bailey, Chief
Planning Division
Savannah District, U.S. Army Corps of Engineers
100 West Oglethorpe Avenue
Savannah, Georgia 31401

Re: Comments on the Draft Environmental Assessment for New Operating Agreement

Dear Mr. Bailey:

The South Carolina Department of Health and Environmental Control (Department) appreciates the opportunity to submit comments on the Draft Environmental Assessment (EA) for the New Operating Agreement between the U.S. Army Corps of Engineers (Corps), the Southeastern Power Administration, and Duke Energy Carolinas, LLC (Duke Energy). According to the Draft EA, the Corps is proposing to modify the existing 1968 Operating Agreement that describes how Duke Energy will release water from its upstream reservoirs to the downstream federal reservoirs.

The Department has reviewed the Draft EA and has the following comments and recommendations:

1. Appendix C of the Draft EA provides water quality standards and designated use classifications for the waters within the Savannah River Basin to include standards for North Carolina, South Carolina and Georgia. Table C-3 of Appendix C provides Georgia's water use classification for the Savannah River, but no information is provided on South Carolina's classifications. In the interest of completeness, we recommend that the report also provide the South Carolina classifications for the Savannah River.

2. Section 1-12 of the Draft EA notes that the modeling analysis and results have not yet been thoroughly reviewed and that the Corps plans to host a meeting with hydraulic modelers during the Draft EA comment period to discuss the modeling to ensure consistency and reliability. The Department requests that our staff be included in this meeting.

3. A number of permitted surface water withdrawals in South Carolina were not included in Appendix A. Please find enclosed a list of these withdrawals and their permitted and reported water use data.

The Department also requests that the Final EA not be issued until after the modeling meeting has occurred and we have an opportunity to review any new information that is presented at this meeting.

If you have any questions, please call me at (803) 898-4272 or e-mail me at david.baize@dhec.sc.gov.

Sincerely,

David G. Baize
Assistant Bureau Chief
Bureau of Water

ENC: List of Surface Water Withdrawals

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
2600 Bull Street • Columbia, SC 29201 • Phone: (803) 898-3432 • www.scdhec.gov

Name	Permit ID	Facility	County	Permitted Withdrawal Amount (MGM)	Average Use for 2011 in MGM
ANDERSON REGIONAL JOINT WATER SYSTEM	04IN051	SOUTH ANDERSON WATER SUP	ANDERSON	806	84.125
WOODSIDE GOLF LLC / DBA THE RESERVE CLUB	02GC052	THE RESERVE CLUB	AIKEN	22	12.54
SAVANNAH LAKES VILLAGE PROPERTY OWNERS	35GC003	SAVANNAH LAKES VILLAGE PO	MCCORMICK	107	6.069
PIONEER RURAL WATER DISTRICT	37WS001	PIONEER RURAL WATER - WTP	OCONEE	232.5	Not reported **
WG DEVELOPMENT LLC	02WS030	VAUCLUSE POND INTAKE FACIL	AIKEN	121.7	121.667
KEOWEE RIVER CLUB LLC	39GC010	THE RESERVE AT LAKE KEOWEE	PICKENS	61.6	16.894
HANSON AGGREGATES SOUTHEAST LLC	04MI002	HANSON AGGREGATES - ANDEI	ANDERSON	29	1.879
CLUBCORP	02GC007	WOODSIDE PLANTATION	AIKEN	187.4	11.657
CLIFFS CLUB AT KEOWEE VINEYARDS LLC	39GC009	CLIFFS CLUB AT KEOWEE VINEY	PICKENS	18	7.512
CLIFFS CLUB AT KEOWEE FALLS LLC	23GC015	CLIFFS CLUB AT KEOWEE FALLS	OCONEE	30.36	9.86
CLIFFS CLUB AT KEOWEE SPRINGS LLC	39GC007	CLIFFS CLUB AT KEOWEE SPRIN	PICKENS	16.93	5.419
CLEMSON UNIVERSITY FINANCE CORP	39GC008	WALKER COURSE @ CLEMSON I	PICKENS	47.4	3.511
KIMBERLY CLARK CORP	02IN003	KIMBERLY-CLARKE BEECH ISLAN	AIKEN	1,607	254.667
BREEZY HILL WATER & SEWER COMPANY INC	02WS005	BREEZY HILL WTP	AIKEN	1,674	Not reported **
RIVER GOLF INC	02GC008	RIVER GOLF CLUB - NORTH AUG	AIKEN	30.13	2.826
ALLNEX USA INC	02IN008	CYTEC INDUSTRIES - LANGLEY P	AIKEN	147.32	0.12
WG DEVELOPMENT LLC	02WS029	GRANITEVILLE WATER TREATMI	AIKEN	620	177.167
SAGE VALLEY GOLF CLUB	02GC012	SAGE VALLEY GOLF CLUB	AIKEN	160.58	7.58
KEOWEE KEY PROPERTY OWNERS ASSOCIATION	37GC001	KEOWEE KEY GOLF CLUB	OCONEE	44.64	2.523
OLD SOUTH GOLF LINKS	07GC023	OLD SOUTH GOLF LINKS	BEAUFORT	15.28	4.617
US DEPT OF ENERGY	02IN010	SAVANNAH RIVER SITE	AIKEN	25,185.00	1,457.68
			Total in MGM	31,137.84	2,188.31
			Total in MGD	1,037.93	72.94

Responses to Comments from SC DHEC

Comment 1: Appendix C of the Draft EA provides water quality standards and designated use classifications for the waters within the Savannah River Basin to include standards for North Carolina, South Carolina and Georgia. Table C-3 of Appendix C provides Georgia's water use classification for the Savannah River, but no information is provided on South Carolina's classifications. In the interest of completeness, we recommend that the report also provide the South Carolina classifications for the Savannah River.

Response: Table C-3 has been revised to include information on the water use classifications for both South Carolina and Georgia.

Comment 2: Section 1-12 of the Draft EA notes that the modeling analysis and results have not yet been thoroughly reviewed and that the Corps plans to host a meeting with hydraulic modelers during the Draft EA comment period to discuss the modeling to ensure consistency and reliability. The Department requests that our staff be included in this meeting.

Response: Duke Energy included these modeling results in its stakeholder collaboration as it developed their Relicensing Agreement. SC DHEC was part of that collaboration. The State of Georgia generally did not participate in that collaboration. GA DNR has now reviewed the modeling work and is comfortable with the results. A SC DNR modeler participated in the meeting the Corps held with GA DNR, Duke Energy, and SEPA in September 2014. The modeling results were subsequently provided to SC DHEC modelers for review.

Comment 3: A number of permitted surface water withdrawals in South Carolina were not included in Appendix A. Please find enclosed a list of these withdrawals and their permitted and reported water use data.

Response: There was an error in the printing of Appendix A; only the first table of Duke Energy's Water Supply Study was included. We have revised Appendix A to include all of Duke's Water Supply Study. Since that study was completed in 2011, changes have occurred in the basin. Some of those changes on water withdrawals/returns in SC were identified in the SC DHEC comment letter. Those changes have not been incorporated into the 2011 study. The analyses in Appendix A include water use projections for surface water users with an average annual daily withdrawal or return rate of at least 0.1 million gallons per day (MGD) during 2003 – 2010. That was the surface water user database provided to HDR (Duke Energy's consultant) in September 2011. Surface water users added (or removed) from SCDHEC's database after December 2010 have not been included in the Water Supply Study. In addition, surface water users relying on isolated ponds within the Savannah River Basin were not included in the Water Supply Study. Golf courses using less than 0.1 MGD on an average annual daily basis were not listed individually, but were accounted for in the agriculture and irrigation category. While there are several other users that withdraw or return water at less than the 0.1 MGD annual average

rate, their impact on net withdrawal from the watersheds for each reservoir is considered minimal when evaluating long-term water-yield analysis.

Comment 4: The Department also requests that the Final EA not be issued until after the modeling meeting has occurred and we have an opportunity to review any new information that is presented at this meeting.

Response: The Corps did not complete the Final EA until after further coordinating with the natural resource agency hydraulic modelers. The modeling meeting occurred on September 11, 2014 and the Corps subsequently provided SC DHEC with information on the updated model.

South Carolina
Department of Parks, Recreation & Tourism

Nikki R. Haley
Governor

Duane N. Parrish
Director

July 25, 2014

Savannah District, U.S. Army Corps of Engineers
Planning Division
100 West Oglethorpe
Savannah, Georgia 31401

Subject: Comments from SC Department of Parks, Recreation and Tourism regarding US Army Corps of Engineers' Draft Environmental Assessment and Finding of No Significant Impact

The SC Department of Parks, Recreation and Tourism agrees that the Draft Environmental Assessment and the Draft Finding of No Significant Impact are consistent with the Relicensing Agreement (RA) and its Low Inflow Protocol (LIP). We also support that the Environmental Assessment's preferred Alternative 3 and agree that it best improves the operating conditions for the upper Savannah River Basin.

Sincerely,

Phil Gaines
Director, SC State Park Service
SC Department of Parks, Recreation and Tourism

1205 Pendleton Street • Columbia, South Carolina 29201

Responses to Comments from SC PRT

Comment: We support that the Environmental Assessment's preferred Alternative 3 and agree that it best improves the operating conditions for the upper Savannah River Basin.

Response: The Corps is pleased that SC PRT support the Selected Plan.

Georgia Department of Natural Resources
Environmental Protection Division
2 Martin Luther King Jr. Drive, Suite 1456, Atlanta, Georgia 30334
Judson H. Turner, Director
(404) 656-4713

July 25, 2014

William G. Bailey, Chief
Planning Division
Savannah District
U.S. Army Corps of Engineers
100 West Oglethorpe Avenue
Savannah, Georgia 31401

RE: Joint Public Notice, U.S. Army Corps of Engineers, Savannah District, and Southeastern Power Administration; Draft Environmental Assessment and Draft Finding of No Significant Impact for New Operating Agreement between the Corps, Southeastern Power Administration, and Duke Energy Carolinas, LLC

Dear Mr. Bailey:

The Georgia Environmental Protection Division (GAEPD) appreciates the opportunity to comment on the referenced draft documents regarding the proposed new storage agreement for operating Duke Energy's reservoir system. Our comments are attached.

We understand the importance of Duke Energy's relicensing effort in supporting stable regional power capabilities, as well as the challenges associated with development of an operating plan that meets the obligations that the Corps, Southeastern Power Administration (SEPA), and Duke Energy have to power customers and stakeholders. With the recognition and acknowledgment that it is important to update the storage agreement between the United States Corps of Engineers (Corps), SEPA, and Duke Energy, it is imperative that we rigorously employ the best available science in assessing the potential impacts that a newly structured storage agreement may have on downstream reservoirs and river flows, and that we ensure a mutual understanding and consent to these impacts within the shared Savannah River Basin.

GAEPD is concerned that some of the model settings Duke Energy has used may be causing troubling results. We have concerns with Duke Energy's model simulation results for Alternative A2, which hamper our ability to assess the proposed alternatives (A3 and A4). Due to these concerns, we cannot determine the appropriate baseline that should be used for comparison to the proposed alternatives. The selection of the correct baseline has implications beyond this project, since the baseline selected will be incorporated into the Comprehensive Savannah River Basin Study (Comp 2), which is currently underway. Lastly, we are concerned about the effect the proposed alternatives may have on the flow releases from Thurmond Dam during critical times of the year when the natural dissolved oxygen levels in the Savannah Harbor are below a daily average of 5 mg/L, not less than 4 mg/L, affecting the limited available assimilative capacity in the harbor. If Duke's proposed alternatives increase the number of days there is reduced flow from Thurmond, there could be a negative impact to water quality in the harbor during critical times.

As you are aware, GAEPD initiated discussions with the Corps regarding our concerns with the proposed operating plans prior to the Corps issuing the referenced public notice. At that time, we recommended a meeting be held with the technical staffs of the GAEPD, the South Carolina Department of Health and Environmental Control; the South Carolina Department of Natural Resources; Duke Energy, and the Corps so that modeling issues could be fully discussed. I would like to request that this meeting be scheduled as soon

as possible and that the Corps not move forward with approval of the plan until these issues have been mutually resolved.

Again, we appreciate the opportunity to comment on this proposal and look forward to further discussions. Please coordinate with Jeff Larson of my staff at 404-308-8062 regarding possible meeting dates and times.

Sincerely,

Judson H. Turner
Director

GAEPD Comments on Draft Environmental Assessment and Draft Finding of No Significant Impact for New Operating Agreement between the Corps, Southeastern Power Administration, and Duke Energy Carolinas, LLC

Duke Energy developed a number of alternatives for the technical analysis. The No Action Alternative/A1 is the storage agreement signed by Duke Energy and the Corps in 1968 (1968 Storage Agreement). The 1968 Storage Agreement pre-dates development of Richard B Russell and Bad Creek reservoirs, and does not incorporate storage of these projects in the balancing computation. According to the 1968 Storage Agreement, 225,400 acre-feet of storage in Jocassee and 327,700 acre-feet of storage in Keowee (from elevation 778 feet AMSL to 800 feet AMSL) constitute a total Duke Energy system storage of 553,100 acre-feet. 1,415,500 acre-feet of storage in Hartwell and 1,045,000 acre-feet of storage in Thurmond constitute a total Corps system storage of 2,460,500 acre-feet. Other than the top 20 percent of Duke Energy system storage and the top 20 percent of the Corps system storage, the two storage systems are balanced percent by percent, according to the language of the 1968 Storage Agreement.

The second alternative, A2, reflects how Duke Energy has historically operated Keowee since the middle to late1990's. In this alternative, Duke Energy limited the draw down at Keowee to 794.6 feet, effectively making 237,400 acre-feet of storage in Keowee and the Duke Energy system inaccessible for releasing to the downstream Corps system. The Duke Report states that balancing between the two systems has been done with the same amount of storage from Duke Energy participating in the balancing computation.

The third alternative, A3, is Duke Energy's proposed alternative to insulate the amount of storage in Keowee below 790 feet, effectively removing 166,000 acre-feet of storage from Duke Energy's system storage when considering balancing with the Corps system. In this alternative, the addition of Duke Energy's Bad Creek project (30,200 acre-feet storage) and the Corps' Richard B. Russell project (126,900 acre-feet storage) has been considered. The total storage amounts are as follows: the total Duke Energy system storage is 417,300 acre-feet and the total Corps system storage is 2,587,400 acre-feet.

The forth alternative, A4, is a slight variation of A3. The only difference between A4 and A3 is the removal of a Low Inflow Protocol (LIP) in the A4 operation of Duke Energy system. The storage balancing mechanism of A4 is the same as in A3.

1. Appropriateness of Model Settings

In our review and execution of the Duke Energy alternatives models, we have obtained results that are different, sometimes substantially so, from the results accompanying Duke Energy's models. The differences are observed when the models are run on different computers. In extreme cases, the same model generates different results on the same computer when run at different times. Initially, we could not replicate the Duke Energy model results.

We expressed our concerns to the Corps' Hydrologic Engineering Center (HEC). The feedback from HEC indicated that setting appropriate computer environmental parameters might alleviate or avoid this problem. After experimenting with different environmental parameter values, we observed changes in the modeling results and noticed a problem with time-blocking. When computer memory is not sufficient to run the entire period of record in a single run, partial results from phased computations are stored for computations of subsequent phases. Time-blocking is represented by the number of phased computations needed to model the entire simulation period. When the same numbers of time-blocks are used, we are able to replicate the computation results that accompanied the Duke Energy models.

We believe there are certain settings and rules in the Duke Energy models that result in water elevation differences that are magnified. This may be due to truncation errors as a result of the number of time blocks used. For example, the upper conservation pool at Richard B. Russell is set at a depth of 0.01 feet. As a result, the operation of Richard B. Russell, when the lake is near the top of the conservation pool, can change significantly with minor changes in elevation. With an elevation change of only 0.01 feet, Richard B. Russell can move from the most conservative storage operation to a flood control mode of operation. If this occurs between different time-blocked simulations, minor elevation changes due to truncation errors may manifest into different operation rules that result in magnified differences.

2. Issue with the A2 Model

Duke Energy's A2 modeling results include a period in the late fall and early winter of 2008 when releases from Thurmond are lower than the minimum flow requirement of 3100 cfs (or 3600 cfs depending on the Corps storage status) for 52 days. Based on this simulation, Thurmond's conservation pool is entirely depleted; while Hartwell is 12-15 feet above the bottom of the conservation pool (see Figure 1). This results in the predicted flows at Clyo to be as low as 591 cfs (Figure 2). This could result in serious water quality implications in the lower Savannah River and Savannah Harbor.

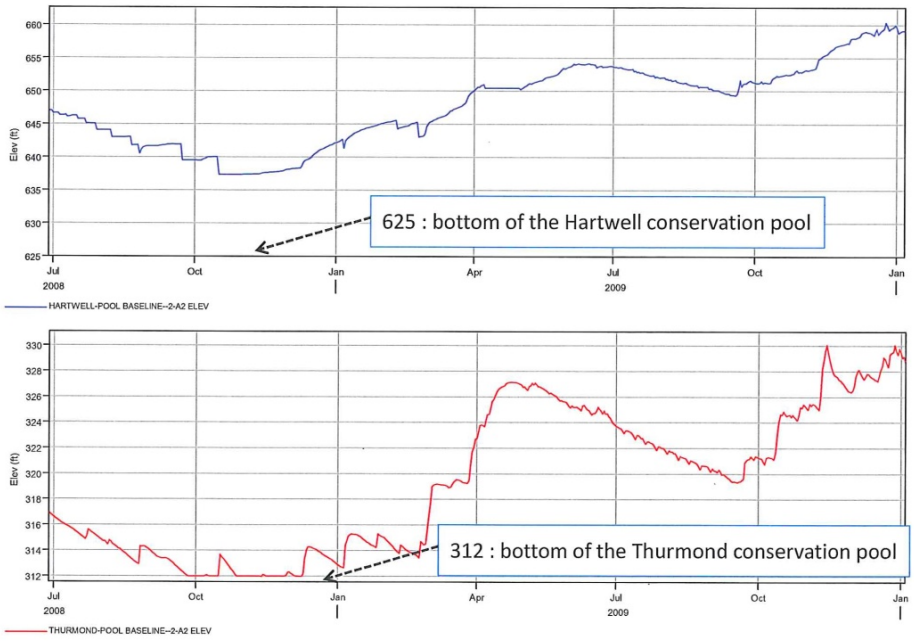

Figure 1. Simulated Hartwell (blue) and Thurmond (red) elevations in existing operation, A2.

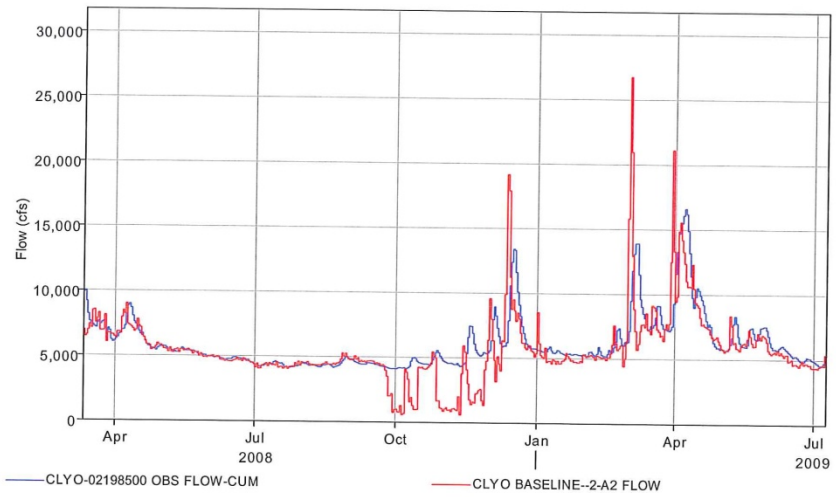

Figure 2. Comparison of Clyo flows between observed (blue) and A2 simulated (red).

Several problems have been identified. First, when water remains in the federal reservoirs' conservation storage, there should not be any flow violations. In this case there is water in Hartwell, yet the flow requirement at Thurmond has been repeatedly violated for almost two months. Second, the two large federal reservoirs (Hartwell and Thurmond) should not be out of balance. When there is plenty of water stored in Hartwell, Thurmond should not be at the bottom of its conservation pool. Thurmond should have been able to provide for its release requirements.

Due to significant issues with the A2 model, there are problems comparing model results from the proposed alternatives. For example, under proposed A3, Hartwell elevations are lower by as much as 7.4 feet in comparison to the existing operation, A2. An elevation difference of two feet or more persists from November 2008 through October 2009 during the critical drought of 2007-2009. When we compare the simulated elevations at Hartwell to elevations needed to operate water supply facilities, we find that the proposed A3 causes 82 additional days below the operable elevations of several water supply facilities, including the City of Lavonia, Georgia.

Due to the aforementioned modeling issues, it is unclear if this is a real concern or an anomaly due to the problems with the A2 model.

3. Appropriate Baseline Alternative

A1 may not be the appropriate baseline alternative to use for comparison since this scenario has not been implemented since the mid 1990's. A2 may be a more appropriate baseline since this is how the system is currently operated in order to conserve storage in Keowee. It is our understanding that the Corps must use A1, the existing license, as the no action alternative; however, we believe there should be an evaluation of the differences between the proposed alternative and A2. Until we are assured that the results from A2 are correct, we cannot determine which alternative should be used as baseline for comparison. Once we have correct A2 model results and can determine the appropriate baseline, we will be able to assess the true impacts of the proposed Alternatives A3 and A4.

The selection of the correct baseline will have implications beyond this project. This may be the baseline selected for comparison as part of the Comprehensive Savannah River Basin Study (Comp 2), which is currently underway.

4. Potential water quality implications

During critical periods in the summer when the natural dissolved oxygen in the Savannah Harbor is less than a daily average of 5 mg/L, not less than 4 mg/L, and the available assimilative capacity is only 0.1 mg/L, we find that reduced flows entering the harbor cause reductions in the Harbor dissolved oxygen levels. If the proposed alternatives increase the number of days there is reduced flow from Thurmond, there could be negative impacts to water quality in the harbor during critical times of the year. Until we are assured that the results from Alternative A2 are correct, we cannot assess the true impacts from the proposed alternatives.

Reference

Duke Energy, 2014. Comprehensive Environmental, Engineering, And Economic Impact Analysis Report For Revising The 1968 Operating Agreement For the Keowee-Toxaway Project (FERC License No. 2503), April 04, 2014. Prepared by HDR Engineering, Inc. of the Carolinas.

Responses to Comments from GA DNR-EPD
(Letter dated July 25, 2014)

Comment 1: EPD is concerned that some of the model settings Duke Energy has used may be causing troubling results. We have concerns with Duke Energy's model simulation results for Alternative A2, which hamper our ability to assess the proposed alternatives (A3 and A4).

Response: The Corps reviewed the RES-SIM model results and found similar problems to that noted by EPD with the version of the model that Duke Energy used in its analysis. The District consulted with the originators of the program and identified several improvements to the model. The Corps reran the model for the No Action Alternative/A1, Alternative 2, and Alternative 3 using the improved model code. The new results are similar to those obtained by using the version that Duke Energy used. However, the model now performs much better at the boundaries where a reservoir changes from one drought level to another. The inconsistencies that EPD identified at those times have been corrected.

Comment 2: Due to these concerns, we cannot determine the appropriate baseline that should be used for comparison to the proposed alternatives. The selection of the correct baseline has implications beyond this project, since the baseline selected will be incorporated into the Comprehensive Savannah River Basin Study (Comp 2), which is currently underway.

Response: Since the proposed action is an update to an existing Operating Agreement (a legal document), the Corps believes that the existing Agreement is the proper base from which to assess the effects of proposed alternatives. That baseline would not be incorporated into the Savannah River Basin Comprehensive Study; instead the Selected Plan (new Operating Agreement) would be incorporated into that ongoing study as part of its Without Project Condition.

Comment 3: Lastly, we are concerned about the effect the proposed alternatives may have on the flow releases from Thurmond Dam during critical times of the year when the natural dissolved oxygen levels in the Savannah Harbor are below a daily average of 5 mg/L, not less than 4 mg/L, affecting the limited available assimilative capacity in the harbor. If Duke's proposed alternatives increase the number of days there is reduced flow from Thurmond, there could be a negative impact to water quality in the harbor during critical times.

Response: Tables 3.7-1 and 3.7-2 shows the differences between the alternatives in average flow releases during the summer months (when D.O. is low in the harbor). These tables show the flow differences would be minimal between the alternatives. The Selected Plan (A3) would not reduce D.O. levels in the harbor from the Future Without Project Condition because the Corps would continue to manage flow releases from JST during droughts in accordance with the

approved Drought Plan. Table 3.7-3 shows the number of days each alternative would be in drought operation.

To address the effects that additional days of Corps drought operations would have on D.O. levels in the harbor, Duke Energy agrees to release more water when the Corps requests it during summer droughts. The Corps reviewed the historic records and found that the 408 days of impact would have occurred in 39 different years (when droughts occurred in the warm months) during the 73-year period of analysis. That impact number averages out to 10.5 days per year of drought. As a result, when the Corps reservoirs are in drought operations, the Corps will request and Duke will release 200 cfs of additional flow beyond that required by the Corps' Drought Plan for 11 days. The 200 cfs is the quantity of discharge from JST that the Corps reduces as it steps from one drought level to another (Level 1 to Level 2, Level 2 to Level 3, etc.). This additional 200 cfs of flow for 11 days would compensate for the similar amount of reduced flows that would occur as a result of A3. The Corps will consult with GA DNR-EPD to identify the days when EPD would like that additional flow to be released from JST Dam.

Comment 4: We recommended a meeting be held with the technical staffs of the GAEPD, the South Carolina Department of Health and Environmental Control; the South Carolina Department of Natural Resources; Duke Energy, and the Corps so that modeling issues could be fully discussed. I would like to request that this meeting be scheduled as soon as possible and that the Corps not move forward with approval of the plan until these issues have been mutually resolved.

Response: The Corps held a meeting of natural resource agency hydraulic modelers on September 11, 2014 to address EPD's concerns and provide additional information on an updated version of RES-SIM model. The Corps did not finalize the EA until after that meeting.

Comment 5: EPD requests that the Corps not move forward with approval of the plan until these issues have been mutually resolved.

Response: As stated in the previous comment, the Corps held a meeting of natural resource agency hydraulic modelers on September 11, 2014 to address EPD's concerns and provide additional information on an updated version of RES-SIM model. The Corps did not finalize the EA until after that meeting.

Comment 6: EPD believes there are certain settings and rules in the Duke Energy models that result in water elevation differences that are magnified.

Response: The Corps reviewed the RES-SIM model results and found similar problems to that noted by EPD with the version of the model that Duke Energy used in its analysis. The District consulted with the originators of the program and identified several improvements to the model. The Corps reran the model for the No Action Alternative/A1, Alternative 2, and Alternative 3 using the improved model code. The new results are similar to those obtained by using the

version that Duke Energy used. However, the model now performs much better at the boundaries where a reservoir changes from one drought level to another. The inconsistencies that EPD identified at those times have been corrected.

The Corps discussed the results from using the improved model code with water quality modelers from GA DNR-EPD and SC DNR on 11 September 2014. The Corps is comfortable with the trends and results of the original modeling and believes they are technically sufficient for the present use – assessing differences between the 1968 Operating Agreement and proposed alternatives. As indicated in their September 26, 2014 letter (page 45), GA DNR-EPD is also now comfortable with the results of the RES-SIM model.

Comment 7: Due to significant issues with A2, there are problems comparing model results from the proposed alternatives.

Response: The Corps has updated the RES-SIM model since release of the Draft EA and the new version produces results that are more realistic and are now acceptable to GA DNR-EPD. The updated version does not indicate that significant additional impacts would occur from implementation of the proposed alternatives and use of the updated version does not alter the Selected Plan (A3).

Comment 8: Al may not be the appropriate baseline alternative to use for comparison since this scenario has not been implemented since the mid 1990's. A2 may be a more appropriate baseline since this is how the system is currently operated in order to conserve storage in Keowee. It is our understanding that the Corps must use A1, the existing license, as the no action alternative. However, we believe there should be an evaluation of the differences between the proposed alternative and A2. Until we are assured that the results from A2 are correct, we cannot determine which alternative should be used as baseline for comparison. Once we have correct A2 model results and can determine the appropriate baseline, we will be able to assess the true impacts of the proposed Alternatives A3 and A4.

Response: The Corps correctly used the existing Operating Agreement (No Action Alternative) as the baseline to evaluate changes to that Agreement. The District updated the RES-SIM model and provided updated model results for the No Action Alternative, A2 and A3 to EPD and the other natural resource agencies for review. The new version of the model produces results that are more realistic and are now acceptable to GA DNR-EPD.

Comment 9: If the proposed alternatives increase the number of days there is reduced flow from Thurmond, there could be negative impacts to water quality in the harbor during critical times of the year. Until we are assured that the results from Alternative A2 are correct, we cannot assess the true impacts from the proposed alternatives.

Response: The Corps has updated the RES-SIM model and provided updated model results for the No Action Alternative/A1, A2 and A3 to EPD and the other natural resource agencies for

review. The new version produces results that are more realistic and more reliable. The updated version does not indicate that significant additional impacts would occur from implementation of the proposed alternatives and use of the updated version does not alter the Selected Plan (A3).

Georgia Department of Natural Resources
Environmental Protection Division
2 Martin Luther King Jr. Drive, Suite 1456, Atlanta, Georgia 30334
Judson H. Turner, Director
(404) 656-4713

SEP 26 2014

William G. Bailey, Chief
Planning Division
Savannah District
U.S. Army Corps of Engineers
100 West Oglethorpe Avenue
Savannah, Georgia 31401

RE: Joint Public Notice, U.S. Army Corps of Engineers, Savannah District, and Southeastern Power Administration; Draft Environmental Assessment and Draft Finding of No Significant Impact for New Operating Agreement between the Corps, Southeastern Power Administration, and Duke Energy Carolinas, LLC

Dear Mr. Bailey:

Now that major issues with the ResSim model have been resolved, the Georgia Environmental Protection Division would like to comment on the proposed new storage agreement for operating Duke Energy's reservoir system. We are concerned that the recommended proposed Alternative A3 when compared with Alternative A1, the 1968 storage agreement as written, and Alternative A2, 1968 storage agreement as implemented since late 1990's, will result in less flow being released from Thurmond Dam. Our analysis of the simulation period from 1939-2012, based on models the Corps shared with EPD staff on September 24, 2014, shows that during critical times of the year (April 15 through November 15) when the natural dissolved oxygen levels in the Savannah Harbor are below a daily average of 5 mg/L, not less than 4 mg/L, and the allowable dissolved oxygen deficit is only 0.1 mg/L, Alternative A3 results in 26.7% (4260 days) and 29% (4626 days) more days with reduced releases from Thurmond Dam compared to Alternatives A1 and A2, respectively. This reduced flow will have a negative impact on the dissolved oxygen levels in the Harbor during critical times of the year, affecting the limited available assimilative capacity. The impact the new storage agreement for operating Duke Energy's reservoir system will have on the Harbor will need to be mitigated for. The mitigation can include the injection of oxygen into the Harbor during critical times of the year to offset the dissolved oxygen deficit caused by the reduced flow or changes in the operation of Thurmond Dam so there is no reduced releases during critical times of the year.

Sincerely,

Jeffrey Larson
Assistant Branch Chief

Cc: Jim Giattina, EPA
Bob Perry, SC DNR
David Wilson, SC DHEC

Responses to Comments from GA DNR-EPD
(Letter dated September 26, 2014)

Comment 1: Now that major issues with the ResSim model have been resolved, the Georgia Environmental Protection Division would like to comment on the proposed new storage agreement for operating Duke Energy's reservoir system.

Response: The Corps is pleased that as a result of the additional modeling and coordination that has occurred since the Draft EA was released, that GA DNR-EPD now concurs with the reliability of the RES-SIM model to evaluate potential impacts from the proposed action.

Comment 2: We are concerned that the recommended proposed Alternative A3 when compared with Alternative A1, the 1968 storage agreement as written, and Alternative A2, 1968 storage agreement as implemented since late 1990's, will result in less flow being released from Thurmond Dam. Our analysis of the simulation period from 1939-2012, based on models the Corps shared with EPD staff on September 24, 2014, shows that during critical times of the year (April 15 through November 15) when the natural dissolved oxygen levels in the Savannah Harbor are below a daily average of 5 mg/L, not less than 4 mg/L, and the allowable dissolved oxygen deficit is only 0.1 mg/L, Alternative A3 results in 26.7% (4260 days) and 29% (4626 days) more days with reduced releases from Thurmond Dam compared to Alternatives A1 and A2, respectively. This reduced flow will have a negative impact on the dissolved oxygen levels in the Harbor during critical times of the year, affecting the limited available assimilative capacity.

Response: The Corps reviewed the analysis that EPD provided and does not concur with the level of impacts identified by EPD. The 4,260 days of impact identified by EPD from A3 are the number of days in the historic record that discharges from JST dam would have been lower from A3 than from the No Action Alternative. The Corps believes that number is incorrect because it does not consider whether the USACE reservoirs would be in a drought status – when the Corps would reduce discharges from JST. The extent of the impact would be 408 days if one considers only the days when in the USACE reservoirs are in drought status (flows <4,200 cfs).

Comment 3: The impact the new storage agreement for operating Duke Energy's reservoir system will have on the Harbor will need to be mitigated for. The mitigation can include the injection of oxygen into the Harbor during critical times of the year to offset the dissolved oxygen deficit caused by the reduced flow or changes in the operation of Thurmond Dam so there is no reduced releases during critical times of the year.

Response: To address this issue, Duke Energy agrees to release more water when the Corps requests it to address the impacts expected to D.O. levels in the harbor from implementing A3. The Corps reviewed the historic records and found that the 408 days of impact would have

occurred in 39 different years (when droughts occurred in the warm months) during the 73-year period of analysis. That impact number averages out to 10.5 days per year of drought. As a result, in the years when the USACE reservoirs are in drought operations, the Corps will request and Duke will release 200 cfs of additional flow beyond that required by the Corps' 2012 Drought Plan for 11 days. The 200 cfs is the quantity of discharge from JST that the Corps reduces as it steps from one drought level to another (Level 1 to Level 2, Level 2 to Level 3, etc.). The 200 cfs of flow for 11 days would compensate for the similar amount of reduced flows that the RES-SIM modeling indicates would occur as a result of implementing A3.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
WILDLIFE RESOURCES DIVISION

MARK WILLIAMS
COMMISSIONER

DAN FORSTER
DIRECTOR

July 25, 2014

Mr. William Bailey
Chief, Planning Division
Department of the Army
Savannah District, Corp of Engineers
100 W. Oglethorpe Avenue
Savannah, Georgia 31401-3604

Dear Mr. Bailey,

The Georgia Department of Natural Resources, Wildlife Resource Division, Fisheries Section appreciates the opportunity, and has reviewed the Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) evaluating proposed changes to the 1968 Operating Agreement between the Southern Power Administration, Duke Energy Carolinas, LLC and the U.S. Army Corps of Engineers (USACE). Based on information contained in the EA it is evident that due diligence was exercised in the development and evaluation of four action alternatives (plus a no action alternative); and the selection of a recommended action - Alternative 3. Below are Fisheries Section's comments on the recommended action as it pertains to fisheries and boating access in lakes Hartwell, Richard B. Russell and Clarks Hill (Thurmond), and the lower Savannah River.

Based on the analysis provided in the EA, the recommended action (Alternative 3) will not impact the water bodies downstream of Lake Keowee, South Carolina during normal water years or mild drought conditions, but will reduce water levels during severe drought at Clarks Hill and Hartwell by an additional six and nine inches, respectively, when compared to the no action alternative. The proposed action will not affect water levels in Richard B. Russell and with no proposed changes to the USACE 2012 Drought Plan; the same is true for the lower Savannah River. As such, we agree with the EA findings that reduced water elevations at lakes Hartwell and Clarks Hill should not exacerbate the negative effects of drought on fish populations and fish habitat.

The EA also indicates USACE's commitment to maintaining stable reservoir elevations during the Centrachid spawning season (April – June), but recognizes there are times (<=5% during the spawning season) when the maximum rise and fall of daily fluctuations exceeds the 6-inch rule, with the greatest number of instances occurring at Richard B. Russell. The report also states that there is little (0.01 foot) elevation difference between operating alternatives during the spawning season. The Fisheries Section supports the maintenance of stable/rising reservoir levels during this critical spawning period and commends the resolve to do so.

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The recommended action has the potential to prolong drought conditions in lakes Hartwell, Clarks Hill and the lower Savannah River by as much as 9% longer than the no action alternative, further reducing natural flow variability, both in volume and duration, in this highly managed system. Natural flow variability provides critical benefits to fish and wildlife for reproduction, growth, and population recruitment, however the USACE 2012 Drought Plan will remain unchanged, and a 9% increase in duration over the no action alternative is likely not significant, as suggested in the EA. Further, Phase 3 of the Savannah River Basin Comprehensive Study, supported by $438,000 in mitigation from Duke Energy under Alternative 3, provides an opportunity to address longstanding concerns regarding basin flow regimes, reservoir operations and their effects on fish and wildlife resources.

Alternative 3 would also reduce the number of boating access days by up to 6% on Hartwell and 4% on Clarks Hill, but have no impact on Richard B. Russell or the lower Savannah River. This recreational loss has been assigned a present worth of $2,938,000, and a $5,683,512 total value of impact over 50 years. To address impacts to recreational users of USACE reservoirs, Duke Energy would provide $200,000 ($400,000 total) in funds, contracted, and/or in-kind services at lakes Hartwell and Clarks Hill to "fully compensate for the expected impacts identified to recreational users." However, it is unclear in the EA how $400,000 in mitigation fully compensates for the nearly $3,000,000 loss in recreational access. The EA further states that, "mitigation may include extending existing ramps so they provide access when the reservoirs are lower, constructing new ramps, improving access at existing ramps, improving parking at existing ramps, etc.," but specifics as to where mitigation activities would occur were not offered.

In summary, the Fisheries Section supports USACE's finding of no significant impact for the proposed action and appreciates Duke Energy's funding commitment toward the comprehensive basin study and boating access improvements. Additional information demonstrating how boating access improvements will fully compensate for recreational impacts is requested. Again, we appreciate the opportunity to review and comment on the EA and look forward to participating as the process moves forward.

Sincerely,

John Biagi
Chief of Fisheries

Responses to Comments from GA DNR-WRD

Comment 1: WRD agrees with the EA findings that reduced water elevations at lakes Hartwell and Clarks Hill should not exacerbate the negative effects of drought on fish populations and fish habitat.

Response: The Corps is pleased that WRD concurs with its assessment of expected impacts to fish populations and fish habitat.

Comment 2: WRD Fisheries Section supports the maintenance of stable/rising reservoir levels during this critical spawning period and commends the resolve to do so.

Response: The Corps intends to continue to maintain stable elevations within the Corps reservoirs during the Centrachid spawning season (April- June).

Comment 3: The recommended action has the potential to prolong drought conditions in lakes Hartwell, Clarks Hill and the lower Savannah River by as much as 9% longer than the no action alternative, further reducing natural flow variability, both in volume and duration, in this highly managed system. Such an increase in duration is not likely to be significant, as suggested in the EA.

Response: The Corps is pleased that WRD concurs with its assessment of expected impacts to fish populations and fish habitat.

Comment 4: It is unclear in the EA how $400,000 in mitigation fully compensates for the nearly $3,000,000 loss in recreational access. The EA states that, "mitigation may include extending existing ramps so they provide access when the reservoirs are lower, constructing new ramps, improving access at existing ramps, improving parking at existing ramps, etc.," but specifics as to where mitigation activities would occur were not offered.

Response: The Final EA clarifies that Duke Energy would provide nearly $3,000,000 in cash or actions to compensate for the expected loss in recreational access resulting from implementation of the new Operating Agreement. The actions that would be taken at specific locations have not yet been identified. However, the Corps will ensure this mitigation is performed.

Comment 5: WRD Fisheries Section supports the Corps' finding of no significant impact for the proposed action and appreciates Duke Energy's funding commitment toward the comprehensive basin study and boating access improvements.

Response: The Corps appreciates WRD's support.

Comment 6: Additional information demonstrating how boating access improvements will fully compensate for recreational impacts is requested.

Response: The Corps evaluated impacts to recreational users by identifying and calculating the changes in level of use expected to result from lower reservoir levels in the USACE reservoirs that would occur after implementation of the proposed new Operating Agreement. The lower reservoir levels would limit use of the boat ramps, resulting in fewer recreational users on the lakes. By restoring boating access, the mitigation for impacts to recreational users in the USACE reservoirs will directly address those expected impacts. The Final EA clarifies that amount to be spent on this mitigation will be equal to the dollar value of the expected impact.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
COASTAL RESOURCES DIVISION

MARK WILLIAMS
COMMISSIONER

A.G. 'SPUD' WOODWARD
DIRECTOR

August 26, 2014

Mr. William G. Bailey
USACE Planning Division
100 West Oglethorpe Avenue
Savannah, Georgia 31401

RE: CZM Consistency Determination for NOI: DEA/DFONSI for New Operating Agreement Between USACE, Southeastern Power Administration, and Duke Energy Carolinas, LLC

Dear Mr. Bailey:

Staff of the Georgia Coastal Management Program and Georgia Department of Natural Resources' Wildlife Resources Division has reviewed your June 27, 2014 letter and referenced draft environmental assessment (DEA) for proposed modifications to the 1968 Operating Agreement between Southeastern Power Administration, Duke Energy Carolinas LLC, and the United States Army Corps of Engineers (USACE). The operating agreement describes how Duke Energy will release water from its upstream reservoirs to the downstream federal reservoirs. All alternatives incorporate USACE's 2012 Savannah River Basin Drought Contingency Plan (SRBDCP) that received federal consistency concurrence May 18, 2012.

The Proposed Action (Alternative 3) will not impact water bodies downstream of Lake Keowee, South Carolina during normal water years or mild drought conditions, or water levels in the lower Savannah River during severe drought. However, water levels during severe drought at Clarks Hill and Hartwell will be reduced an additional six and nine inches, respectively.

The Proposed Action will exceed the daily fluctuation maximum rise and fall rule of 6" up to 5% of the time during the centrachid spawning season (April-June) by up to 1/8", which is similar between all operating alternatives.

The Proposed Action has the potential to prolong drought conditions in Lakes Hartwell and Clarks Hill and in the lower Savannah River by as much as 9% longer than the No Action Alternative, further reducing natural flow variability in volume and duration in this highly managed system. Natural flow variability provides critical benefits to fish and wildlife for reproduction, growth, and population recruitment. Phase 3 of the mitigation study, supported by Duke Energy under Alternative 3, provides an opportunity to address longstanding concerns regarding basin flow regimes, reservoir operations, and their reasonably foreseeable effects on both coastal and non-coastal fish and wildlife resources.

Alternative 3 will not reduce the number of boating access days on the lower Savannah River or

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Richard B. Russell, but access will be reduced by up to 6% on Hartwell and 4% on Clarks Hill. This recreational loss will be financially compensated for by Duke Energy, but it is unclear from the DEA how full compensation will be accomplished.

The Program concurs with your consistency determination. This determination ensures that the proposed action has been designed to comply to the maximum extent practicable with the applicable enforceable policies of the Georgia Coastal Management Program and that reasonably foreseeable effects to coastal uses and/or resources have been mitigated. Please feel free to contact Kelie Moore or me if we can be of further assistance.

Sincerely,

B. Gane

Brad Gane
Ecological Services Section Chief

SW/km

cc: Spud Woodward, Director
Tim Barrett, DNR/WRD

Responses to Comments from GA DNR-CRD

Comment 1: The Proposed Action has the potential to prolong drought conditions in Lakes Hartwell and Clarks Hill and in the lower Savannah River by as much as 9% longer than the No Action Alternative, further reducing natural flow variability in volume and duration in this highly managed system. Natural flow variability provides critical benefits to fish and wildlife for reproduction, growth, and population recruitment.

Response: Concur; the Selected Plan will increase the number of days that the Corps will operate the Federal reservoirs following the Drought Plan.

Comment 2: Phase 3 of the mitigation study, supported by Duke Energy under Alternative 3, provides an opportunity to address longstanding concerns regarding basin flow regimes, reservoir operations, and their reasonably foreseeable effects on both coastal and non-coastal fish and wildlife resources.

Response: The District looks forward to addressing longstanding issues within the basin resulting from operation of the three Federal reservoirs.

Comment 3: Alternative 3 will not reduce the number of boating access days on the lower Savannah River or Richard B. Russell, but access will be reduced by up to 6% on Hartwell and 4% on Clarks Hill. This recreational loss will be financially compensated for by Duke Energy, but it is unclear from the DEA how full compensation will be accomplished.

Response: The mitigation that Duke Energy will fund will fully compensate for the adverse impacts to recreation identified by the Corps in this EA.

Comment 4: The Program concurs with your coastal zone consistency determination. This determination ensures that the proposed action has been designed to comply to the maximum extent practicable with the applicable enforceable policies of the Georgia Coastal Management Program and that reasonably foreseeable effects to coastal uses and/or resources have been mitigated.

Response: The Corps is pleased that CRD concurs that the Selected Plan is consistent the maximum extent practicable with the Georgia Coastal Management Program.

GreenvilleWater
407 West Broad Street • P.O. Box 687 • Greenville, SC 29602 • 864.241.6004 tel • 864.241.6077 fax • greenvillewater.com

July 25, 2014

Mr. William G. Bailey
Chief, Planning Division
Savannah District, US Army COE
100 West Oglethorpe Avenue
Savannah, Georgia 31401

Re: Proposed New Operating Agreement with Duke Energy Carolinas, LLC

Dear Mr. Bailey;

Pursuant to the US Army Corps of Engineers, Savannah District and the Southeastern Power Authority's Joint Public Notice posted on June 27, 2014, Greenville Water offers its full support for the proposed New Operating Agreement with Duke Energy as well as the accompanying draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI). Greenville Water is a municipal water provider that treats and delivers water from Lake Keowee to over 500,000 water customers in Upstate South Carolina. We are a Large Water Intake owner on Lake Keowee, a major stakeholder and signatory in the Keowee-Toxaway Hydroelectric Project Relicensing Agreement (RA) and are bound by the tenants of the RA's Low Inflow Protocol. As a South Carolina Surface Water Withdrawal Permit holder we fully support Alternative 3 of the Proposed Action, which incorporates additional storage facilities, updated storage volumes, coordinated drought response, measures to protect the Savannah River Basin water supply, and provisions expected to be included in the Duke Energy's 2016 FERC license for the Keowee-Toxaway Hydroelectric Project

Please contact me at 864-241-6003 if we can be of further assistance or if you have any questions regarding our support for this Proposed Action.

Sincerely,

GREENVILLE WATER

David Bereskin, PE
Chief Executive Officer

cc: Commissioners

Responses to Comment from Greenville Water

Comment: We fully support Alternative 3 (Proposed Action), which incorporates additional storage facilities, updated storage volumes, coordinated drought response, measures to protect the Savannah River Basin water supply, and provisions expected to be included in Duke Energy's 2016 FERC license for the Keowee-Toxaway Hydroelectric Project.

Response: The Corps is pleased that Greenville Water supports the Selected Plan.

Upstate Forever

Promoting Sensible Growth and
Protecting Special Places in the Upstate

9 July 2014

William G. Bailey
Chief, Planning Division
Savannah District
U.S. Army Corps of Engineers
100 West Oglethorpe Avenue
Savannah, Georgia 31401

Re: Notice of Availability of a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for New Operating Agreement between U.S. Army Corps of Engineers, Southeastern Power Administration, and Duke Energy Carolinas, LLC (Duke Energy)

Dear Mr. Bailey:

Upstate Forever is a nonprofit organization working on conservation, water quality, and sustainable development issues in the Upstate region of South Carolina, including Lakes Keowee and Jocassee and the broader Savannah watershed. We have over 2,000 members, many of whom work, live and recreate in the Lake Keowee, Lake Jocassee, and the Savannah River watersheds. One of our three major initiatives is our Clean Air and Water Program, which focuses on promoting water-friendly development, improving lakeshore and streamside water quality management, and protecting and restoring the major rivers, streams, and lakes in the Upstate.

We have participated as a stakeholder for the relicensing of the Keowee-Toxaway Project (FERC P-2503). Throughout the relicensing process, we have actively contributed to several resource committees and study groups, including the water quality, water quantity, and ad hoc operating scenarios committees and the development of the Low Inflow Protocol (LIP). The stakeholder team spent considerable time and resources evaluating alternative operating scenarios and impacts to the Savannah River Basin (SRB). It does appear that the Draft EA and Draft FONSI are consistent with the Relicensing Agreement and the LIP put forth by the stakeholders in the relicensing process and preferred alternative A3 improves operating conditions for the Upper Savannah River Basin.

Thank you for consideration of these comments. We look forward to continuing to provide for the protection, restoration, and mitigation of the natural resources within the upper Savannah basin. Please do not hesitate to contact us with any questions about our comments.

Main Office:
P. O. Box 2308
Greenville, SC 29602
Phone: (864) 250-0500

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Spartanburg Office:
100 E. Main St., R-4
Spartanburg, SC 29306
Phone: (864) 250-0500

Sincerely,

cc: Jeff Lineberger, Duke Energy

Responses to Comment from Upstate Forever

Comment: The stakeholder team spent considerable time and resources evaluating alternative operating scenarios and impacts to the Savannah River Basin (SRB). It does appear that the Draft EA and Draft FONSI are consistent with the Relicensing Agreement and the LIP put forth by the stakeholders in the relicensing process and preferred alternative A3 improves operating conditions for the Upper Savannah River Basin.

Response: The Corps is pleased that Upstate Forever supports the Selected Plan.

Comments from Friends of the Savannah River Basin & Lake Hartwell Association

July 28, 2014

Savannah District US Army Corps of Engineers
Planning Division
100 West Oglethorpe Avenue
Savannah, Georgia 31401

RE: Notice of Availability of a Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for New Operating Agreement between U.S. Army Corps of Engineers, Southeastern Power Administration, and Duke Energy Carolinas, LLC (Duke Energy).

Dear Sirs:

The Friends of the Savannah River Basin (FSRB) and the Lake Hartwell Association (LHA) appreciate the opportunity to respond to the Environmental Assessment (EA) for the New Operating Agreement. The recommended update is an excellent example of the use of stakeholders and modeling to evolve a more balanced proposal for the cooperative operation of the Duke Energy and Army Corps of Engineers (ACOE) projects. We believe the key conservation and response features of this agreement could and should be extended to the management of the entire Savannah River Basin.

The lessons learned over the last 15 years and three droughts clearly showed the need for an Operating Agreement update to balance the impacts of severe droughts and reflect the current system configurations. The inclusion of several varying scenarios blending historic hydrology with current, future and projected climate change water use demands, provide a more rigorous way to evaluate the impacts of the alternatives. The adoption of the unimpaired hydrologic data set is another needed step on the path to developing a single model to represent the entire Savannah River Basin economic and environmental impacts.

The recommended alternative defines the operation in terms of a coordinated system. More importantly the coordination is extended to drought conservation responses based on the severity of the drought and includes a Drought Response Committee. The responses are based on the Duke LIP and ACOE Drought Plan levels. The requirement for incorporating the capability of large water users operating at elevation levels as low as the applicable hydroelectric station can operate will help minimize the impacts of severe droughts on the customers of these operations.

The spending of Duke funding to modify the Oconee Nuclear Station to allow the normal operations to continue when Lake Keowee elevations drop below 794.6 ft AMSL and reducing the minimum elevation for calculation of usable storage to 790 ft AMSL aids in balancing the impacts in a severe drought. Although the recommended alternative would result in some cases of Duke release stoppages, no stoppages would have occurred during the deepest part of the 2008 extreme drought. In fact more water is available for use when ACOE projects elevations drop below 35% than in the current default operating plan (A2) when in severe droughts.

Two novel features of the recommended alternative is the inclusion of Duke fiscal resources to aid in the mitigation of the adverse impacts of severe droughts at Hartwell and Thurmond projects and the funding of SC's share of the follow-on phase of the Comprehensive Study. The

difficulty of obtaining previous SC study funding clearly illustrates the need for an infusion of a Private Industry/State cooperative funding effort.

For the above reasons FSRB and LHA support the recommended proposed alternative as an additional step towards increasing the options for the continued proactive management and conservation of the upper lake water resources for the benefit of the entire SRB. Thank you for your efforts in pursuing goals to manage water to ensure the needs of all users in the entire Savannah River Basin can be met. Specific comments are included in the attached Appendix.

Friends of the Savannah River Basin
Harry and Barb Shelley
Facilitators

Lake Hartwell Association
Herb Burnham
Executive Director

APPENDIX

SPECIFIC EA COMMENTS

- The ACOE required conservation efforts are only applicable for large water users allocated water after the effective date of the new agreement. We would like to see an overall plan to phase this in for all current large water users.
- There is no indication of what the "encouragement" would be for all water users to conserve water in a coordinated manner.
- The requirement that all large water users modify intakes to be capable of operating at elevations as low as the hydropower station is weakened by the vague statement "whenever feasible". We would like to see an overall plan to phase this in for all current large water users not just for new construction, expansion or rebuilding.
- The Duke LIP utilizes remaining usable storage, ACOE drought plan levels, stream flows and the US Drought Monitor in defining responses. We recommend the ACOE and Duke agree to a common definition of the severity of a drought, and the likelihood of continuance, to assess responses. This should be consistent with GA and SC official drought assessments.
- The funding of $480K to support SC's share of the next interim of the Comprehensive Study appears to be based on the old Phase 3 (storage reallocation) of the four part Comprehensive Study and not reflect the current Corps-wide study initiative of only an additional study phase. Before this amount is finalized it should be coordinated with the ACOE and the two states to determine the final amount and FY phasing.
- The EA states on Page 1-12 that the modeling analysis and results have not been reviewed and would be handled during the EA review period. Has this review been scheduled and will the results be shared with the stakeholders? Equally important will the meeting result in a formal signoff by the state and federal regulating agencies to ensure that the recommended alternative is fully supported?
- There is confusion on the amount of the funding for the mitigation of recreational access for Hartwell and JST. The conclusion states that this is presently estimated to be $2,938,000. However page 3-6 states that option A3 includes providing $200K in funding and in-kind services to both Hartwell and JST.
- The amount of the estimated recreational mitigation loss for low lake elevations is calculated using the subjective Unit Day Values from the ACOE Economic Guidance Memorandum. We were not able to verify the use of the general recreation category or the calculation of the number visitors from the higher number of visits. Additionally the calculations appear to assume the drop in visits is determined solely by lake access issues. When the lakes elevations drop below 10 feet there are significant safety and aesthetic issues that drive visits. It is believed that the calculated value is low. It is

recommended that the ACOE and Duke review these calculations with state and local government officials prior to determining the final amount.

- The type of mitigation work is undefined at this time and would include effort associate with the Corps and "Public Boat Ramp Operators". We would recommend more specific guidelines on the nature of the projects, usage restrictions and whether the money is to be supplied over a single year or phased-in over several. There is no process cited on how they are defined/approved and whether it would involve stakeholders, including the Savannah River Basin Advisory Council, or local governments. We recommend that this effort include both types of users and also include the assessment, examination and mitigation of significant safety elements increased by the low elevations.
- Although it does not appear to bias assessing the impacts for the alternatives, the value of the ACOE hydropower of $120M per year is inconsistent (significantly higher) than seen on previously publically shown ACOE briefings.
- It is recommended that the three parties plan to incorporate, in the Operating Agreement, the results of the on-going Phase 2 (ACOE Drought Plan Update) of the Comprehensive Study when they become available.

Responses to Comments from
Friends of the Savannah River Basin & Lake Hartwell Association

Comment 1: The recommended update is an excellent example of the use of stakeholders and modeling to evolve a more balanced proposal for the cooperative operation of the Duke Energy and Army Corps of Engineers projects.

Response: The Corps is pleased that the Friends of the Savannah River Basin and the Lake Hartwell Association support the technical work that was performed for this evaluation.

Comment 2: The inclusion of several varying scenarios blending historic hydrology with current, future and projected climate change water use demands, provide a more rigorous way to evaluate the impacts of the alternatives.

Response: The Corps is pleased that the Friends of the Savannah River Basin and the Lake Hartwell Association support the degree of analytical work that was performed.

Comment 3: FSRB and LHA support the recommended proposed alternative as an additional step towards increasing the options for the continued proactive management and conservation of the upper lake water resources for the benefit of the entire SRB.

Response: The Corps is pleased that the Friends of the Savannah River Basin and the Lake Hartwell Association support the Selected Plan.

Comment 4: The Corps required conservation efforts are only applicable for large water users allocated water after the effective date of the new agreement. We would like to see an overall plan to phase this in for all current large water users.

Response: The Corps' existing water withdrawal contracts do not have termination date. The Corps is not able to include additional conditions in those existing contracts.

Comment 5: There is no indication of what the "encouragement" would be for all water users to conserve water in a coordinated manner.

Response: The Corps will work with the States and jointly coordinate with the water users and encourage them to conserve water during droughts.

Comment 6: The requirement that all large water users modify intakes to be capable of operating at elevations as low as the hydropower station is weakened by the vague statement "whenever feasible". We would like to see an overall plan to phase this in for all current large water users not just for new construction, expansion or rebuilding.

Response: Some water intakes are located in shallow arms of the reservoirs. Extending those intakes to deep water would be a major operation and require substantial capital investments. Only one existing water intake on the Corps reservoirs (Lavonia) is located above the bottom of the conservation pool.

Comment 7: We recommend the ACOE and Duke agree to a common definition of the severity of a drought, and the likelihood of continuance, to assess responses. This should be consistent with GA and SC official drought assessments.

Response: Different organizations have different authorities. For example, the Corps has no authority over groundwater levels or groundwater withdrawals. The Corps is responsible for discharges from its reservoirs, so our drought triggers focus on the amount of water within those reservoirs. Since the severity of a drought can vary with location, one area can be in a drought when another is not.

Comment 8: The funding of $480K to support SC's share of the next interim of the Comprehensive Study appears to be based on the old Phase 3 (storage reallocation) of the four - art Comprehensive Study and not reflect the current Corps-wide study initiative of only one additional study phase. Before this amount is finalized it should be coordinated with the ACOE and the two states to determine the final amount and FY phasing.

Response: The Corps believes that the amount offered by Duke Energy is sufficient as one of the mitigation features for the adverse effects expected from the Selected Plan.

Comment 9: The EA states on Page 1-12 that the modeling analysis and results have not been reviewed and would be handled during the EA review period. Has this review been scheduled and will the results be shared with the stakeholders? Equally important will the meeting result in a formal signoff by the state and federal regulating agencies to ensure that the recommended alternative is fully supported?

Response: The modeling was thoroughly reviewed by SC interests before the Corps included it in the Draft EA through the stakeholder collaboration conducted by Duke Energy during their relicensing work. The State of Georgia has now reviewed the modeling work and is comfortable with the results. The Corps' responses to comments provided by GA DNR-EPD can be found elsewhere in this appendix.

Comment 10: There is confusion on the amount of the funding for the mitigation of recreational access for Hartwell and JST. The conclusion states that this is presently estimated to be $2,938,000. However page 3-6 states that option A3 includes providing $200K in funding and in-kind services to both Hartwell and JST.

Response: The Final EA includes the correct amount of $2,938,000.

Comment 11: The amount of the estimated recreational mitigation loss for low lake elevations is calculated using the subjective Unit Day Values from the ACOE Economic Guidance Memorandum. We were not able to verify the use of the general recreation category or the calculation of the number visitors from the higher number of visits. Additionally the calculations appear to assume the drop in visits is determined solely by lake access issues. When the lakes elevations drop below 10 feet there are significant safety and aesthetic issues that drive visits. It is believed that the calculated value is low. It is recommended that the ACOE and Duke review these calculations with state and local government officials prior to determining the final amount.

Response: The procedures described in the Corps' Economic Guidance Memorandum are standard ways for the Corps to evaluate impacts to recreation resources. The District recognizes that the methodology may not capture specific impacts at a given location, but the Corps believes it acceptably identifies the impacts across the multiple reservoirs over the 50-year period of analysis.

Comment 12: The type of mitigation work is undefined at this time and would include effort associate with the Corps and "Public Boat Ramp Operators". We would recommend more specific guidelines on the nature of the projects, usage restrictions and whether the money is to be supplied over a single year or phased-in over several. There is no process cited on how they are defined/approved and whether it would involve stakeholders, including the Savannah River Basin Advisory Council, or local governments. We recommend that this effort include both types of users and also include the assessment, examination and mitigation of significant safety elements increased by the low elevations.

Response: The Corps will manage the mitigation actions to ensure they compensate for the expected impacts to recreational use of the Federal reservoirs. The Final EA states that the mitigation will be complete by 2017 when Duke completes its modifications to the Oconee Nuclear Station and is able to fully implement the new Operating Agreement.

Comment 13: Although it does not appear to bias assessing the impacts for the alternatives, the value of the ACOE hydropower of $120M per year is inconsistent (significantly higher) than seen on previously publically shown ACOE briefings.

Response: Previous Corps reports have often identified the incremental effect on hydropower from a proposed operational change. As such, those incremental effects would be a much smaller number than the $120 M total annual hydropower revenue used in this report.

Comment 14: It is recommended that the three parties plan to incorporate in the Operating Agreement the results of the on-going Phase 2 (ACOE Drought Plan Update) of the Comprehensive Study when they become available.

Response: The three parties intend to sign the new Operating Agreement in 2014, well before Interim #2 of the Corps Drought Plan Update is complete. If major changes to the Corps Drought Plan result from completion of the Interim #2 Study, the Corps will consider updating the new Operating Agreement to incorporate those changes.

P.O. Box 802
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Advocates for
Quality Development

July 18, 2014

Commanding Officer
Savannah District, U.S. Army Corps of Engineers
ATTN: Planning Division
100 West Oglethorpe Avenue
Savannah, Georgia 31401

Subject: New Operating Agreement and Environmental Assessment for Duke Energy, Southeast Power Administration and US Army Corps of Engineers

Dear Sir:

Advocates For Quality Development, Inc. (AQD) is a 501(c)4 non-profit which advocates for land-use planning in Oconee and Pickens Counties, SC, and monitors development activity, infrastructure proposals, and environmental activities. AQD represents approximately 7,000 people including Home Owner Association memberships. AQD is also a Stakeholder in the Keowee-Toxaway Hydroelectric Project Relicensing Process.

As part of the Keowee-Toxaway Hydro Relicensing Process, Duke Energy and the Stakeholders invested considerable manpower and funds to determine precise details on flow rates, water levels, and environmental considerations. This data was provided to Duke's consultant for input into the CHEOPS and HEC-ResSim computer modeling programs, from which the Stakeholders could develop discussions and recommendations. The Low Inflow Protocol (LIP) that resulted was crafted to parallel the USACE' s Drought Management Plan, and resulted in operations very similar to those described in the USACE's preferred alternative (A3), which best balances the resource effects on the USACE and Duke Energy reservoirs.

AQD and other Stakeholders spent many hours debating the drought stages and attendant operational changes. We were keenly aware of the need to have sufficient flows in the Savannah Basin. We were also aware that Duke Energy needs to keep Oconee Nuclear Station (ONS) in continuous operation to the maximum extent possible, especially when hydroelectric power is threatened by drought conditions, and that Duke intends to expend considerable funds to this end to permit ONS to operate down to 790 feet above mean sea level. This has the side benefit of avoiding starting up coal-fired plants with their attendant pollution.

Given the above considerations, we agree with the findings presented in your draft Environmental Assessment that Alternative A3 is the preferred alternative. AQD appreciates your consideration of our views.

Sincerely,

James L. Schoonover
President,
Advocates for Quality Development

Responses to Comment from Advocates For Quality Development

Comment: We agree with the findings presented in your draft Environmental Assessment that Alternative A3 is the preferred alternative. AQD appreciates your consideration of our views.

Response: The Corps is pleased that ADQ concurs in the proposed action.

Comments from Pickens County, SC

From: Chris Brink
To: CESAS-PD, SAS
Subject: [EXTERNAL] Local Government Comments - Pickens County - Draft EA and Draft FONSI for the New Operating Agreement - USACE, SEPA, Duke Energy Carolinas
Date: Tuesday, July 22, 2014 2:50:34 PM

William Bailey
Chief of the Planning Division
Savannah District
US Army Corps of Engineers

Mr. Bailey, others;

Please accept this brief correspondence as Pickens County's request that the USACE take action on the above documents that are consistent with the signed Relicensing Agreement (RA) that was executed between Pickens County, other stakeholders, and Duke Energy Carolinas, LLC. Pickens County, along with many other stakeholders, spent considerable time, effort, energy, and resources evaluating many operating alternatives.

We conclude, based upon the draft EA and draft FONSI for the New Operating Agreement, that the preferred alternate (A3) best balances the resources of the upper Savannah Basin and is consistent with the RA and its Low Inflow Protocol (LIP) and we ask that the draft FONSI and a NOA be executed accordingly.

Thank you for your time and evaluation of our comments.

Christopher J. Brink, AICP
Director
Department of Community Development
Building Codes ŸStormwater ŸE911 ŸPlanning
222 McDaniel Avenue, B-10
Pickens, South Carolina 29671
Telephone: 864-898-5950
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If you print this email, please consider the environment and recycle.

Responses to Comment from Pickens County, SC

Comment: We conclude that the preferred alternate (A3) best balances the resources of the upper Savannah Basin and is consistent with the Relicensing Agreement and its Low Inflow Protocol and we ask that the Draft FONSI and a NOA be executed accordingly.

Response: The Corps is pleased that Pickens County concurs in the proposed action.

Friends Of Lake Keowee Society

Good neighbor families, working to keep Lake Keowee clean, safe and beautiful

Phone: (864)-882-3655
Email: keoweefolks@charter.net
www.keoweefolks.org
4065 Keowee School Road
Seneca, SC 29672

July 25, 2014

Savannah District, U.S. Army Corps of Engineers

Attn: Planning Division
100 West Oglethorpe Avenue
Savannah, Georgia 31401

Re: FOLKS Comments on the New Operating Agreement (NOA) and Environmental Assessment (EA) for Duke Energy Carolinas. LLC, Southeast Power Administration and U.s. Army Corps of Engineers.

FOLKS (Friends of Lake Keowee Society) is a 21 year old 501c(3) watershed organization whose Mission is: *"to preserve, protect and enhance Lake Keowee and its watershed through conservation, science, education, and good governance, so that the lake remains clean, safe and beautiful for the community, users, visitors, area businesses and future generations."*

Our membership, including Home Owner Associations, individual families and local Corporations and Businesses is in excess of 4000 individuals. In the last decade, FOLKS, through our participation in all of the various Savannah River Basin organizations including as a stakeholder in the Savannah River Basin Advisory Council (SRBAC) and in the Keowee Toxaway Relicensing, has developed a clear understanding of the Basin as a whole.

Comments:

1. FOLKS supports the finding of the EA that recommends Alternative A3

One of the most difficult and time absorbing issues the Relicensing Stakeholder Team dealt with was the directive from the FERC that an NOA must be agreed upon between Duke Energy, the USACE and SEPA that was not inconsistent with the Relicensing Agreement (RA).

After a great deal of discussion and negotiation between Duke Energy and the Stakeholder Team that involved running models with a wide range of Key

Output Parameters, we arrived at a new compromise operating scenario (LIP – Low Inflow Protocol) that provided for the following operational changes:

> During each of 4 drought stages, Lakes Keowee and Jocassee would be drawn down in tandem with reduced maximum withdrawals to the USACE project at each stage.

For FOLKS, our agreement to the LIP constitutes a major compromise because under the LIP, during the most severe drought stage – Stage 4, releases will continue from Duke Energy lakes to the USACE lakes whereas for at least the past 15 years that had not been the case. This consensus in the RA was reached by striking the delicate compromise captured in Sections 2.9 and 2.10 of the draft NOA. The EA recommends the choice of Alternative A3 and thus confirms the significant body of work done by the parties to the RA. FOLKS supports the choice of Alternative A3.

2. **A Drought Management Advisory Group (DMAG) for the entire Savannah River Basin should be considered.**

FOLKS suggests that the process of conserving water throughout the entire Basin should be institutionalized in the formation of a SRB-DMAG fashioned after the KT-DMAG (see RA Appendix D page D4.) The DMAG is a voluntary group formed and tasked with working with Duke Energy when the LIP is initiated.

Conclusion:

FOLKS appreciates the opportunity to support the preferred operating alternative – A3 encompassed in the NOA and believes it represents a fair sharing of water between the Duke Energy Project and the USACE and SEPA. We believe the entire Basin would be better served by the formation and operation of a group similar to the KT-DMAG.

Sincerely,

Ben

Ben Turetzky, FOLKS Executive Director
Cc: FOLKS Board

Responses to Comments from FOLKS

Comment 1: FOLKS supports the finding of the EA that recommends Alternative A3

Response: The Corps is pleased that FOLKS concurs in the proposed action.

Comment 2: For FOLKS, our agreement to the LIP constitutes a major compromise because under the LIP, during the most severe drought stage - Stage 4, releases will continue from Duke Energy lakes to the USACE lakes whereas for at least the past 15 years that had not been the case. This consensus in the Relicensing Agreement was reached by striking the delicate compromise captured in Sections 2.9 and 2.10 of the draft NOA. The EA recommends the choice of Alternative A3 and thus confirms the significant body of work done by the parties to the RA.

Response: The Corps recognizes that many stakeholders compromised their desires to some degree with both the Relicensing Agreement and the new Operating Agreement. The Corps is pleased that FOLKS concurs in the proposed action.

Comment 3: A Drought Management Advisory Group (DMAG) for the entire Savannah River Basin should be considered.

Response: The Corps does not have authority to establish and require participation in a DMAG for the Savannah River. However, the Corps intends to participate in the voluntary DMAG that Duke Energy is establishing.

Comment 4: FOLKS believes that the proposed action represents a fair sharing of water between the Duke Energy Project and the USACE and SEPA.

Response: The Corps is pleased that FOLKS concurs in the proposed action.

Comments from Fay Hedgepath – Public

From: fhedgepath [fhedgepath@bellsouth.net]
Sent: Monday, July 14, 2014 9:52 PM
To: CESAS-PD, SAS
Subject: Comment about rules for Duke Energy's Oconee Dams

I would like the Corps to require large water users like Greenville, Anderson, and First Quality Tissue to conserve water in times of severe drought. During the past drought, some of the cities that use water from Lake Hartwell were asked to conserve water. However, I am not aware of any request for Greenville to conserve water from Keowee. I feel that Greenville and all cities that draw water from the Savannah River Basin should have the same restrictions in times of drought.

Also, I think First Quality Tissue should definitely be required to conserve water in times of drought. I also read that First Quality was considering taking more water from Hartwell for an additional industry. I do not think this should be allowed.

Also, I think the two new nuclear plants at Plant Vogtle should be required to conserve water, and even shut down, during a drought. I do not think the two plants should have been built due to the huge volume of water needed from the Savannah River. They should have to shut down during a severe drought.

Thank you,

Fay Hedgepath

Responses to Comments from Fay Hedgepath

Comment 1: I would like the Corps to require large water users like Greenville, Anderson, and First Quality Tissue to conserve water in times of severe drought. During the past drought, some of the cities that use water from Lake Hartwell were asked to conserve water. However, I am not aware of any request for Greenville to conserve water from Keowee. I feel that Greenville and all cities that draw water from the Savannah River Basin should have the same restrictions in times of drought.

Response: The Corps has no authority to require large water users like Greenville, Anderson, and First Quality Tissue to conserve water in times of severe drought. As a result of the new Operating Agreement, the Corps would coordinate with large water users from its reservoirs to encourage conservation and wise water use during severe droughts.

Comment 2: I think First Quality Tissue should definitely be required to conserve water in times of drought. I also read that First Quality was considering taking more water from Hartwell for an additional industry. I do not think this should be allowed.

Response: The Corps has no authority over the amount of water that First Quality Tissue uses. They purchase water from the City of Anderson. As a result of the new Operating Agreement, the Corps would coordinate with large water users from its reservoirs, including the City of Anderson, to encourage conservation and wise water use during severe droughts.

Comment 3: I think the two new nuclear plants at Plant Vogtle should be required to conserve water, and even shut down, during a drought. I do not think the two plants should have been built due to the huge volume of water needed from the Savannah River. They should have to shut down during a severe drought.

Response: The Corps has no authority over the amount of water that Plant Vogtle uses during droughts. The Corps will include the amounts that the State of Georgia has permitted them to withdraw in our considerations of the expected effects of future changes to water management plans in the river and harbor.