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REFERENCE: William States Lee III Nuclear Station Combined License Application Notice of Intent to Conduct a Supplemental Scoping Process for the Supplement to the Environmental Report. Federal Register: May 24, 2010, Page 28822-28823

Reference is made to the Supplement to Revision 1 of the William States Lee III Nuclear Station COL Application, Part 3 Applicant's Environmental Report, Construction and Operation of Make-Up Pond C (ER Supplement). Staff with the South Carolina Department of Natural Resources (DNR) has reviewed the ER Supplement. This correspondence includes comments on the ER Supplement, respectfully submitted.

The Lee Nuclear Site is owned by Duke Energy (Licensee) and is located in eastern Cherokee County, South Carolina, on the Broad River, approximately 1000 ft upstream from the Ninety-Nine Islands Hydroelectric Plant, which also is owned and operated by Duke Energy. The Ninety-Nine Islands Reservoir is a hydroelectric reservoir of the Broad River and bounds the Lee Nuclear Site to the north and east. Makeup water for the 2 proposed nuclear units would be withdrawn from the Ninety-Nine Islands Reservoir through a proposed intake structure. The initial ER proposed Make-Up Ponds A & B to provide make-up water needs for the nuclear facility during low instream flow events. The ER Supplement proposes an additional make-up pond (Pond C) after hydrological data period from the drought of record 2007-08 revealed that Make-Up Ponds A & B would be insufficient in providing make-up water during periods of extreme drought.

The ER Supplement states that the proposed Make-Up Pond C would be an off-site, man-made reservoir, formed by impounding London Creek; a tributary of the Broad River, northwest of Make-Up Pond B. Make-Up Pond C would be used to provide supplemental water during drought and/or low flow periods. Make-Up Pond C would be filled using water pumped through Make-Up Pond A and Make-Up Pond B, or directly from the Broad River. The Make-Up Pond C dam would be downstream of Lake Cherokee and upstream of the confluence of London and Little London creeks. The Make-Up Pond C dam crest elevation would be 660 ft msl, and the spillway crest elevation would be 650 ft msl. Make-Up Pond C

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would have a maximum depth of approximately 116 ft and a total storage volume of approximately 22,000 ac-ft. The surface area at the normal pond level of 650 ft msl would be approximately 620 ac. The usable storage capacity would be approximately 17,500 ac-ft. Normal water surface elevation for the proposed Make-Up Pond C would be 650 ft. At times when natural stream flows to Make-Up Pond C are inadequate to maintain a full pool condition, the reservoir would receive supplemental inflows from the Broad River.

If permitted, Pond C, at 632 acres would be the largest reservoir permitted in the state of South Carolina since Lake Russell in the mid-1970s. DNR has concluded the Licensee has conducted a thorough and exhaustive review of the need for obtaining additional water supply for safe operation of the proposed facility during periods of extreme drought.

DNR Mission and Objectives

DNR is the state agency charged by law (Titles 48 and 50, South Carolina Code of Laws (1976), as amended) with the management, protection, and enhancement of wildlife and fisheries resources in South Carolina. DNR is charged with regulating watercraft operation and associated recreation, including establishing boating safety standards. Title 49, South Carolina Code of Laws, authorizes DNR as the state agency responsible for considering water supply (domestic, municipal, agricultural and industrial) issues, water quality facilities and controls, navigation facilities, hydroelectric power generation, outdoor recreation and fish and wildlife opportunities, as well as other water and land resource interests. This title also charges DNR with aquatic plant management, comprehensive drought response planning, management of State Scenic Rivers and the conservation, protection and use of floodplain lands.

DNR thus is the steward of the state's natural resources and is responsible for the protection and management of these resources for the use and enjoyment by the public. Natural resources within DNR purview include the full range of land, water, mineral and biological resources. Public and private uses of natural resources are varied, sometimes conflicting and can result in significant impacts on the resources being used. DNR, in carrying out its protection and management responsibilities, must balance its objectives and actions in order to most appropriately protect and sustain the natural resources of South Carolina.

DNR submits these comments, opinions and recommendations as the position of the agency in accordance with the provisions of the Fish and Wildlife Coordination Act, as amended (16 U.S.C. §§ 661-667; the National Environmental Policy Act (42 U.S.C. § 4321 et seq.); and the Administrative Procedure Act (5 U.S.C. Chapters 5 through 8). The following comments address relevant sections within the ER Supplement in the order in which they appear in the document.

2.2.2 Transmission Corridors and Off-Site Areas

The Licensee proposes a 300 ft buffer around the Pond, 50 ft of which is proposed to be cleared, grubbed, grassed and maintained to prevent debris from washing into the reservoir. DNR concurs with the proposed 300 ft buffer but does not support clearing, grubbing, grassing and maintaining a 50 ft buffer adjacent to the shoreline. Pond C would likely naturalize and support a variety of aquatic life and wildlife. Riparian zones perform numerous ecological functions to include, but not be limited to: riparian plant communities provide excellent food, cover, and nesting sites for a variety of wildlife species and detritus and woody debris are an important source of energy and cover for aquatic life. Canopy cover helps to maintain water quality by reducing surface water temperatures. Riparian zones function as biofilters and remove nutrients and other pollutants from stormwater runoff before it enters rivers, lakes and streams. DNR looks forward to continued discussion with the Licensee in order to explore other alternatives for preventing debris from entering intake structures.

2.3.2 Water Use

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2.3.2.1.2 Recreation and Navigation Use

The proposed Pond C would back up to and interface directly with the Lake Cherokee dam, thus resulting in a number of potential impacts, such as the need for modification of the existing dam and emergency spillway, fencing and rip-rap of the down slope. DNR and the Licensee have been engaged in productive discussion regarding avoidance and minimization of impacts to Lake Cherokee and its public use.

The ER Supplement indicates the Licensee proposes no public use of the proposed reservoir. DNR appreciates the sensitive nature of operation of a nuclear generation station, however, London Creek constitutes waters of the U.S. and any impacts to it for purposes of a reservoir the size of the one being proposed should include an examination of compatible public use opportunities. These compatible public use opportunities might include fishing and boating opportunities and other compatible appreciative uses along the northern boundary, etc. DNR looks forward to continued discussion with the Licensee regarding potential, compatible public use opportunities on a portion of the proposed Pond C.

2.4.1 Terrestrial Ecology

2.4.1.1 Existing Cover Types and Vegetation

Sufficient information has been provided by the Licensee to evaluate the impact of the proposed Pond C on vegetation and cover. In addition to these studies, the Licensee hosted a 2-day site visit to allow DNR staff botanists to conduct a preliminary assessment of vegetation at the London Creek site. DNR personnel observed the London Creek riparian corridor to be minimally disturbed as compared with similar sites in the foothills of the upstate. While the ridge tops are impacted by silviculture practices, the steeper, north-facing bluffs demonstrate little disturbance. The lack of invasive, exotic species attests to the site's relative integrity.

2.4.1.4.4 Travel Corridors

The ER Supplement states that "London Creek and its associated tributaries and forest cover likely provide a localized travel corridor for some species to and from the Broad River (Ninety-Nine Islands Reservoir) floodplain." This area is a travel corridor for migrating passerine birds which have been demonstrated to use major rivers and associated riparian corridors during migration periods.

2.4.1.2 Wildlife Resources

This section provides a summary of studies conducted of wildlife resources occurring within the London Creek site. These studies examined wildlife habitat, avian, mammal, and herpetological resources. These studies provide sufficient information to evaluate the impact of the proposed Pond C on these resources. In addition to this information, DNR biologists conducted preliminary assessments of wildlife habitat and species at the London Creek site. The following observations and comments are offered in the order in which relevant sections appear in the document.

2.4.1.2.2 Birds

The following observations were noted:

- A high number of migrant songbird species were observed, indicating that a diversity of migrant species use the forested stream corridor during migration. The connectivity of forested wetlands and river systems has been demonstrated to be important to neotropical migrants. Forested areas are used because they provide the highest density of food resources. Migrant birds have, in some cases, flown thousands of miles and are building reserves to reach breeding grounds and successfully reproduce;
- The widths of riparian stream zones at the London Creek site provides mixed hardwood forest habitat that is becoming more limited in the upstate; and

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- Steep rock formations create cove systems within the London Creek site, south of where they are commonly located, contributing to a diversity of habitat for bird species.

2.4.1.2.3 Reptiles and Amphibians

Results of the herpetology study conducted by the Licensee's consultant indicate that, of 66 species that potentially occur onsite, 41 of these species were documented onsite (approximately 60% of potential species). The list of potential species comprised 25 amphibians and 41 reptiles. The study documented the presence of 19 amphibian species (76% of the potential species) and 18 reptile species (43% of the potential reptile species). Observing such a high percentage of potential species within a 1.5-year sampling period is an indication that the site supports a relatively healthy and diverse amphibian and reptile assemblage. Likewise, the salamander diversity observed at the London Creek site also is indicative of a relatively healthy and functional system. The herpetology survey documented 8 of 11 potential salamander species (72% of potential species).

2.4.2 Aquatic Ecology

2.4.2.1 Aquatic Habitats

The Licensee conducted surveys for fish and macroinvertebrates in 2008. These surveys provide sufficient information regarding fish and macroinvertebrate resources. In addition to this information, DNR conducted a preliminary assessment of fishery and macroinvertebrate communities of London Creek and its tributaries. This assessment revealed that the proposed reservoir will represent the loss of intact Piedmont watershed and associated aquatic habitats and species. Overall, London Creek currently exhibits physical conditions consistent with a quality Piedmont stream, including a forested riparian corridor, channel sinuosity and habitat (riffle/pool) diversity, and coarse, clean substrate composition. London Creek is subject to the fluctuating flows typical of similar Piedmont streams.

2.4.2.2.3 London Creek Fishery

DNR conducted a fisheries survey of London Creek per South Carolina Stream Assessment protocol on 12 May 2010. Eighteen species were collected during this sampling event (17 native species), including 4 state conservation priority species. The fish assemblage was similar overall to that reported by the Licensee from their 2008-2009 fish survey. No additional species to those reported by the Licensee were discovered. The sample section was well forested and exhibited habitat conditions consistent with an intact Outer Piedmont watershed with substrate heterogeneity. At the time of DNR sampling, flows were above average. Sampling conducted by the Licensee did not demonstrate the presence of piscivorous fish in London Creek.

2.4.2.3 Macroinvertebrates

Crayfishes

Twenty-eight crayfish collections were made by Duke Energy in 2008 and 2009; these were collected and examined in May 2010 to determine species composition. In addition, crayfishes were sampled by DNR and Duke Energy personnel in 2010. Crayfishes collected from London Creek in the area proposed for impoundment (Pond C footprint) included:

- *Cambarus* sp. cf. *acuminatus* (*Cambarus* "sp. C") (listed in the ER Supplement as *Cambarus acuminatus*; it is an undescribed species being studied by John Cooper at North Carolina State Museum of Natural Sciences),
- *Cambarus reduncus* (species collected by Duke Energy but not listed in the ER Supplement), and
- *Procambarus acutus*

None of the crayfish species are of conservation concern in South Carolina.

Mussels

Neither shells nor live individuals of any native freshwater mussels were encountered during any of the surveys conducted by DNR in 2010, and they were not discovered by the Licensee during the 2008 and 2009 surveys; thus, London Creek does not appear to support any native mussel species.

2.4.2.6 Waters of the United States

The proposed flooding of approximately 6 mi of stream will require mitigation for unavoidable impacts to waters of the U.S. as required by section 404(b)(1) of the Clean Water Act, consistent with criteria set forth in the Federal Mitigation Rule (Rule). The Rule establishes set criteria, or elements, that must be addressed in every mitigation plan. Among these 12 elements is the collection of baseline information for the impact site. In keeping with this requirement, a geomorphological assessment of the entire reach of London Creek and its tributaries within the impact zone should be conducted. This geomorphological assessment should include, but not be limited to, the following:

- Dimension, pattern and profile features of London Creek and its tributaries,
- Bankfull width, discharge and velocity of London Creek,
- Substrate analysis for London Creek and tributaries, and
- Inventory of riffle/pool complexes, falls, shoal areas and woody debris in London Creek and tributaries.

These baseline monitoring parameters will be necessary to ensure that aquatic habitat quality in the mitigation reaches is commensurate with impacted reaches, and appropriate mitigation is provided to replace lost values and functions of London Creek and its tributaries if they are impounded.

In order to adequately mitigate all identified impacts, the Licensee will be required to develop a comprehensive mitigation plan. For impacts to the amount of wetlands and stream that will be involved to develop Pond C, such a mitigation plan should encompass more than simple wetland and stream impact restoration and compensation. DNR requests continued discussion with the Licensee and appropriate regulatory agencies regarding mitigation to include identification of the potential impacts to fish, wildlife and habitat resources by the construction of Pond C.

9.3.2 Candidate Sites Comparison

DNR has concluded the Licensee has conducted a thorough and exhaustive review of the need for obtaining additional water supply for safe operation of the proposed facility during periods of extreme drought. A number of the alternatives that have been put forward for additional water supply represent engineering solutions exceeding the capability for DNR analysis. DNR is satisfied the Licensee has identified the least damaging alternative to natural resources for provision of additional water supply based on comparison of alternative supplemental water supply options.

DNR appreciates the opportunity to comment on the ER Supplement. If you have any questions regarding the above comments and recommendations, please feel free to contact me at (803) 734-4199 or at vejdani@dnr.sc.gov.

Sincerely,



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Nuclear Projects Coordinator

William States Lee Nuclear Station

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