

FEDERAL ENERGY REGULATORY COMMISSION

Washington, DC 20426

August 25, 2011

OFFICE OF ENERGY PROJECTS

Project No. 2503-147 – South Carolina  
and North Carolina  
Keowee-Toxaway Hydroelectric Project  
Duke Energy Carolinas, LLC

**Subject: Scoping Document 2 for Keowee-Toxaway Hydroelectric Project**

To the Party Addressed:

The Federal Energy Regulatory Commission (Commission) is reviewing the Pre-Application Document submitted by Duke Energy Carolinas, LLC (Duke) for relicensing the Keowee-Toxaway Hydroelectric Project (Keowee-Toxaway Project) (FERC No. 2503). The Keowee-Toxaway Project is located on the Toxaway, Keowee, and Little Rivers in Oconee County and Pickens County, South Carolina and Transylvania County, North Carolina. The Keowee-Toxaway Project occupies no federal lands.

Pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended, Commission staff intends to prepare an environmental assessment (EA), which the Commission will use to determine whether, and under what conditions, to issue a new license for the project. To support and assist our environmental review, we are beginning the public scoping process to ensure that all pertinent issues are identified and analyzed, and the EA is thorough and balanced.

In our May 17, 2011, Scoping Document 1 (SD1), we disclosed our preliminary view of the scope of environmental issues associated with the Keowee-Toxaway Project. Based on verbal comments that we received at the scoping meetings that were held on June 15, 2011 in Seneca, South Carolina and written comments we received throughout the scoping process, we prepared the enclosed Scoping Document 2 (SD2). We appreciate the participation of government agencies, non-government organizations, and the general public in the scoping process. The enclosed SD2 for the project serves as a guide to the issues and alternatives to be addressed in the EA. Key changes from SD1 to SD2 are identified in bold, italicized type.

SD2 is being distributed to all entities listed on the Commission's official mailing list for this project (see section 9.0). If you wish to be added to or removed from the Commission's official mailing list, please send your request by mail to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street, N.E., Room 1A, Washington, D.C. 20426. All written requests must specify your wish to be removed from, or added to, the mailing list and must clearly identify the following on the first page: **Keowee-Toxaway Hydroelectric Project No. 2503-147**.

You may also register online at <http://www.ferc.gov/esubscription.asp> to be notified via email of new filings and issuances related to this or other pending projects. For assistance, please contact FERC Online Support at [ferconlinesupport@ferc.gov](mailto:ferconlinesupport@ferc.gov).

If you have any questions about the scoping process or the development of the EA for this project, please contact Stephen Bowler at (202) 502-6861, or [stephen.bowler@ferc.gov](mailto:stephen.bowler@ferc.gov). Additional information about the Commission's licensing process and the Keowee-Toxaway Project may be obtained from the Commission's website, [www.ferc.gov](http://www.ferc.gov), or Duke's relicensing website, <http://www.duke-energy.com/keowee-toxaway-relicensing/project-relicensing.asp>.

Enclosure: Scoping Document 2

cc: Mailing List  
Public Files

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SCOPING DOCUMENT 2

KOEWEETOXAWAY HYDROELECTRIC PROJECT

SOUTH CAROLINA  
NORTH CAROLINA

PROJECT NO. 2503-147

Federal Energy Regulatory Commission  
Office of Energy Projects  
Division of Hydropower Licensing  
Washington, D.C.

August 2011

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## 1.0 INTRODUCTION

The Federal Energy Regulatory Commission (Commission or FERC), under the authority of the Federal Power Act (FPA),<sup>1</sup> may issue licenses for terms ranging from 30 to 50 years for the construction, operation, and maintenance of non-federal hydroelectric projects. On March 11, 2011, Duke Energy Carolinas, LLC (Duke) filed a Pre-Application Document (PAD) and Notice of Intent with the Commission for a new license for Keowee-Toxaway Hydroelectric Project (Keowee-Toxaway Project), FERC Project No. 2503.<sup>2</sup> The Keowee-Toxaway Project is located on a set of headwaters tributaries to the Savannah River, including the Toxaway, Keowee, and Little Rivers in Oconee County and Pickens County, South Carolina and Transylvania County, North Carolina. A small portion of Jocassee Development is in North Carolina. The project does not occupy any federal lands.

The Keowee-Toxaway Project consists of two developments: the **157.5**-megawatt (MW) Keowee Development and the 710.1-MW Jocassee Development. The Keowee-Toxaway Project interacts directly with several adjacent energy and water uses. Lake Keowee serves as the cooling water source *and back-up power supply* for Duke's existing 2,538-MW Oconee Nuclear Station. Immediately below the project are the U.S. Army Corps of Engineers' (Corps) Hartwell Lake, **Russell Lake**, and Thurmond Lake, located on the Savannah River. Above the project, Duke's existing 1,065-MW Bad Creek Hydroelectric Project (P-2740) uses Lake Jocassee as the water source for pumped storage operations. Duke has agreements with two water withdrawers, the City of Seneca, South Carolina and the Greenville, South Carolina Water System.

The National Environmental Policy Act (NEPA) of 1969,<sup>3</sup> the Commission's regulations, and other applicable laws require that we independently evaluate the environmental effects of relicensing the Keowee-Toxaway Project as proposed, and also consider reasonable alternatives to the proposed action. At this time, we intend to prepare an environmental assessment (EA) that describes and evaluates the probable effects, including an assessment of the project-specific and cumulative effects, if any, of the proposed action and alternatives. The EA preparation will be supported by a scoping

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<sup>1</sup> 16 U.S.C. § 791(a)-825(r) (2006).

<sup>2</sup> The current license for the Keowee-Toxaway Project was issued with an effective date of September 1, 1966, for a term of 50 years and expires on August 31, 2016. *See* 36 FPC 675 (1966).

<sup>3</sup> National Environmental Policy Act of 1969, as amended (Pub. L. 91-190. 42 U.S.C. § 4321-4347, January 1, 1970, as amended by Pub. L. 94-52, July 3, 1975, Pub. L. 94-83, August 9, 1975, and Pub. L. 97-258, § 4(b), Sept. 13, 1982).

process to ensure identification and analysis of all pertinent issues. Although our current intent is to prepare a draft and final EA, there is a possibility that an environmental impact statement (EIS) will be required. The scoping process will satisfy the NEPA scoping requirements, irrespective of whether the Commission issues an EA or an EIS.

## **2.0 SCOPING**

This Scoping Document 2 (SD2) is intended to advise all participants as to the proposed scope of the EA and to seek additional information pertinent to this analysis. This document contains: (1) a description of the scoping process and schedule for the development of the EA; (2) a description of the proposed action and alternatives; (3) a preliminary identification of environmental issues and proposed studies; (4) a proposed EA outline; and (5) a preliminary list of comprehensive plans that are applicable to the project.

### **2.1 PURPOSES OF SCOPING**

Scoping is the process used to identify issues, concerns, and opportunities for enhancement or mitigation associated with a proposed action. Pursuant to NEPA, the process should be conducted early in the planning stage of the project. The purposes of scoping are as follows:

- invite participation of federal, state and local resource agencies, Indian tribes, non-governmental organizations (NGO), and the public to identify significant environmental issues related to the proposed action;
- determine the resource issues, depth of analysis, and significance of issues to be addressed in the EA;
- identify how the project would, or would not, contribute to cumulative effects in the project area;
- identify reasonable alternatives to the proposed action that should be evaluated in the EA;
- solicit, from participants, available information on resource issues, including existing information and study needs; and
- determine the resource areas and potential issues that do not require detailed analysis during review of the project.

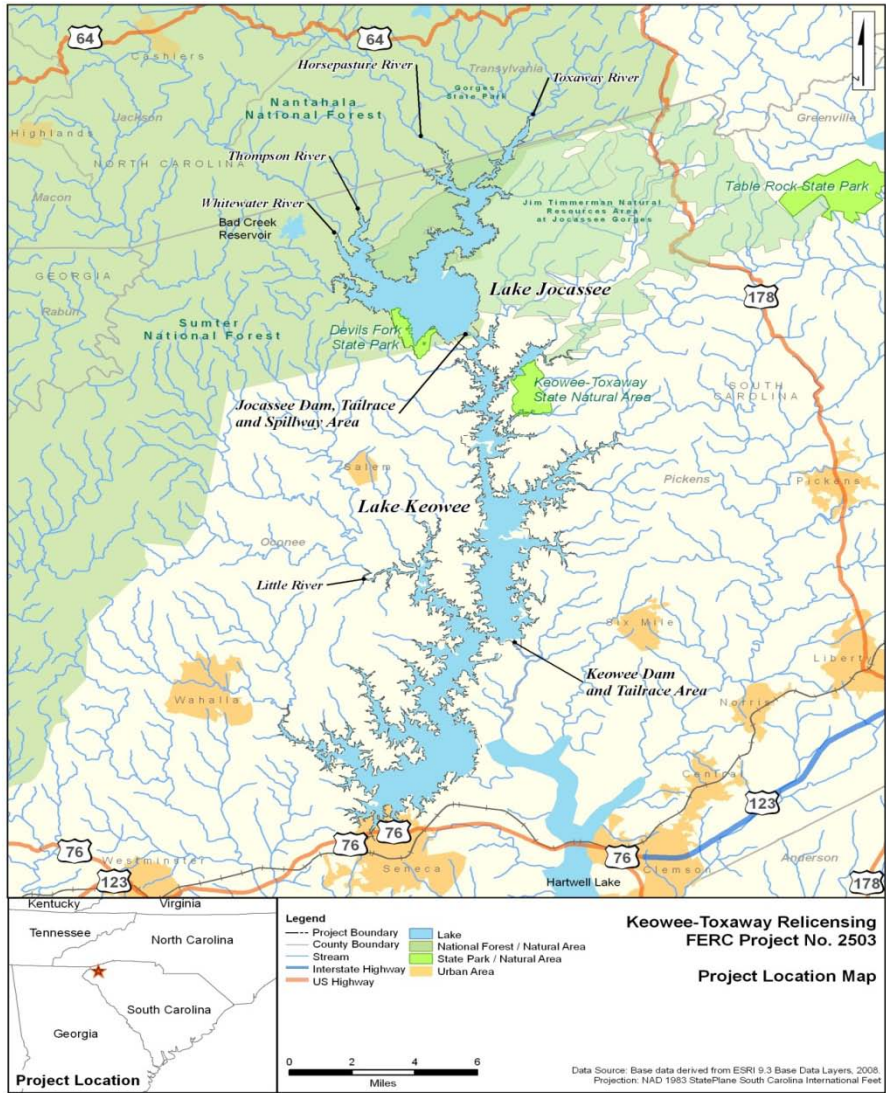


Figure 1. Location of the Keowee-Toxaway Project (Source: PAD).

## **2.2 COMMENTS, SCOPING MEETINGS, AND ENVIRONMENTAL SITE REVIEW**

*We conducted two scoping meetings (afternoon and evening) on June 15, 2011 in Seneca, South Carolina. The scoping meetings were announced in local newspapers and in the Federal Register. The afternoon meeting was attended by about 30 agency and NGO representatives, and members of the public. The evening meeting was attended by about 15 agency and NGO representatives and members of the public. A court reporter recorded comments made during the scoping meetings.<sup>4</sup> In addition, an environmental site review of the Jocassee Pumped Storage Development was conducted on June 14, 2011 and an environmental site review of the Keowee Hydroelectric Development was conducted on June 15, 2011.*

*In addition to comments received at the scoping meetings, the following entities filed written comments on SD1:*

<u><i>Entity</i></u>	<u><i>Date Filed</i></u>
<i>Pickens City Council</i>	<i>July 19, 2011</i>
<i>Friends of Lake Keowee Society (FOLKS)</i>	<i>July 18, 2011</i>
<i>Representative David R. Hiott, South Carolina State House of Representatives</i>	<i>July 18, 2011</i>
<i>Senator Larry A. Martin, South Carolina State Senate</i>	<i>July 18, 2011</i>
<i>Duke</i>	<i>July 15, 2011</i>
<i>Foothills Paddling Club</i>	<i>July 15, 2011</i>
<i>North Carolina Department of Administration</i>	<i>July 15, 2011</i>
<i>North Carolina Department of Cultural Resources</i>	<i>July 15, 2011</i>
<i>North Carolina Department of Environment and Natural Resources (North Carolina DENR)</i>	<i>July 15, 2011</i>
<i>Pendleton District Commission</i>	<i>July 15, 2011</i>
<i>Pickens County Historical Society</i>	<i>July 15, 2011</i>

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<sup>4</sup> *The transcripts are available at: <http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=12567075> (afternoon); and <http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=> (evening).*

<i>South Carolina Department of Natural Resources (South Carolina Natural Resources)</i>	<i>July 15, 2011</i>
<i>South Carolina Wildlife Federation</i>	<i>July 15, 2011</i>
<i>U.S. Fish and Wildlife Service (FWS)</i>	<i>July 15, 2011</i>
<i>Upstate Forever</i>	<i>July 15, 2011</i>
<i>Greenville Water</i>	<i>July 14, 2011</i>
<i>U.S. Environmental Protection Agency (EPA)</i>	<i>July 14, 2011</i>
<i>American Whitewater</i>	<i>July 13, 2011</i>
<i>Town of Salem, South Carolina</i>	<i>July 8, 2011</i>

*In addition to the entities listed above, 62 individuals filed comments on various issues. Over 50 of these comments discussed the adequacy of recreation lands at the project, about 10 comments discussed the reconstruction of Fort Prince George, one comment discussed dam safety measures, and one comment discussed shoreline management at the project.*

*All comments received are part of the Commission’s official record for the project. Information in the official file is available for inspection and reproduction at the Commission’s Public Reference Room, located at 888 First Street, N.E., Room 2A, Washington, DC 20426, or by calling (202) 502-8371. Information also may be accessed through the Commission’s eLibrary system using the “Documents & Filings” link on the Commission’s web page at <http://www.ferc.gov>. Call (202) 502-6652 for assistance.*

### ***2.2.1 Issues Raised During Scoping***

*During the meetings and the following comment period, we received comments on Duke’s PAD and the Commission staff’s SD1. In addition, participants filed study requests. SD1 was revised to address only comments relating directly to the scope of environmental issues. This document, SD2, presents our current view of issues and alternatives to be considered in the EA, and reflects comments received during scoping. In some cases we have revised and expanded our description of the issues.*

*The general concerns raised by participants during scoping are summarized below by topic. Both oral and written comments are addressed in the summary. The summary, however, does not include every oral and written comment made during the scoping process. For instance, we do not address comments that are recommendations for schedule changes, statements of opinion regarding operation of the proposed projects, or minor editorial corrections. We do not address comments on the applicant's PAD here. We also have not included comments that are recommendations for license conditions, as these recommendations would be addressed in the EA, or study requests, as these requests would be addressed in the Director, Office of Energy Projects, study plan determination. The study requests are not discussed here but will be considered during study plan development and the ensuing study plan meetings.*

### *Alternatives to the Proposed Action*

**Comment:** *FWS suggests that we consider an alternative of continued operation under current conditions, a staff alternative, and the applicant's proposal and that we either incorporate fish and wildlife mitigation measures in staff's recommendation or generate a fourth alternative with such measures.*

**Response:** *As established in section 3.0, at a minimum we will consider (1) a no-action alternative, which is continued project operation and maintenance under the current license, (2) the applicant's proposal, and (3) a staff alternative. New protection, enhancement, and mitigation (PM&E) measures may be incorporated in both the applicant's proposal and staff's recommendations.*

**Comment:** *Given the diversity of Duke's power generation sources, Upstate Forever questions the selection of fossil fuel stations for the evaluation of costs and airborne pollution relative to the project proposal.*

**Response:** *We have added language to section 3.3 to clarify that we will compare the cost of project power to the least cost alternative source of power. The least cost alternative will be identified in the EA.*

### *Scope of Environmental Document*

**Comment:** *FWS recommends that the geographic scope of analysis include all reaches between facilities and tributaries of the main rivers affected by project operations. FWS also identifies resource issues, including aquatic, cultural, recreational, and terrestrial resources, water quality in project releases, and operations and water supply issues, which require scoping and subsequent study as part of the Integrated Licensing Process.*

**Response:** We have added a paragraph identifying the geographic scope for recreation resources and land use to section 5.1.2. The details recommended by FWS for aquatic biota, water quantity, and water quality are implied in the existing description in that section.

**Comment:** A few entities asked that we include in the scope of analysis the Bad Creek Hydroelectric Project No. 2740 (Bad Creek Project), Oconee Nuclear Station, and/or a possible future pumped storage project that would use Lake Jocassee as the lower impoundment.

**Response:** Since the Bad Creek Project license does not expire until 2027 and the Oconee Nuclear Station is regulated by the Nuclear Regulatory Commission (NRC), these facilities will not be subjects of this relicensing. However, interaction between, and associated cumulative effects of, the operations of the Keowee-Toxaway Project and these facilities will be analyzed. The effects of the possible future pumped storage project are speculative at this time and will not be evaluated.

**Comment:** Upstate Forever raises a concern that the scope of our analysis does not cover transmission line right-of-ways that are not in the project boundary.

**Response:** The Commission has no authority beyond the extent of the primary transmission line serving the project. We, therefore, will not analyze transmission line right-of-way issues beyond the project boundary, except to the extent that they may fall within our cumulative effects scope of analysis.

### **Cumulative Effects**

**Comment:** FWS recommends that FERC provide a thorough analysis of, and consider ways to mitigate, cumulative effects such as habitat fragmentation in the EA.

**Response:** In the EA we will analyze cumulative effects, including habitat fragmentation, consider stakeholder recommendations, and consider PM&E measures to address these effects. In the case of aquatic biota, we have added the effect of habitat fragmentation to the issue list in section 4.2.2.

**Comment:** Upstate Forever suggests that the geographic scope for cumulative effects on aquatic resources be extended to the coast of South Carolina.

**Response:** We have modified the description of the geographic scope for cumulative effects for aquatic resources in section 4.1.2 to extend it to the mouth of the Savannah River.

**Comment:** Upstate Forever comments that recreation and land use should be included as resources that may be cumulatively affected by project operations. Upstate Forever notes that the project and subsequent management for recreational use has led to increased land use change along the project shoreline, which may affect land use in neighboring counties and shoreline change within the project boundary.

**Response:** We have modified SD2 to include and analyze the cumulative effects of project operations on recreation resources and land use. The geographic scope of analysis for recreation resources and land use is identified in section 4.1.2. The temporal scope of analysis for recreation resources and land use is the same as all other issues identified in 4.1.3.

**Comment:** South Carolina Wildlife Federation comments that the existing Shoreline Management Plan was implemented fairly recently and does not address degradation to the shoreline within the project boundary before its implementation. South Carolina Wildlife Federation requests that the EA address long-term remediation of project effects.

**Response:** We will analyze Duke's proposed Shoreline Management Plans and associated Shoreline Management Guidelines in the EA.

### **Aquatic Resources**

**Comment:** Greenville Water raised questions about reports of tritium in the groundwater beneath the Oconee Nuclear Station.

**Response:** We have added the tritium issue, as it relates to project operations, to the aquatic resource issues list in section 4.2.2.

**Comment:** Upstate Forever and many entities ask that the negotiations among Duke, the U.S. Army Corps of Engineers, and the Southeastern Power Authority be made public. Upstate Forever also asks that these negotiations be combined with the relicensing process and that any other such agreements or negotiations be described.

**Response:** *Such discussions/negotiations are considered outside the licensing process. Nonetheless, we expect that any public information resulting from these discussions, as it relates to any proposal by Duke, can be used by Commission staff to make recommendations for the project. Such information would be included in the public record for re-licensing the project.*

**Comment:** *Upstate Forever suggests that the scoping document add development of a low inflow protocol to Duke's list of PM&E measures.*

**Response:** *It is not clear to us that Duke has proposed this measure. However, operations under low flow conditions will be analyzed thoroughly and there will be opportunity to consider the need for such measures.*

**Comment:** *Doug Young raises the concern that the inter-basin transfer resulting from the use of water from Lake Keowee in Greenville, South Carolina with sewage effluent release in the Santee River basin, sets a bad precedent for regional water policy.*

**Response:** *The Commission does not resolve issues of state or regional water rights or policy. We will address withdrawal of water only as the withdrawal relates to project operations and effects.*

**Comment:** *South Carolina Natural Resources and Monty McGuffin raise concerns about the effect of lake level fluctuation on bass spawning and reproduction.*

**Response:** *The effect of lake level fluctuation on bass spawning and reproduction has been added as an issue in the aquatic resources issue list in section 4.2.2.*

**Comment:** *Upstate Forever suggests adding the Memorandum of Agreement between Duke and South Carolina Natural Resources to the list of existing measures.*

**Response:** *We have made the suggested addition in section 3.2.2.*

**Comment:** *South Carolina Natural Resources recommends that FERC analyze the effect of continued project operation on fish in the project tributaries as the project lakes present a continued barrier to movement and genetic flow among species. South Carolina Natural Resources also notes the effect of the introduction of exotic fish species on the native species.*

**Response:** *We have added these topics to the aquatic resource issue list in section 4.2.2 for analysis and discussion of cumulative effects in the EA.*

### Terrestrial Resources

***Comment:*** In accordance with the March 30, 2001 Memorandum of Understanding between FWS and FERC regarding migratory bird conservation, FWS recommends that FERC consult its regional lists of Birds of Conservation Concern, Breeding Bird Atlas, and Important Bird Areas including at Jocassee Gorges and the Blue Ridge Escarpment Gorges. FWS also recommends that FERC develop project-specific conservation measures and best management practices to protect migratory birds and their habitat and consider these measures in the EA.

***Response:*** We appreciate your reference to these sources of existing information on migratory birds in the project area. This information will assist us and other stakeholders in understanding the status of migratory birds in the project area and inform our analysis of potential project-related effects to these species, as well as the development of protection measures.

***Comment:*** South Carolina Natural Resources recommends that FERC analyze the effect of continued project operation on terrestrial invertebrates and plants as the project lakes present a continued barrier to movement and genetic flow among species.

***Response:*** We have tentatively incorporated this topic into the list of resource issues in section 4.2.3 for analysis in the EA. We would appreciate further clarification from South Carolina Natural Resources to identify the terrestrial invertebrates and plant species of concern.

### Threatened and Endangered Species

***Comment:*** FWS recommends that the EA include a biological assessment of the potential effects of any new license on threatened and endangered species and their habitats as well as federally designated critical habitat.

***Response:*** The EA will include a biological assessment of the potential effects of the Keowee-Toxaway Project on threatened and endangered species and their habitat, as well as federally designated critical habitat.

### Aquatic Plant Management

***Comment:*** FWS recommends that FERC consider how project operations affect the spread and dispersal of invasive aquatic species such as alligator weed (*Alternanthera philoxeroides*), Hydrilla (*Hydrilla verticillata*), and parrot feather (*Myriophyllum aquaticum*).

**Response:** *We have added the effect of project operations and maintenance on the spread and dispersal of invasive aquatic plants to the list of resource issues in section 4.2.2 for analysis in the EA.*

### **Recreation Resources and Land Use**

**Comment:** *South Carolina Natural Resources recommends that the EA examine the adequacy of lands for protection of environmental resources at the project. Other entities commented that the EA should consider the availability of public lands and effect of land use in the vicinity of the project for both recreation and environmental protection.*

**Response:** *We have modified SD2 to examine the cumulative effects of project operations on recreation resources and land use. The adequacy of available lands for recreation is identified in the list of resource issues in section 4.2.5 for analysis in the EA.*

**Comment:** *Numerous entities expressed concerns with enforcement of the current license conditions relating to provision of public access to project recreation sites. Commenters cite a need for between 17,000 and 20,000 acres of additional land for public access.*

**Response:** *The adequacy and availability of public access for recreation will be addressed in the EA.*

**Comment:** *American Whitewater provided extensive information regarding the characteristics of the Horsepasture and Toxaway Rivers and adjacent lands as well as a discussion of whitewater boating access in the project vicinity. The Foothills Paddling Club commented on the availability and adequacy of canoeing and kayaking access in tributaries of Lake Keowee. Karl Dieter commented on the adequacy of canoe and kayak access at Lake Keowee.*

**Response:** *We appreciate the additional information regarding non-motorized recreational boating in the project vicinity. As discussed in section 4.2.5, the EA will address the adequacy of existing facilities to meet current and future recreational demand.*

**Comment:** Pam Shucker commented that preserving more land for recreation other than boating in the Lake Keowee vicinity is preferable to increased boating on the reservoir.

**Response:** We will assess the adequacy of existing recreation facilities and public access to meet current and future (over the term of a new license) recreational demands in the EA.

**Comment:** Numerous entities commented on issues relating to boating safety in the waters of Lake Keowee. Advocates for Quality Development specifically noted that boating densities were excessive in some of Lake Keowee's constricted waterways, including Cane Creek, Stamp Creek, Crow Creek, and Crooked Creek. FOLKS also noted a need for better enforcement of regulations on use of project recreation sites.

**Response:** Duke proposes to evaluate boating densities as one component of its recreation study. We will assess recreational use at the project and the adequacy of existing recreation facilities and public access to meet current and future (over the term of a new license) recreational demands in the EA.

### **Shoreline Management**

**Comment:** Several entities note a need to review Duke's Shoreline Management Guidelines in addition to the Shoreline Management Plans for Lake Keowee and for Lake Jocassee as part of the EA.

**Response:** We have modified SD2 to include evaluation of the adequacy of both the Shoreline Management Plans and Shoreline Management Guidelines to protect environmental resources at the project in section 4.2.5.

### **Cultural Resources**

**Comment:** Several entities, including the Pickens County Historical Society, commented on Fort Prince George, a fort that had an important role in the Colonial era of the region and which now lies approximately 150 feet below Lake Keowee. The entities stated Duke could generate good will by reconstructing the fort on a suitable site near the fort's original site in Pickens County, South Carolina. The entities also stated that such an effort would enhance tourism, create jobs, and educate people.

**Response:** We will address Fort Prince George as part of the historic and archeological resources in the EA.

***Comment:*** Michael Bedenbaugh commented on Newry Mill, located on the Little River and downstream of Keowee Dam. Before the relicensing process for the Keowee-Toxaway Project begins, Michael Bedenbaugh stated that flows to the Little River should be provided, and thereby, restore flows to Newry Mill. The mill should be restored.

***Response:*** We will address Newry Mill as part of the historic and archeological resources in the EA.

### **Socioeconomics**

***Comment:*** EPA recommends that the EA address the socioeconomic impacts related to project operations on the recreation and tourism industries. EPA also comments that Duke should identify any environmental justice communities that may be affected by the project and that the EA assess any project operation impacts on these communities.

***Response:*** We have modified SD2 to include evaluation of potential effects of project operations and maintenance on local, tribal, and regional economic conditions in section 4.2.7 below.

### **Climate Change**

***Comment:*** EPA states that the shift in normal weather patterns due to climate change could potentially impact project operations by impacting water levels on the reservoirs and flows to the project in times of extreme drought. EPA requests that the EA assess the possible effects of climate change on project operations and project effects. EPA also requests that the EA describe possible project adaptive management measures.

***Response:*** Predicting future changes in climate would be speculative, beyond the scope of required analysis, and not necessary to evaluate project effects or to define appropriate enhancement and protection measures. However, the effects of project operations on lake levels and releases downstream, particularly during low flow periods, will be considered.

### **Comprehensive Plans**

***Comment:*** FWS comments that not all relevant state and federal comprehensive plans may have been included for review as part of SD1. In addition, FWS notes that they may file additional or updated plans with the Commission that may be relevant to the project.

**Response:** *The FWS has not identified a specific comprehensive plan for inclusion. We will consider all relevant comprehensive plans in our evaluation of the effects of the project on relevant resources. To be considered a comprehensive plan under section 10(a)(2)(A) of the FPA the plan must be filed with the Commission with a request that it be considered as a comprehensive plan. The Commission is required to determine whether a project is consistent with filed, qualifying plans. If a document does not qualify as a comprehensive plan, we will consider the document, as we consider all relevant studies and recommendations, in the public interest analysis pursuant to section 10(a)(1) of the FPA.*

**Comment:** *Upstate Forever comments that the land use maps and plans for Pickens and Oconee Counties should be considered in the development of the EA.*

**Response:** *We agree that the Oconee County, South Carolina Comprehensive Plan (2010); the 2030 Pickens County Comprehensive Plan (draft under review ); and the Comprehensive Plan for Transylvania County, North Carolina (2005) are relevant in the relicensing process and we will consider these documents in the public interest analysis pursuant to section 10(a)(1) of the FPA.*

**Comment:** *Upstate Forever comments that the Interstate Fishery Management Plan for American Eel and Elements of Consensus on American Shad Management in the Stretch of Savannah River between Strom Thurmond Dam and Augusta comprehensive plans should be considered relevant in analysis of the project.*

**Response:** *We agree with Duke's assessment in its PAD that current operations of the Corps facilities below the project prevent migration of American eel and American shad to the project. Therefore, the aforementioned comprehensive plans are not relevant to the Keowee-Toxaway Project. Further, addressing potential changes in management of Corps facilities downstream of the project would be speculative and beyond the scope of required analysis for this project.*

#### **Applicant's Proposed Studies**

**Comment:** *South Carolina Natural Resources and Upstate Forever are unclear whether the proposed studies listed in SD1 were those of Duke or the Commission.*

**Response:** *The proposed studies listed in SD1, table 1 of section 5.0, are the studies proposed by Duke in its PAD. We reproduced them in a format consistent with our document, but did not change the meaning of the proposed studies.*

### 3.0 PROPOSED ACTION AND ALTERNATIVES

In accordance with NEPA, the environmental analysis will consider the following alternatives, as appropriate: (1) the no-action alternative; (2) Duke's proposed action; and (3) Commission staff's alternative.

#### 3.1 NO-ACTION ALTERNATIVE

Under the no-action alternative, the Keowee-Toxaway Project would continue to operate as required by the current project license. Energy production would continue and no new PM&E measures would be implemented. We use this alternative to establish baseline environmental and economic conditions for comparison with other alternatives.

##### 3.1.1 Existing Project Facilities

###### Jocassee Development

The Jocassee Development includes: a 385-foot-high, 1,800-foot-long main earthfill dam with top elevation at 1,125 ft above mean sea level (msl); two circular intake structures passing water to two water conveyance tunnels leading to four turbines; two saddle dikes (825 feet and 500 feet in length) to contain the reservoir pool; a partially-open powerhouse just downstream of the dam; four reversible pump-turbine units with wicket gates; a 50-foot wide, concrete, ogee-type spillway with 2 Taintor gates; a 230-kilovolt (kV) transmission system; *and appurtenant facilities*.

The original license was issued for a generating capacity of 612 MW at the Jocassee Development and a hydraulic capacity of 31,300 cubic feet per second (cfs). Runners were replaced in units three and four in 2006 and 2007 as part of a license amendment (August 24, 2006) that allowed an increase in the installed capacity to 661 MW and hydraulic capacity to 33,900 cfs. Under another license amendment (December 1, 2010), similar work is occurring on units one and two, increasing the approved generating capacity at Jocassee to 710.1 MW and hydraulic capacity to 36,200 cfs.

###### Keowee Development

The Keowee Development includes: a 165-foot-high, 3,500-foot-long earthfill dam impounding the Keowee River, and a 165-foot-high, 1,800-foot-long earthfill dam impounding the Little River (in the same reservoir pool, but 3 miles to the South); four saddle dikes to contain the pool; an intake dike at the Oconee Nuclear Station; a concrete power house at the base of Keowee dam; a concrete intake structure leading to two

penstocks; two Francis-type, mixed flow turbine-generator units controlled by wicket gates; a 176-foot wide, concrete, ogee-type spillway with 4 Taintor gates; a 150-foot by 500-foot concrete tailrace; a 230-kV transmission system; **and appurtenant facilities**. The installed capacity is **157.5 MW** and the hydraulic capacity is 24,920 cfs.

### **3.1.2 Existing Project Operations**

#### Jocassee Development

The Jocassee Development is operated as a pumped-storage project, with the pump-turbines used for generating power during peak demand periods (typically during the day), and for pumping water back through the tunnels to Lake Jocassee (typically during the night). Lake Jocassee is licensed to operate within a range of a normal high level of 1,110.0 ft msl to a low level of 1,080 ft msl. The Jocassee Development typically is operated within a range of approximately 1,109.5 ft msl and 1,100 ft msl when not in drought conditions. A daily range of 4 feet or more in Lake Jocassee level is common during high-demand periods. The gross storage is 1,206,798 acre-feet and usable storage is 225,387 acre-feet. The spillway capacity is 20,000 cfs. The pumps can deliver **32,720 cfs**.

#### Keowee Development

Energy generated from the Keowee Development is used to meet Duke's system electric demands and to provide standby emergency power for the 2,538-MW Oconee Nuclear Station. Lake Keowee provides cooling water to the Oconee Nuclear Station, and municipal water to the city of Seneca and the Greenville Water System. Lake Keowee is licensed to operate within a range from a normal high level of 800 ft msl to a normal low level of 775 ft msl. However, based on Nuclear Regulatory Commission (NRC) requirements for the Oconee Nuclear Station and other agreements and business considerations, the Keowee Development typically is operated within a range of approximately 799.5 and 794.6 ft msl. A daily fluctuation of 2 feet or more in Lake Keowee is common during high-demand periods. Gross storage is 869,338 acre-feet and usable storage is 90,319 acre-feet.

Operation of the project is also subject to provisions of a 1968 Operating Agreement (1968 Agreement) between Duke, the Corps, and the ***Southeastern*** Power Administration when certain water storage triggers are reached downstream in the Corps reservoirs at the Hartwell and J. Strom Thurmond projects. The circumstances surrounding the 1968 Agreement have changed substantially for Duke (the Oconee

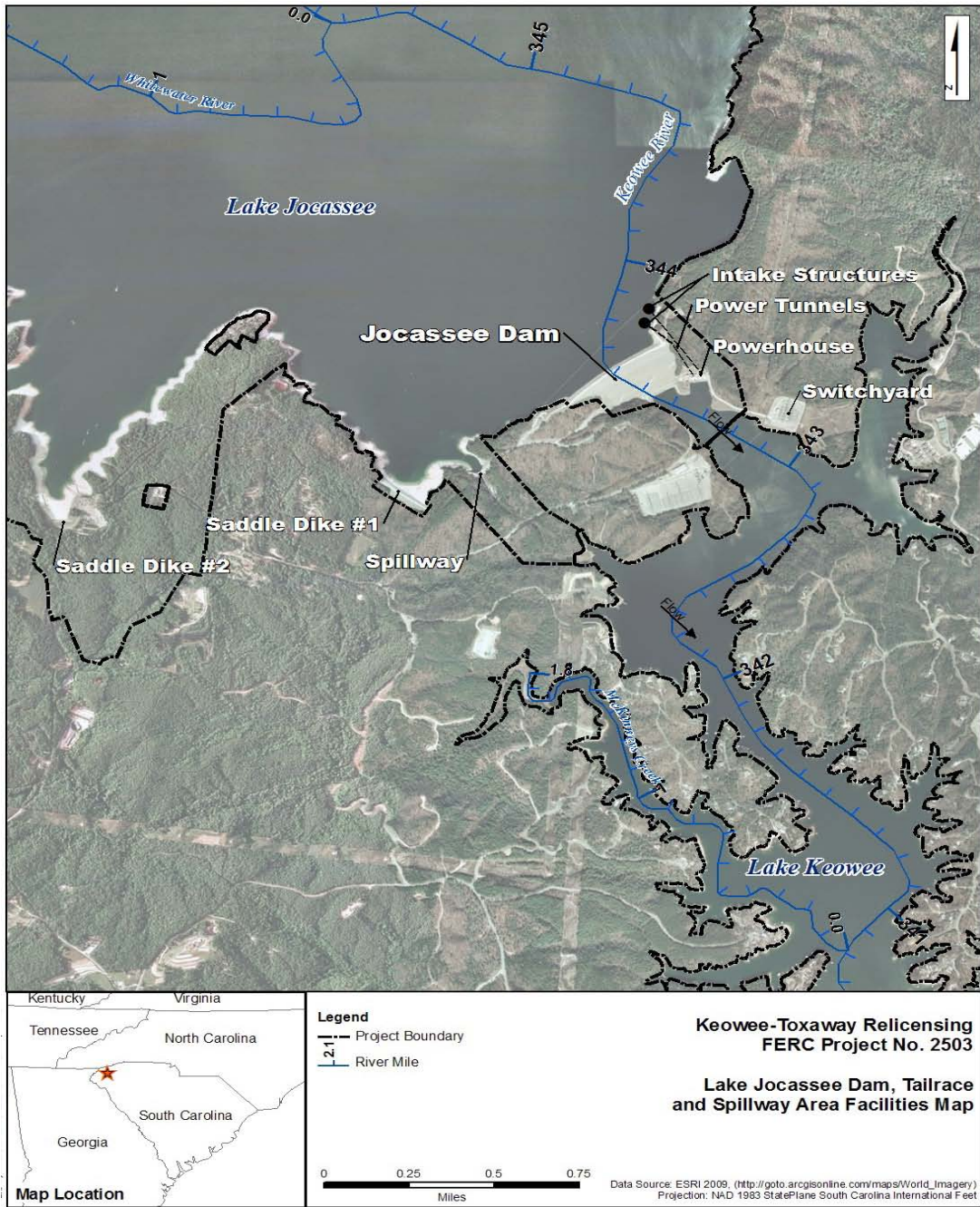


Figure 2. Project facilities for the Jocassee pumped storage portion of the Keowee-Toxaway Project (Source: PAD).

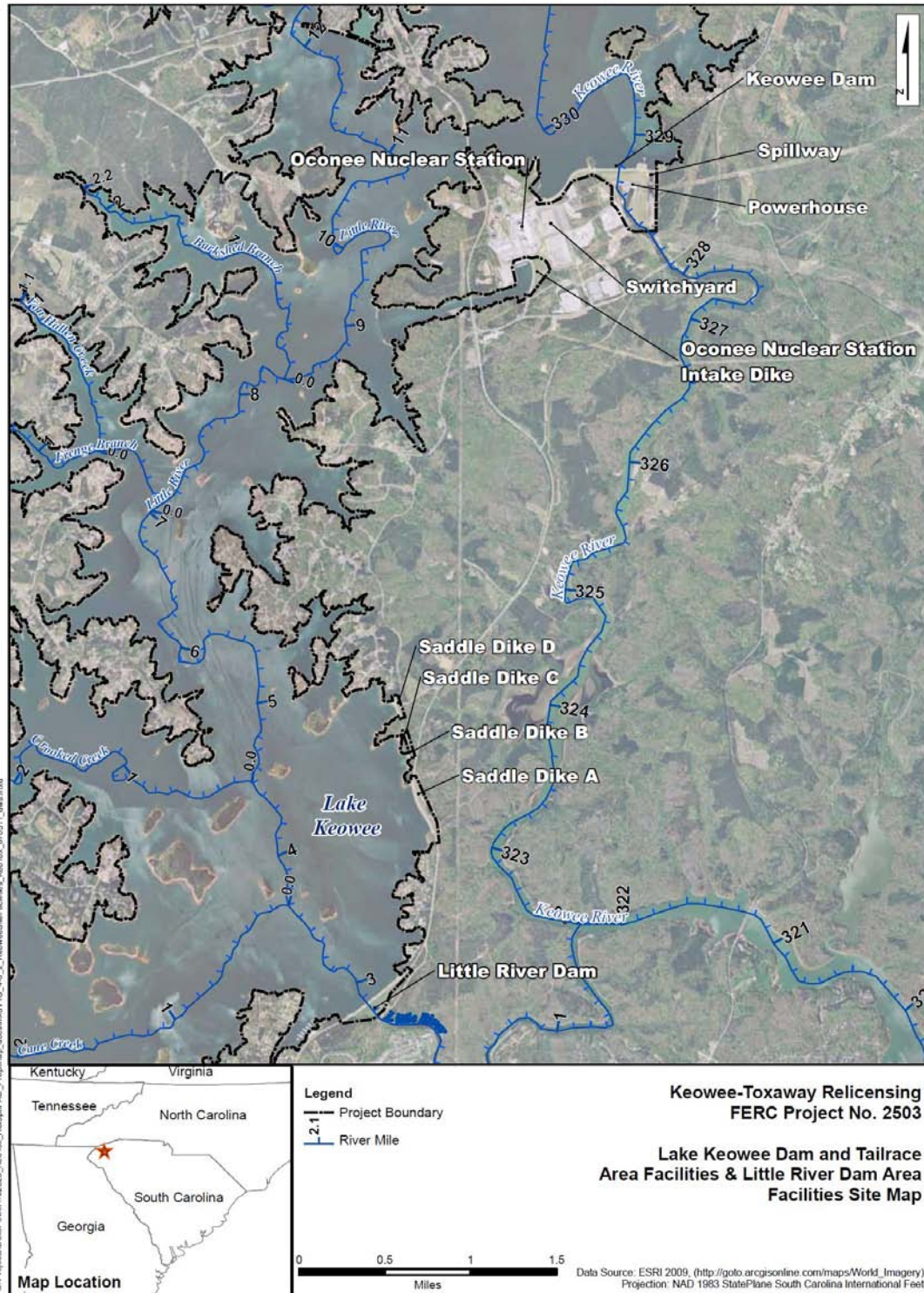


Figure 3 Project facilities for the Keowee hydropower plant portion of the Keowee-Toxaway Project (Source: PAD). (Figure updated.)

Nuclear Station and Bad Creek Hydroelectric Project were constructed), and the Corps (the Richard B. Russell Project was constructed), thus this agreement is currently under review. Duke is undertaking its review of the 1968 Agreement separate from the relicensing process, but it could lead to proposed changes to project lake levels and releases, particularly under low flow conditions.

## **3.2 APPLICANT'S PROPOSAL**

Duke prefers to defer proposing changes to existing operations until later in the relicensing process when operation studies are completed, and in the review of the 1968 Agreement and related issues. Duke proposes no new development or changes in project operation at this time. The current license for the project expires on August 31, 2016.

### **3.2.1 Proposed Project Facilities and Operations**

No new or upgraded facilities, structural changes, or operational changes to the Keowee-Toxaway Project are proposed at this time.

### **3.2.2 Proposed Environmental Measures**

Based on information in the PAD and preliminary staff analysis, we are proposing to address aesthetic issues as part of recreation and land use and geologic and soil resources, rather than as a stand-alone topic. Duke proposes the following PM&E measures.

#### **Geologic and Soil Resources**

There are no existing or proposed PM&E measures related to geology and soils for the Keowee-Toxaway Project. The potential need for PM&E measures will be evaluated during the relicensing process.

#### **Aquatic Resources**

##### *Existing Measures*

Duke has implemented the following PM&E measures for aquatic resources during the current license term:

*Duke has a Memorandum of Agreement with South Carolina Natural Resources to cooperate on fishery management. Duke lists the accomplishments of the agreement as including such projects as trout habitat monitoring and model*

*development, trout stocking and cost share, angler surveys, littoral fish survey, prey fish surveys, telemetry studies for trout and black bass, erosion control, angler access management, and fish entrainment minimization.*

Duke, in cooperation with South Carolina Natural Resources, used chemical control methods to treat about 7.4 acres of *Hydrilla* infestation in the Cane Creek arm of Lake Keowee. In addition, Duke manually removed small shallow beds of *Hydrilla* when they were observed. Annual surveys for *Hydrilla* continue at Lake Keowee, but no additional infestations have been observed since 2002.

#### *Potential Measures*

There are no specific proposed PM&E measures related to aquatic resources for the Keowee-Toxaway Project. The potential need for PM&E measures will be evaluated during the relicensing process.

#### **Terrestrial Resources**

There are no existing or proposed PM&E measures related to terrestrial resources for the Keowee-Toxaway Project. The potential need for PM&E measures will be evaluated during the relicensing process.

#### **Threatened and Endangered Species**

There are no existing or proposed PM&E measures related to threatened and endangered species for the Keowee-Toxaway Project. The potential need for PM&E measures will be evaluated during the relicensing process.

#### **Recreation and Land Use**

##### *Existing Measures*

Duke proposes to continue to operate and maintain the existing project recreation facilities under the current license and make improvements to the project recreation facilities as approved in its Recreation Management Plan.<sup>5</sup>

*Duke proposes to continue to manage recreational development and land use*

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<sup>5</sup> 132 FERC ¶ 62,045 (2010).

*within the project boundary as approved in its Shoreline Management Plan.*<sup>6</sup>

*Potential Measures*

There are no proposed PM&E measures related to recreation and land use for the Keowee-Toxaway Project. The potential need for additional PM&E measures will be evaluated during the relicensing process.

**Cultural Resources**

*Existing Measures*

There are no existing PM&E measures applied to properties within the proposed Keowee-Toxaway Project area of potential effects (APE).

*Potential Measures*

Duke proposes to develop and implement a Historic Properties Management Plan (HPMP) to protect and manage National Register of Historic Places (National Register) eligible cultural resources within the project's APE.

*Socioeconomics*

***There are no existing or proposed PM&E measures related to socioeconomics for the Keowee-Toxaway Project. The effects of project operations and maintenance on local, tribal, and regional economies will be addressed in the EA.***

**3.3 ALTERNATIVES TO THE PROPOSED ACTION**

Commission staff will consider and assess all reasonable alternative recommendations for operational or facility modifications, as well as additional PM&E measures identified by the Commission staff, resource agencies, Indian tribes, NGOs, and the public. To the extent that any modifications would reduce the power produced by the project, we will evaluate costs and contributions to airborne pollution related to generation of replacement power by fossil fuel stations, provided, however, that we determine that fossil fuel is the least cost alternative to project power.

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<sup>6</sup> 119 FERC ¶ 62,165 (2007).

### **3.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY**

At present, we propose to eliminate the following alternatives from detailed study in the EA.

#### **3.4.1 Federal Government Takeover**

In accordance with section 16.14 of the Commission's regulations, a federal department or agency may file a recommendation that the United States exercise its right to take over a hydroelectric power project with a license that is subject to sections 14 and 15 of the FPA.<sup>7</sup> We do not consider federal takeover to be a reasonable alternative in this case. Federal takeover of the project would require congressional approval. While that fact alone would not preclude further consideration of this alternative, there is currently no evidence showing that federal takeover should be recommended to Congress. No party has suggested that federal takeover would be appropriate, and no federal agency has expressed interest in operating the project.

#### **3.4.2 Non-power License**

A non-power license is a temporary license the Commission would issue whenever it determines that another governmental agency is authorized and willing to assume regulatory authority and supervision over the lands and facilities covered by the non-power license. At this time, no governmental agency has suggested a willingness or ability to take over the project. No party has sought a non-power license, and we have no basis for concluding that the Keowee-Toxaway Project should no longer be used to produce power. Thus, we do not consider a non-power license a reasonable alternative to relicensing the project.

#### **3.4.3 Project Decommissioning**

Decommissioning of the project could be accomplished with or without removal of some, or all, project facilities, including the dam(s). Either alternative would require denying the relicense application and surrender or termination of the existing license with appropriate conditions. There would be significant costs involved with decommissioning the project and/or removing any project facilities. The project provides a viable, safe, and clean renewable source of power to the region. With decommissioning, the project would no longer be authorized to generate power.

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<sup>7</sup> 16 U.S.C. §§ 791(a)-825(r) (2006).

No party has suggested project decommissioning would be appropriate in this case, and we have no basis for recommending it. Thus, we do not consider project decommissioning a reasonable alternative to relicensing the project with appropriate environmental measures.

## **4.0 SCOPE OF CUMULATIVE EFFECTS AND SITE-SPECIFIC RESOURCE ISSUES**

### **4.1 CUMULATIVE EFFECTS**

According to the Council on Environmental Quality's regulations for implementing NEPA (40 C.F.R. § 1508.7), a cumulative effect is the effect on the environment that results from the incremental effect of the action when added to other past, present and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time, including hydropower and other land and water development activities.

#### **4.1.1 Resources That Could be Cumulatively Affected**

Based on information in the PAD and preliminary staff analysis, we have identified the following resources that may be cumulatively affected by the proposed operation of the project: aquatic resources (including water quality and fishery resources), terrestrial resources, *recreation resources, and land use*.

#### **4.1.2 Geographic Scope**

The geographic scope of analysis for cumulatively affected resources is defined by the physical limits or boundaries of: (1) the proposed action's effect on the resources; and (2) contributing effects from other hydropower and non-hydropower activities within the Jocassee/Keowee watershed. Because the proposed action can affect the resources differently, the geographic scope for each resource may vary.

We identify the Jocassee/Keowee contributing watersheds, including the basins of the tributaries to Lake Keowee (Keowee and Little River and smaller streams) and the tributaries to Lake Jocassee (Whitewater Thompson, Horsepasture, and Toxaway Rivers, Bad Creek, and other streams) as our upstream geographic scope of analysis for aquatic resources. The land use in the contributing watershed influences the lake levels, water quality, and aquatic habitat of Lake Keowee and Lake Jocassee. In addition, we have tentatively identified the downstream geographic scope of analysis as extending to the

***mouth of the Savannah River.*** The operations of Lake Keowee and Lake Jocassee influence lake levels, water quality, releases, and aquatic habitat in Lake Hartwell, ***Lake Russell***, and Lake Thurmond ***and all the impoundments influence the flow and chemistry of the Savannah River.*** Additionally, the Lake Keowee and Lake Jocassee tributaries and Lake Hartwell are connected biologically through ***present and/or past*** movement of fish and other organisms.

We identify the Jocassee/Keowee watershed as our geographic scope of analysis for terrestrial resources. Regulation of flows by the project and upstream dams causes daily and seasonal changes in surface water fluctuations that may have led to shoreline erosion, spread of invasive species, and alteration of riparian and wetland habitats. Project facilities and operations; transmission line right-of-way maintenance; agricultural activities; roads; and residential and commercial development have collectively contributed to the loss and alteration of wildlife habitat. Many of these non-project developments may have not occurred within the project boundary, but are close enough to have an effect on resources within the project area. Upstream and upslope development and land clearing in combination with project operations may contribute to establishment and spread of invasive species throughout the Jocassee/Keowee watershed. Road construction, vehicular traffic, and foot traffic associated with recreational pursuits may also contribute to the degradation and loss of sensitive habitats and displacement of wildlife.

***We identify the Jocassee/Keowee watershed as our geographic scope of analysis for recreation resources and land use. Increased recreational use near the reservoirs due to project operations and associated recreation facilities may affect the public's use and enjoyment of recreation resources at the project. Fluctuations in reservoir pool levels due to project operations and natural seasonal flow fluctuations may affect the ability of the public to access the reservoir at times. Residential and commercial development has the potential to cumulatively affect recreation resources and land use in the Jocassee/Keowee watershed. Consequently, non-project use of projects lands and other non-project developments outside of the project boundary may affect the adequacy of lands available to protect environmental and recreational resources at the project.***

#### **4.1.3 Temporal Scope**

The temporal scope of our cumulative effects analysis in the EA will include a discussion of past, present, and reasonably foreseeable future actions and their effects on aquatic and terrestrial resources. Based on the term of the proposed license, the temporal scope will look 30 to 50 years into the future, concentrating on the effect on aquatic, terrestrial, *recreation* resources, *and land use* from reasonably foreseeable future

actions. The historical discussion will, by necessity, be limited to the amount of available information for each resource. The quality and quantity of information, however, diminishes as we analyze resources further away in time from the present.

## **4.2 RESOURCE ISSUES**

In this section, we present a list of environmental issues to be addressed in the EA. We identified these issues, which are listed by resource area, by reviewing the PAD and the Commission's record for the Keowee-Toxaway Project, including comments received by the staff at the scoping meetings. This list is not intended to be exhaustive or final, but contains those issues raised to date that could have substantial effects. Those issues identified by an asterisk (\*) will be analyzed for both cumulative and site-specific effects.

### **4.2.1 Geologic and Soils Resources**

- Effects of project operation and project-related recreation on shoreline erosion.\*

### **4.2.2 Aquatic Resources**

- Effects of project operation on dissolved oxygen (DO) and temperature dynamics in Lake Jocassee and Lake Keowee relative to trout habitat needs.
- *Effects of project operation on tritium identified in the groundwater beneath the Oconee Nuclear Station, and potential effects of the tritium, or treatment for tritium, on project operation.*
- Effects of project operation on lake levels, and releases downstream, particularly during low flow periods. Evaluation of associated effects on operation of the Oconee Nuclear Station, the Bad Creek Hydroelectric Project, the Corp's downstream projects, and water withdrawals from Lake Keowee and Lake Jocassee.\*
- Effects of project operation on water quality, particularly DO, immediately downstream of Jocassee Pumped Storage Station, and on downstream aquatic habitats and organisms.
- Effects of proposed reservoir drawdowns on the DO and temperature in Lake Keowee and the resulting releases in the tailrace of Keowee Hydro Station.\*

- Effects of project operation on spring and summer fish populations downstream of the Jocassee Pumped Storage Station and Keowee Hydro Station.
- Effects of reduced flows on the fish community in the Little River bypassed reach.
- Entrainment mortality related to the Jocassee Pumped Storage Station and Keowee Hydro Station.\*
- *Effects of lake level fluctuation on bass spawning and reproduction.*
- *Effects of habitat fragmentation on fish and other aquatic biota in the tributaries.\**
- *Effects of the introduction of exotic fish, such as spotted bass, on native fish populations\**
- *Effects of project operation and maintenance on the spread and dispersal of invasive aquatic plants such as alligator weed, Hydrilla, and parrot feather.*

#### 4.2.3 Terrestrial Resources

- Effects of continued project operation, maintenance (e.g., road maintenance, rights-of-way vegetation management, and shoreline management), and project-related recreation on riparian and wetland habitat, and associated wildlife, including waterfowl nesting and foraging habitat and productivity, *movement/dispersal of terrestrial invertebrates and plants*, as well as the establishment and spread of exotic invasive species.\*
- Effects of continued project operation, maintenance, and project-related recreation on unique ecological communities and state protected terrestrial species, such as Oconee bells, Rafinesque's big-eared bat, eastern small-footed myotis, peregrine falcon, bald eagle, red crossbill, cerulean and Swainson's warblers, green salamander, wood frog, pickerel frog, northern cricket frog, southern coal skink, and other state listed species potentially occurring in the project area.\*

#### 4.2.4 Threatened and Endangered Species

- Effects of project operation, maintenance, and project-related recreation on threatened and endangered species such as the rock gnome lichen, and other federally listed species potentially occurring in the project area.

#### 4.2.5 Recreation and Land Use

- The adequacy of existing recreation facilities and public access to meet current and future (over the term of a new license) recreational demand.\*
- Effects of project operation (lake level fluctuations) on recreation facilities and public access.
- Effects of continued implementation of the existing Recreation Management Plan.\*
- The adequacy of the existing Shoreline Management Plan *and Shoreline Management Guidelines* to protect the environmental resources at the project.\*
- Effects of continuing the current policies for permitting piers, boat docks, and other facilities (non-project use of project lands and waters) on land use.

#### 4.2.6 Cultural Resources

- Effects of project operation and maintenance on historic and archeological resources within the APE that are listed, or may be eligible for inclusion, in the National Register.
- Effects of project operation and maintenance on properties of traditional religious and cultural importance to an Indian tribe.
- Effects of project-induced recreation on cultural resources.
- Effects of Duke's Shoreline Management Plan on historic properties within the APE.

#### 4.2.7 Socioeconomic Resources

- *Effects of project operation and maintenance on local, tribal, and regional economies.*

#### 4.2.8 Developmental Resources

- Effects of potential operational changes on the energy and capacity benefits of the project and effects of various PM&E measures on project economics.

### 5.0 PROPOSED STUDIES

Depending upon the findings of studies completed by Duke and the recommendations of the consulted entities, Duke will consider, and may propose certain other measures to enhance environmental resources affected by the project as part of the proposed action. Duke’s initial study proposals are identified by resource area in Table 1. Detailed information on Duke’s initial study proposals can be found in the PAD. (Duke’s list has been reorganized by staff to fit the format of this SD1). Further studies may need to be added to this list based on comments provided to the Commission and Duke from interested participants, including Indian tribes.

Table 1. Duke’s Initial Study Proposals (Source: PAD- reorganized by staff).

Resource Area and Issue	Information Need
<b>Geologic and Soil Resources</b>	
Shoreline Erosion	Identify areas of erosion along the shoreline of Lake Jocassee.
<b>Aquatic Resources</b>	
Aquatics	Determine seasonal composition and abundance of fish utilizing the Keowee and Jocassee tailwaters <i>and Little River Bypassed Reach</i> .
Jocassee Tailwater Water Quality	Determine DO levels and temperatures immediately downstream of Jocassee Pumped Storage Station.
Keowee Reservoir Water Quality	Develop a water quality model of DO and temperature in Keowee flow releases.

Resource Area and Issue	Information Need
Reservoir Level	Analyze historical reservoir levels and develop statistical information for use in assessing potential reservoir levels.
Water Supply Resources	Identify current and projected future water withdrawals from and wastewater returns to the Project.
Operations	Develop a CHEOPS™ (Computerized Hydro Electric Operations Planning Software) model and a HEC-ResSim model to evaluate the water quantity related effects of potential changes in the operation of the Project.
<b>Terrestrial Resources</b>	
Wetlands Survey	Identify wetlands within the project boundary.
Mammal Survey	Identify mammal populations utilizing the Project.
Botanical Surveys	Identify plant populations growing within the project boundary.
Avian Survey	Identify bird populations utilizing the project.
<b>Recreation and Land Use</b>	
Recreation Use and Needs	Determine recreational needs at the Project. <sup>8</sup>
Shoreline Management Plan Shoreline Classification Map Update	Update the Shoreline Management Plan shoreline classification maps to reflect changes that have occurred and new information since the shoreline maps were last revised.

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<sup>8</sup> According to Duke, the Recreation Use and Needs Study also will include information on socioeconomics and aesthetic resources.

## 6.0 EA PREPARATION SCHEDULE

We anticipate the need to prepare a draft and final EA. The draft EA will be sent to all persons and entities on the Commission’s service and mailing lists for the Keowee-Toxaway Project. The EA will include our recommendations for operating procedures, as well as PM&E measures that should be part of any new license issued by the Commission. All recipients will then have 30 days to review the draft EA and file written comments with the Commission. All comments on the draft EA filed with the Commission will be considered in preparation of the final EA.

The major milestones, including those for preparing the EA, are as follows:

<u>Major Milestone</u>	<u>Target Date</u>
Issue Scoping Document 1	May 2011
Scoping Meetings	June 2011
NOI/PAD/SD1 comments due	July 2011
File Proposed Study Plan	August 2011
Study Planning Meeting(s)	September 2011
File Revised Proposed Study Plan	December 2011
Director's Study Plan Determination	January 2012
Initial Study Report	January 2013
Updated Study Report due	January 2014
License Application Filed	August 2014
Ready for Environmental Analysis Notice Issued	October 2014
Deadline for Filing Comments, Recommendations, and Agency Terms and Conditions/Prescriptions	December 2014
Draft EA Issued	June 2015
Initiate section 10(j) process (if necessary)	June 2015
Comments on Draft EA Due	July 2015
Deadline for Filing Modified Agency Recommendations	September 2015
Final EA Issued	December 2015

If Commission staff determines that there is a need for additional information or additional studies, the issuance of the Ready for Environmental Analysis notice could be delayed. If this occurs, all subsequent milestones would be delayed by the time allowed for Duke to respond to the Commission’s request. A copy of Duke’s process plan, which has a complete list of relicensing milestones for the Keowee-Toxaway Project, including those for developing the license application, is attached as appendix B to this SD2.

## **7.0 PROPOSED EA OUTLINE**

The outline for the Keowee-Toxaway Project EA is as follows:

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## 8.0 COMPREHENSIVE PLANS

Section 10(a)(2) of the FPA, 16 U.S.C. section 803(a)(2)(A), requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by a project. The staff has identified 24 comprehensive plans relevant to the proposed Keowee-Toxaway Project. Agencies are requested to review this list and inform the Commission staff of any changes. If there are other comprehensive plans that should be considered for this list that are not on file with the Commission, or if there are more recent versions of the plans already listed, they can be filed for consideration with the Commission according to 18 C.F.R. section 2.19 of the Commission’s regulations. Please follow the instructions for filing a plan at <http://www.ferc.gov/industries/hydropower/gen-info/licensing/complan.pdf>.

Table 2. Comprehensive plans currently on file with the Commission that may be relevant to the Keowee-Toxaway Project.

STATE	COMPREHENSIVE PLAN
NC	National Park Service. 1982. The Nationwide Rivers Inventory. Department of the Interior, Washington, D.C. January 1982.
NC	North Carolina Department of Environment & Natural Resources. North Carolina State Outdoor Recreation Plan (SCORP): 2009-2013. Raleigh, North Carolina. December 2008.
NC	North Carolina Wildlife Resources Commission. 2005. North Carolina Wildlife Action Plan. Raleigh North Carolina.
NC	North Carolina Department of Environment and Natural Resources. 15A NCAC Subchapter 2B-Surface Water and Wetland Standards.
NC	North Carolina Department of Environment & Natural Resources. 2004. Little Tennessee River Basin & Savannah River Drainage Area (Classifications and Water Quality Standards). Raleigh, North Carolina.
NC	North Carolina Department of Environment, Health & Natural Resources. Water Quality Progress in North Carolina 1998-1999 305(b) Report. Raleigh, North Carolina. 2000.
NC	Southern Appalachian Forest Coalition and Pacific Rivers Council. Undated. Protection of aquatic biodiversity in the Southern Appalachian National Forests and their watersheds.
NC	U.S. Forest Service. 1994. Nantahala and Pisgah National Forest Land and Resource Management Plan- Amendment 5. Department of Agriculture,

	Asheville, North Carolina. March 1994.
NC	U.S. Fish and Wildlife Service. Canadian Wildlife Service. 1986. North American Waterfowl Management Plan. Department of the Interior. Environment Canada. May 1986.
NC	U.S. Fish and Wildlife Service. Undated. Fisheries USA: the recreational fisheries policy of the U.S. Fish and Wildlife Service. Washington, D.C.
SC	National Park Service. 1982. The Nationwide Rivers Inventory. Department of the Interior, Washington, D.C. January 1982.
SC	South Carolina Department of Health and Environmental Control. 1985. Water classification sand standards, and classified waters. Columbia, South Carolina. June 1985.
SC	South Carolina Department of Health and Environmental Control. 1988. Statewide Water Quality Assessment, FY 1986-1987: a report to Congress pursuant to Section 305(b) of the Clean Water Act. Columbia, South Carolina. May 1988.
SC	South Carolina Department of Health and Environmental Control. 1989. Assessment of Non-point Source Pollution for the State of South Carolina. Columbia, South Carolina. April 1989.
SC	South Carolina Department of Health and Environmental Control. 1989. Non-point source management program for the State of South Carolina. Columbia, South Carolina. April 1989.
SC	South Carolina Department of Natural Resources. 2005. South Carolina comprehensive wildlife conservation strategy: 2005-2010. Columbia, South Carolina. September 28, 2005.
SC	South Carolina Department of Parks, Recreation, and Tourism. 2008. South Carolina State Comprehensive Outdoor Recreation Plan (SCORP). Columbia, South Carolina. April 2008.
SC	South Carolina Department of Parks, Recreation, and Tourism. 2002. The South Carolina State Trails Plan. Columbia, South Carolina. 2002.
SC	South Carolina Department of Natural Resources. 2004. South Carolina Water Plan – Second edition. Columbia, South Carolina. January 2004.
SC	South Carolina Water Resources Commission. National Park Service. 1988. South Carolina rivers assessment. Columbia, South Carolina. September 1988.
SC	South Carolina Wildlife and Marine Resources Department. 1989. South Carolina instream flow studies: a status report. Columbia, South Carolina. June 1, 1989.
SC	U.S. Forest Service. 2004. Sumter National Forest Revised Land and Resource Management plan. Department of Agriculture, Columbia, South Carolina. January 2004.

SC	U.S. Fish and Wildlife Service. Canadian Wildlife Service. 1986. North American Waterfowl Management Plan. Department of the Interior. Environment Canada. May 1986.
SC	U.S. Fish and Wildlife Service. Undated. Fisheries USA: The Recreational Fisheries Policy of the U.S. Fish and Wildlife Service. Washington, D.C.

## 9.0 MAILING LIST

The list below is the Commission's official mailing list for the Keowee-Toxaway Project (FERC No. 2503). If you want to receive future mailings for the Keowee-Toxaway Project and are not included in the list below, please send your request by email to [efiling@ferc.gov](mailto:efiling@ferc.gov), or by mail to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street, N.E., Room 1A, Washington, D.C. 20426. All written and emailed requests to be added to the mailing list must clearly identify the following on the first page: Keowee-Toxaway Project No. 2503-147. You may use the same method if requesting removal from the mailing list below.

Register online at <http://www.ferc.gov/esubscribenow.htm> to be notified via email of new filings and issuances related to this or other pending projects. For assistance, please contact FERC Online Support at [FERCOnlineSupport@ferc.gov](mailto:FERCOnlineSupport@ferc.gov) or toll free at 1-866-208-3676, or for TTY, (202) 502-8659.

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**APPENDIX A**  
**STUDY PLAN CRITERIA**  
**18 CFR Section 5.9(b)**

Any information or study request must contain the following:

1. Describe the goals and objectives of each study proposal and the information to be obtained;
2. If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied;
3. If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study;
4. Describe existing information concerning the subject of the study proposal, and the need for additional information;
5. Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements;
6. Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge; and
7. Describe considerations of level of effort and cost, as applicable, and why proposed alternative studies would not be sufficient to meet the stated information needs.

**APPENDIX B  
PROCESS PLAN AND SCHEDULE**

**KEOWEE-TOXAWAY PROCESS PLAN AND SCHEDULE**

(shaded milestones are unnecessary if there are no study disputes; if due date falls on a weekend or holiday, the due date is the following business day)

<b>18 CFR §</b>	<b>Lead</b>	<b>Activity</b>	<b>Timeframe</b>	<b>Deadline</b>
§ 5.5 (d)	Duke	Deadline to File NOI		3/15/11 <sup>9</sup>
§ 5.6 (a)	Duke	Deadline to File PAD		3/15/11 <sup>8</sup>
§ 5.7	FERC	Initial Tribal Consultation Meeting	Within 30 Days of filing NOI and PAD (up to Day 30)	4/14/11
§5.8 (a)  b(2)  (c)	FERC	FERC Notices NOI/PAD and Issues Scoping Document 1 (SD1)  FERC Issues Notice of Commencement of Proceeding and Scoping Document  FERC Requests to Initiate Informal Consultation under Section 7 ESA Consultation  FERC Issues SD1	Within 60 days of filing NOI and PAD (up to Day 60)	5/17/11
(b)(3) (viii)	FERC / Stakeholders	Public Scoping Meeting and Site Visit	Within 30 days of NOI and PAD notice and issuance of SD1	6/15/11

<sup>9</sup> Duke filed the NOI and PAD on 3/11/2011, earlier than indicated in their proposed process plan. To avoid rescheduling and potential confusion and to maximize participation, we are maintaining the previously agreed upon and publicized schedule for scoping based on the 3/15/2011 filing deadline in this instance.

<b>18 CFR §</b>	<b>Lead</b>	<b>Activity</b>	<b>Timeframe</b>	<b>Deadline</b>
§ 5.9	Stakeholders	File Comments on PAD, SD1, and Study Requests	Within 60 days of NOI and PAD notice and issuance of SD1	7/18/11
§5.10	FERC	FERC Issues Scoping Document 2 (SD2) (if necessary)	Within 45 days of deadline for filing comments on SD1	8/29/11
§5.11	Duke	File Proposed Study Plans	Within 45 days of deadline for filing comments on SD1	8/29/11
(e)	Duke / Stakeholders	Study Plan Meetings	Within 30 days of deadline for filing proposed Study Plans	9/28/11
§5.12	Stakeholders	File Comments on Proposed Study Plan	Within 90 days after proposed study plan is filed	11/28/11
§5.13 (a)	Duke	File Revised Study Plan (if necessary)	Within 30 days following the deadline for filing comments on proposed Study Plan	12/28/11
(b)	Stakeholders	File Comments on Revised Study Plan (if necessary)	Within 15 days following Revised Study Plan	1/12/12
(c)	FERC	FERC Issues Study Plan Determination	Within 30 days following Revised Study Plan	1/27/12
§5.14 (a)	Mandatory Conditioning Agency	Formal Study Dispute Resolution Process (if necessary)	Within 20 days of Study Plan determination	2/16/12
(d)(3)	Study Dispute Panel	Third Panel Member Selected	Within 15 days from notice of Study Dispute	3/2/12
(d)	Study Dispute Panel	Panel Convenes	Within 20 days from notice of Study Dispute	3/7/12
(j)	Duke	Applicant Comments on Study Dispute due	Within 25 days from notice of Study Dispute	3/12/12

<b>18 CFR §</b>	<b>Lead</b>	<b>Activity</b>	<b>Timeframe</b>	<b>Deadline</b>
(j)	Study Dispute Panel	Technical Conference Held	On or Before the 30 day from notice of Study Dispute	3/17/12
(k)	Study Dispute Panel	Panel Finding Issued	Within 50 days from notice of Study Dispute	4/6/12
(l)	FERC	Director's Study Dispute Determination	Within 70 days from notice of Study Dispute	4/26/12
§5.15	Duke	Conduct Field Studies	Spring through fall/winter 2012	
(b)	Duke	File Study Progress Reports	Spring and fall 2012	
(c)(1)	Duke	File Initial Study Reports	No later than one year from Study Plan approval	1/26/13
(c)(2)	Duke	Initial Study Results Meeting	Within 15 days of Initial Study Report	2/10/13
(c)(3)	Duke	File Study Results Meeting Summary	With 15 days of Study Results Meeting	2/25/13
(c)(4)	Stakeholders / FERC	File Meeting Summary Disputes/Modifications to Study/Propose New Studies (if necessary)	Within 30 days of filing Meeting Summary	3/27/13
(c)(5)	Duke	File Responses to Disputes (if necessary)	Within 30 days of disputes	4/26/13
(c)(6)	FERC	Director's Study Plan Determination	Within 30 day of filing responses to disputes	5/26/13
§5.15 (a)	Duke	Conduct Second Season Field Studies	Spring through fall/winter 2013	
(b)	Duke	File Study Progress Reports	Spring and fall 2013	
(f)	Duke	File Updated Study Reports	No later than two years from Study Plan approval	1/26/14

<b>18 CFR §</b>	<b>Lead</b>	<b>Activity</b>	<b>Timeframe</b>	<b>Deadline</b>
(f)	Duke	Second Study Results Meeting	Within 15 days of Updated Study Report	2/10/14
(f)	Duke	File Study Results Meeting Summary	With 15 days of Study Results Meeting	2/25/14
(f)	Stakeholders / FERC	File Meeting Summary Disputes/Modifications to Study/Propose New Studies (if necessary)	Within 30 days of filing Meeting Summary	3/27/14
(f)	Duke / Stakeholders	File Responses to Disputes (if necessary)	Within 30 days of disputes	4/26/14
(f)	FERC	Director's Study Plan Determination	Within 30 day of filing responses to disputes	5/26/14
§5.16 (a)	Duke	File Preliminary Licensing Proposal (or Draft License Application) with the FERC and distribute to Stakeholders	Not later than 150 days before final application is filed	4/3/14
(e)	FERC / Stakeholders	Comments on Duke Preliminary Licensing Proposal, Additional Information Request (if necessary)	Within 90 days of filing Preliminary Licensing Proposal (or Draft License Application)	7/2/14
§5.17 (a)	Duke	License Application Filed		8/31/14