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July 16, 2010

Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Subject: Duke Energy Carolinas, LLC  
William States Lee III Nuclear Station - Docket Nos. 52-018 and 52-019  
AP1000 Combined License Application for the  
William States Lee III Nuclear Station Units 1 and 2  
Response to Request for Additional Information  
Ltr# WLG2010.07-06

Reference: Letter from Sarah Lopas (NRC) to Bryan Dolan (Duke Energy), Request for  
Additional Information Regarding the Supplement to the Environmental Report  
for the William States Lee III Nuclear Station, Units 1 and 2, Combined License  
Application, dated June 22, 2010 (ML101370398)

This letter provides the Duke Energy responses to the Nuclear Regulatory Commission's  
requests for additional information (RAIs) included in the referenced letter.

RAI 129, Alternatives	RAI 173, Ecology - Terrestrial
RAI 141, Cultural Resources	RAI 180, Ecology - Terrestrial
RAI 151, Ecology - Aquatic	RAI 182, Ecology - Terrestrial
RAI 154, Ecology - Terrestrial	RAI 189, Site Layout and Plant Description
RAI 156, Ecology - Terrestrial	RAI 196, Land Use
RAI 164, Ecology - Terrestrial	RAI 200, Socioeconomics/Environmental Justice/Benefit Cost
RAI 171, Ecology - Terrestrial	RAI 201, Socioeconomics/Environmental Justice/Benefit Cost
RAI 172, Ecology - Terrestrial	

The responses to the NRC information request described in the referenced letter are addressed  
in separate enclosures, which also identify associated changes to the Combined License  
Application for the Lee Nuclear Station, when appropriate.

If you have any questions or need any additional information, please contact Peter S. Hastings,  
Nuclear Plant Development Licensing Manager, at 980-373-7820.

Bryan J. Dolan  
Vice President  
Nuclear Plant Development

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July 16, 2010

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Enclosures:

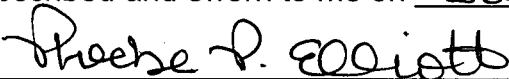
1. RAI 129, Alternatives
2. RAI 141, Cultural Resources
3. RAI 151, Ecology - Aquatic
4. RAI 154, Ecology - Terrestrial
5. RAI 156, Ecology - Terrestrial
6. RAI 164, Ecology - Terrestrial
7. RAI 171, Ecology - Terrestrial
8. RAI 172, Ecology - Terrestrial
9. RAI 173, Ecology - Terrestrial
10. RAI 180, Ecology - Terrestrial
11. RAI 182, Ecology - Terrestrial
12. RAI 189, Site Layout and Plant Description
13. RAI 196, Land Use
14. RAI 200, Socioeconomics/Environmental Justice/Benefit Cost
15. RAI 201, Socioeconomics/Environmental Justice/Benefit Cost

AFFIDAVIT OF BRYAN J. DOLAN

Bryan J. Dolan, being duly sworn, states that he is Vice President, Nuclear Plant Development, Duke Energy Carolinas, LLC, that he is authorized on the part of said Company to sign and file with the U. S. Nuclear Regulatory Commission this supplement to the combined license application for the William States Lee III Nuclear Station and that all the matter and facts set forth herein are true and correct to the best of his knowledge.

  
Bryan J. Dolan

Subscribed and sworn to me on July 16, 2010

  
Notary Public

My commission expires: June 26, 2011

SEAL



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July 16, 2010  
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xc (w/o enclosures):

Loren Plisco, Deputy Regional Administrator, Region II  
Jeffrey Cruz, Branch Chief, DNRL  
Robert Schaaf, Branch Chief, DSER

xc (w/ enclosures):

Sarah Lopas, Project Manager, DSER  
Brian Hughes, Senior Project Manager, DNRL

**Lee Nuclear Station Response to Request for Additional Information (RAI)**

**RAI Letter Dated: June 22, 2010**

**Reference NRC RAI Number: ER RAI 129, Alternatives**

**NRC RAI:**

For each alternative site, provide an update on other present and reasonably foreseeable Federal, non-Federal, and private actions that could have meaningful overlapping environmental impacts with construction, preconstruction, and operations of the nuclear plant and associated transmission lines and other associated facilities. Specifically, provide the name, proposed construction dates, overview of the project, and the size and potential impacts of the project (if known) for reasonably foreseeable projects that would occur within 50 miles of each alternative site, or within proposed transmission line corridors.

**Duke Energy Response:**

Desktop research and site visits were performed to determine whether any Federal, non-Federal, and/or private actions were taking place or were planned to occur within 50 miles of each alternative site. Online databases were searched for numerous agencies, including but not limited to FHWA/DOTs and USACE, but no relevant Federal projects were identified.

The alternative sites are located in generally rural locations, and not part of any Metropolitan Planning Organizations (MPOs) or other planning organizations. County- and state-level comprehensive and transportation plans were examined, and the following actions were found within 50 miles of the alternative sites:

**Keowee Site**

- Oconee County sewage treatment facility expansion (Reference 1). The Oconee County Master Plan mentions a planned sewage treatment facility expansion. No details were given regarding the expansion or dates of construction. Potential impacts of the project are not known.
- U.S. Engine Valve Company will expand its manufacturing facility in Oconee County (Reference 2). No details were given regarding the expansion or construction dates. Potential impacts of the project are not known.

**Cherokee Site**

- The South Carolina Department of Commerce and Cherokee County announced that Suminoe Textile of America Corporation (STA) will expand its operations in Cherokee County. The \$6.5 million investment is expected to generate 50 new jobs (Reference 3). No details were given regarding the expansion or dates of construction. Potential impacts of the project are not known.

- The South Carolina Department of Commerce and Cherokee County announced that Parkdale Mills will locate its new facility in Cherokee County. The company is purchasing the former Wellstone building and is expected to invest \$45 million and will retain up to 145 jobs at the plant (Reference 4). No details were given regarding the project, and potential impacts of the project are not known.

Perkins Site

- No present or reasonably foreseeable actions were found within 50 miles of the Perkins Site.

Middleton Shoals Site

- First Quality Tissue to locate new plant in Anderson County, potentially creating 1,000 new jobs (Reference 5). No details were given regarding the location of the new plant, or dates of construction. Potential impacts of the project are not known.

**References:**

1. Oconee County Planning Commission. 2004. *Oconee County Comprehensive Plan*.
2. Upstate SC Alliance. 2010. "U.S. Engine Valve Company Announces Expansion in Oconee County." Press release. June 14, 2010.
3. South Carolina Department of Commerce. 2010. "Suminoe Textile of America Corp. Announces Expansion in Cherokee County." Press release. January 22, 2010.
4. Upstate SC Alliance. 2010. "Parkdale Mills Inc. Announces New Facility in Cherokee County." Press release. June 14, 2010.
5. RISI Wood Biomass Markets. 2010. "South Carolina welcomes First Quality Tissue investment of \$1B, 1,000 jobs." Press release. May 14, 2010.

**Associated Revision to the Lee Nuclear Station Combined License Application:**

None

**Attachment:**

None

**Lee Nuclear Station Response to Request for Additional Information (RAI)**

**RAI Letter Dated: June 22, 2010**

**Reference NRC RAI Number: ER RAI 141, Cultural Resources**

**NRC RAI:**

Provide documentation that indicates that SHPO has concurred with Duke Energy's cultural resources protection procedure summarized in the response to RAI-45 (ML083080273) and any clarifications or decisions from the SHPO regarding the need for a Programmatic Agreement between SHPO and Duke Energy.

**Duke Energy Response:**

As referenced in this RAI, Duke Energy developed a corporate policy for the protection of cultural resources. This policy was provided to the South Carolina State Historic Preservation Office (SHPO). After review and further discussions, the SHPO recommended the development of a cultural resource management plan between the U.S. Army Corps of Engineers, SC SHPO and Duke Energy in a joint agreement. (See attached e-mail dated July 13, 2010). Upon completion of this plan Duke Energy will provide a copy to the NRC.

**Associated Revision to the Lee Nuclear Station Combined License Application:**

None

**Attachment:**

Attachment 141-01    Email dated July 13, 2010 from Caroline Wilson of SHPO to Robert Wylie of Duke Energy.

**ER RAI Attachment 141-01**

**Email dated July 13, 2010 from Caroline Wilson of SHPO to Robert Wylie of Duke Energy**



**Wylie, Robert R**

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**From:** Wilson, Caroline D. [cwilson@SCDAH.STATE.SC.US]  
**Sent:** Tuesday, July 13, 2010 3:09 PM  
**To:** Wylie, Robert R  
**Subject:** RE: Lee Nuclear Station - Programmatic Agreement

Mr Wylie:

I have reviewed Duke Energy's cultural resources policy. It is a good start, but I believe that a full cultural resources management plan is still needed for this specific project. We currently have a prototype in the works that would work well for this project, and so when it comes available at the end of July, I will make it available for you.

We will not pursue a programmatic agreement as the Nuclear Regulatory Commission has approved such a proceeding. Developing a cultural resources management plan has been suggested, and so proceeding with this action is advised. The ACE has served as the mitigating party in similar agreement for another nuclear project, so I would advise checking with them to see if they will do the same for this agreement.

The SHPO looks forward to working with you on this project.

Regards,

**Caroline Dover Wilson**  
*Review and Compliance Coordinator*  
South Carolina Dept. of Archives and History  
8301 Parklane Road  
Columbia, SC 29223  
(803) 896-6169  
Fax (803) 896-6167

**Lee Nuclear Station Response to Request for Additional Information (RAI)**

**RAI Letter Dated: June 22, 2010**

**Reference NRC RAI Number: ER RAI 151, Ecology-Aquatic**

**NRC RAI:**

Provide documentation on how the State of South Carolina and the USACE would be expected to regulate Ponds A, B, and C (e.g., as cooling ponds or as waters of the State or U.S.).

If 40 CFR 125.84(b)(3)(ii) would be applicable, describe how refilling the Ponds would be in compliance with that regulation.

**Duke Energy Response:**

Duke Energy has no documentation on how the State of South Carolina and the USACE will regulate Ponds A, B and C. Duke Energy will be submitting an application for a NPDES operating permit in 3rd quarter 2010 to South Carolina Department of Health and Environmental Control (SCDHEC). We plan to submit an application for a 404 permit from USACE in 2011. When we receive permits from those agencies Duke Energy will provide those permits to the NRC.

To the extent 40 CFR §125.84(b)(3)(ii) might apply to Ponds A, B and C at Lee Nuclear Station, compliance requirements will be contained in the NPDES operating permit issued by SCDHEC. The refill intake located on Ninety-Nine Islands Reservoir is not subject to 40 CFR §125.84(b)(3)(ii), since it is not classified as a lake or reservoir under the definitions in 40 CFR §125.83. However, the refill intake will be subject to regulation under 40 CFR §125.84(b)(3)(i) as a freshwater river intake. The requirements for compliance will be contained in the NPDES permit issued from SCDHEC.

**Reference:**

40 CFR §125 Subpart I.

**Associated Revision to the Lee Nuclear Station Combined License Application:**

None

**Attachment:**

None

**Lee Nuclear Station Response to Request for Additional Information (RAI)**

**RAI Letter Dated: June 22, 2010**

**Reference NRC RAI Number: ER RAI 154; ECOLOGY-TERRESTRIAL**

**NRC RAI:**

Provide documentation for any other ecological or biological studies of the Pond C study area or its environs, beyond the sources used to develop lists of potential species in the Pond C study area, that are recent or currently in progress. If there are none, state what efforts were made to identify such studies, and include a list of the organizations contacted.

**Duke Energy Response:**

No studies, other than the ones cited in the Make-Up Pond C studies (Ltr# WLG2009.12-07; ML093491111), were located. Inquiries were made of the staff of SC Department of Natural Resources and the SC Department of Health and Environmental Control, but these agencies were unaware of any such data, either past or present.

**References:**

None

**Associated Revisions to the Lee Nuclear Station Combined License Application:**

None

**Attachments:**

None

**Lee Nuclear Station Response to Request for Additional Information (RAI)**

**RAI Letter Dated: June 22, 2010**

**Reference NRC RAI Number: ER RAI 156; ECOLOGY-TERRESTRIAL**

NRC RAI: Provide documentation on where searches were conducted for colonial water bird nesting activity.

**Duke Energy Response:**

During the literature search that was completed prior to the field surveys, avian survey personnel gathered existing information on colonial water bird nesting activity from publicly available resources. Survey personnel also prepared a list of the avian species known or potentially occurring in the Project area and their preferred habitats based on the information gathered. The existing information that was the subject of the research discussed above included field guides, breeding bird surveys in the vicinity of the Project area, regional and state bird lists, and the South Carolina Breeding Bird Atlas. None of this information noted an active colonial water bird nesting colony or the associated habitat that would support a rookery within the Make-Up Pond C area.

From the compiled information, a cover type map, and current aerial photography, the representative avian study areas were selected. The avian survey was submitted previously (Ltr# WL2009.12-07; ML 093491111). Transects #2, #3, and #4 were located either adjacent to or within close proximity of London Creek. Only two observations of a water bird known to be colonial nesters were made by the study ornithologist during the study. These observations were on Transect #1 which was in the mixed pine/hardwood habitat (April 23) and Transect #3, which is the open pasture habitat (June 17) and consisted of great blue herons (*Ardea herodias*). Both of these heron observations were considered as simply flyovers due to the lack of foraging habitat around Transect #1 and lack of any nesting habitat in the vicinity of the small farm ponds near Transect #3. Furthermore, neither of the observations noted the birds carrying any nesting material.

The June 17 heron observation was seen during a breeding bird survey and was assumed to be nesting along the Broad River. During the avian surveys, the study ornithologist found no suitable habitat for colonial nesting water birds in the Make-Up Pond C area. The suitable nesting habitat for the heron is most likely either on an island or within the floodplain swamp of the Broad River.

In addition, there were no reported observations of nesting colonial waterbirds within the Make-Up Pond C area by Duke Energy scientists and consulting scientists during the extensive number of field days associated with fisheries, reptiles and amphibians, mammals, wetlands, and botanical surveys during 2008 and 2009.

**References:**

None

**Associated Revision to the Lee Nuclear Station Combined License Application:**

None

**Attachment:**

None

**Lee Nuclear Station Response to Request for Additional Information (RAI)**

**RAI Letter Dated: June 22, 2010**

**Reference NRC RAI Number: ER RAI 164, Ecology - Terrestrial**

**NRC RAI:**

Provide a discussion regarding the impacts to wetlands that would occur outside the area to be inundated by Pond C (e.g., wetlands impacted by the replacement of the rail road culverts). Include in the discussion any related mitigation that would occur.

**Duke Energy Response:**

Revised ER Supplement Table 4.3-3 (Attachment 164-04) presents wetlands impacted during Make-Up Pond C construction. The entry for *Impoundment* identifies wetland impacts within the inundation area, while all other wetland impacts are outside of the inundation area. A majority of impacts to wetlands and streams are located within the footprint of the Make-Up Pond C inundation area. There are construction activities that would temporarily impact wetlands within the inundation area; however, these areas also are permanently impacted by the inundation of Make-Up Pond C. For example, impacts from temporary haul roads are located within the Make-Up Pond C footprint, and are also permanently impacted by inundation. Therefore, all impacts within the footprint of the Make-Up Pond C inundation area are considered impacts from the impoundment. Wetland impacts outside the inundation area include permanent and temporary impacts. Permanent wetland impacts outside of the inundation area result from the construction of the SC 329 realignment and spoil areas. Wetland impacts are shown on revised ER Supplement Figure 4.3-4 (Attachment 164-06). Compensatory mitigation for wetland impacts is determined in the Section 404 permit, and is provided per 33 CFR 332 and 40 CFR 230 Subpart J. Temporary wetland impacts outside of the inundation area result from the cofferdam and dewatering pipe used for the rail culvert replacement. The construction of logging roads also results in temporary impacts. Wetlands with temporary impacts are restored as required by Section 404 permit conditions.

As stated in response to RAIs 163 and 170, land cover classified as wetland may be impacted by Make-Up Pond C construction activities within the Lee Nuclear Site. A small, non-jurisdictional wetland (NJW) may be impacted by the pipeline construction, while a small, non-alluvial wetland (NAW) may be impacted by the laydown area. Updated preliminary wetland impacts are provided in revised ER Supplement Table 4.3-3 (Attachment 164-04). Revisions to the text of the ER Supplement are also provided below. The jurisdictional status of these wetlands has not been confirmed by the U.S. Army Corps of Engineers and may be subject to change. If jurisdictional wetlands are impacted by Make-Up Pond C facilities within the Lee Nuclear Site, compensatory mitigation will be provided according to conditions in the Section 404 permit.

Additionally, the new 44-kV transmission line intersects three streams. Transmission structures are located outside of stream buffers. Best Management Practices (BMPs) for transmission line construction in riparian areas are described in Section 4.2.4 of the *Duke Energy Best*

*Management Practices for Stormwater Management and Erosion Control Policy and Procedures Manual* (provided in response to RAI 95, dated November 24, 2008), and are implemented for the stream crossings. Little impact to the streams is expected since a majority of the riparian buffers will remain; however, to be conservative, the linear feet of streams within the transmission line right-of-way are provided as impacts in revised ER Supplement Table 4.3-5 (Attachment 164-05). Revisions to the associated ER Supplement text are also provided as attachments.

**Associated Revisions to the Lee Nuclear Station Combined License Application:**

1. ER Supplement, Subsection 4.3.1.2.1
2. ER Supplement, Subsection 4.3.1.2.3.2
3. ER Supplement, Subsection 4.3.2.2.2
4. ER Supplement, Table 4.3-3
5. ER Supplement, Table 4.3-5
6. ER Supplement, Figure 4.3-4

**Attachments:**

Attachment 164-01 ER Supplement, Subsection 4.3.1.2.1  
Attachment 164-02 ER Supplement, Subsection 4.3.1.2.3.2  
Attachment 164-03 ER Supplement, Subsection 4.3.2.2.2  
Attachment 164-04 ER Supplement, Table 4.3-3  
Attachment 164-05 ER Supplement, Table 4.3-5  
Attachment 164-06 Mark up of ER Supplement, Figure 4.3-4

Attachment 164-01

Markup of ER Supplement, Subsection 4.3.1.2.1



COLA Part 3, ER Supplement, Subsection 4.3.1.2.1, Paragraph 7, is revised as follows:

Associated with the reactivation, additional terrestrial impacts are located where the railroad crosses over London Creek, Little London Creek and associated tributaries. Previously, London Creek flowed under the railroad through two, 10-ft-diameter culverts. In association with the construction of Make-Up Pond C, these culverts are removed and replaced with a large box culvert (i.e., four cell box culvert) that not only facilitates conveyance of London Creek waters to the Broad River but also provides a stable crossing for trains. The previous railroad bed was narrow and steep. Therefore, the repair and replacement of the culverts result in the proximate clearing of Mixed Hardwood (MH), Pine (P), and Mixed Hardwood-Pine (MHP) adjacent to the railroad embankment (Table 4.3-2). Temporary up- and downstream impacts to wetlands are due to stream diversions around the construction sites where the crossing is being upgraded (Table 4.3-3). Temporary wetland impacts will be restored according to Section 404 permit conditions. Due to the relatively small size of the area, impacts associated with the rail line crossings are considered to be SMALL.

Attachment 164-02

Markup of ER Supplement, Subsection 4.3.1.2.3.2

COLA Part 3, ER Supplement Subsection 4.3.1.2.3.2, Paragraph 1, is revised as follows:

Descriptions of wetlands in Make-Up Pond C are included in Subsection 2.4.1.1.1. Preliminary direct impacts to wetlands ~~in the Make-Up Pond C study area~~ resulting from Make-Up Pond C construction are approximately ~~4.30~~ 4.42 ac. This amount includes fill impacts such as the dam and saddle dike construction and flooding impacts from the impoundment of London Creek and associated tributaries (Table 4.3-3). Also included are impacts outside the inundation area, including permanent impacts from spoil areas and SC 329 realignment construction and temporary impacts from logging road and rail construction (Subsection 4.3.1.2.1). An additional 0.11 acres of wetland impact resulting from Make-Up Pond C construction activities may occur within the Lee Nuclear Site. This amount includes impact to a small, non-jurisdictional wetland from pipeline construction, and impact to a small non-alluvial wetland from the laydown area. Jurisdictional status and limits of wetlands within the Make-Up Pond C study area and Lee Nuclear Site have not been confirmed by the U.S. Army Corps of Engineers and are subject to change upon confirmation.

**Begin new paragraph**

During the construction of Make-Up Pond C, various indirect hydrologic impacts to wetlands could occur as a result of draining and inundating activities (Subsection 4.2.2). For instance, the construction of cofferdams may temporarily inundate wetlands upstream of the cofferdams. Table 4.3-3 describes the wetlands nature of impact and quantity of impact. A small amount of new wetlands may be created by the pool of Make-Up Pond C reservoir and in tributaries of the reservoir (Subsection 4.2.2).

COLA Part 3, ER Supplement Subsection 4.3.1.2.3.2, Paragraph 3, is revised as follows:

The Section 404 permit issued by the USACE will specify any needed mitigation. Temporary impacts to wetlands will also be restored according to the Section 404 permit conditions. In accordance with the terms of the Section 404 permit and its associated State 401 water quality certification, construction contractors are required to implement recognized good practices outlined in Subsection 4.3.1.1.2. In addition to federal and state permitting requirements, all work in regulated areas is performed according to BMPs or other conditions stated in the permit. Although each permit is site-specific, when construction occurs in proximity to jurisdictional waterways or wetlands, BMPs as outlined in Subsection 4.3.1.1.2 are followed.

Attachment 164-03

Markup of ER Supplement, Subsection 4.3.2.2.2

COLA Part 3, ER Supplement Subsection 4.3.2.2.2, is required as follows:

A rerouted 44-kV transmission line crosses Make-Up Pond C (Figure 4.3-4). This 100-ft wide easement requires crossing several unnamed tributaries and impoundments. A new 44-kV transmission line extends from the Make-Up Pond C pump structure to the existing 44-kV transmission right-of-way within the Lee Nuclear Site (Figure 4.3-4). This 100-ft wide easement requires crossing three streams. Table 4.3-4 and Table 4.3-5 quantify the impact from both transmission lines. Due to the small size of the area and the ability to avoid environmentally sensitive sites, impacts associated with the transmission lines are considered SMALL.

Attachment 164-04

Markup of ER Supplement, Table 4.3-3

TABLE 4.3-3  
WETLANDS (PRELIMINARY) IMPACTED  
DURING MAKE-UP POND C CONSTRUCTION<sup>1</sup>

Nature of Wetland Impact	Quantity of Wetland Impact (Acres)
Cofferdam	0.05
Dam Footprint	-
Dewatering Pipe	0.01
Hwy 329	0.01
Impoundment	3.95
<u>Laydown Area – w/in Lee Site</u>	<u>0.03</u>
Logging Road	0.04
<u>Pipeline – w/in Lee Site</u>	<u>0.08<sup>2</sup></u>
Rail Line Crossings	-
Spoil Area	0.25
Transmission Line	-
Vegetation Clearing	-
Total	<u>4.30</u> <u>4.42</u>

1. Wetland impacts less than 0.005 ac have no entry in this table and are not discussed in the text.

2. Non-jurisdictional wetland

\*Wetland delineations have not been confirmed by USACE.  
~~Construction impacts outside of the Make-Up Pond C study area boundary are not included in the figures above.~~

Attachment 164-05

Markup of ER Supplement, Table 4.3-5



TABLE 4.3-5  
STREAMS (PRELIMINARY) IMPACTED  
DURING MAKE-UP POND C CONSTRUCTION

Stream	Nature of Impact	Quantity of Impact (Linear Feet)
London Creek	Cofferdam	45
	Dam Footprint	655
	Diversion Pipe	32
	Hwy 329	-
	Impoundment	16,962
	Logging Road	-
	<u>Pond C Spillway</u>	<u>199</u>
	Rail Line Crossings	-
	Spoil Area	-
	<u>Re-route</u> Transmission Line	-
	<u>New Transmission Line</u>	-
	Vegetation Clearing	-
Little London Creek	Cofferdam	-
	Dam Footprint	-
	Diversion Pipe	-
	Hwy 329	-
	Impoundment	-
	Logging Road	-
	<u>Pond C Spillway</u>	-
	Rail Line Crossings	-
	Spoil Area	-
	<u>Re-route</u> Transmission Line	-
	<u>New Transmission Line</u>	-
	Vegetation Clearing	-
Unnamed Tributaries	Cofferdam	-
	Dam Footprint	728
	Diversion Pipe	-
	Hwy 329	600
	Impoundment	45,780
	Logging Road	16
	<u>Pond C Spillway</u>	-
	Rail Line Crossings	-
	Spoil Area	631
	<u>Re-route</u> Transmission Line	229
	<u>New Transmission Line</u>	<u>460</u>
	Vegetation Clearing	1,700

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Total	67,379
	<u>68,038</u>

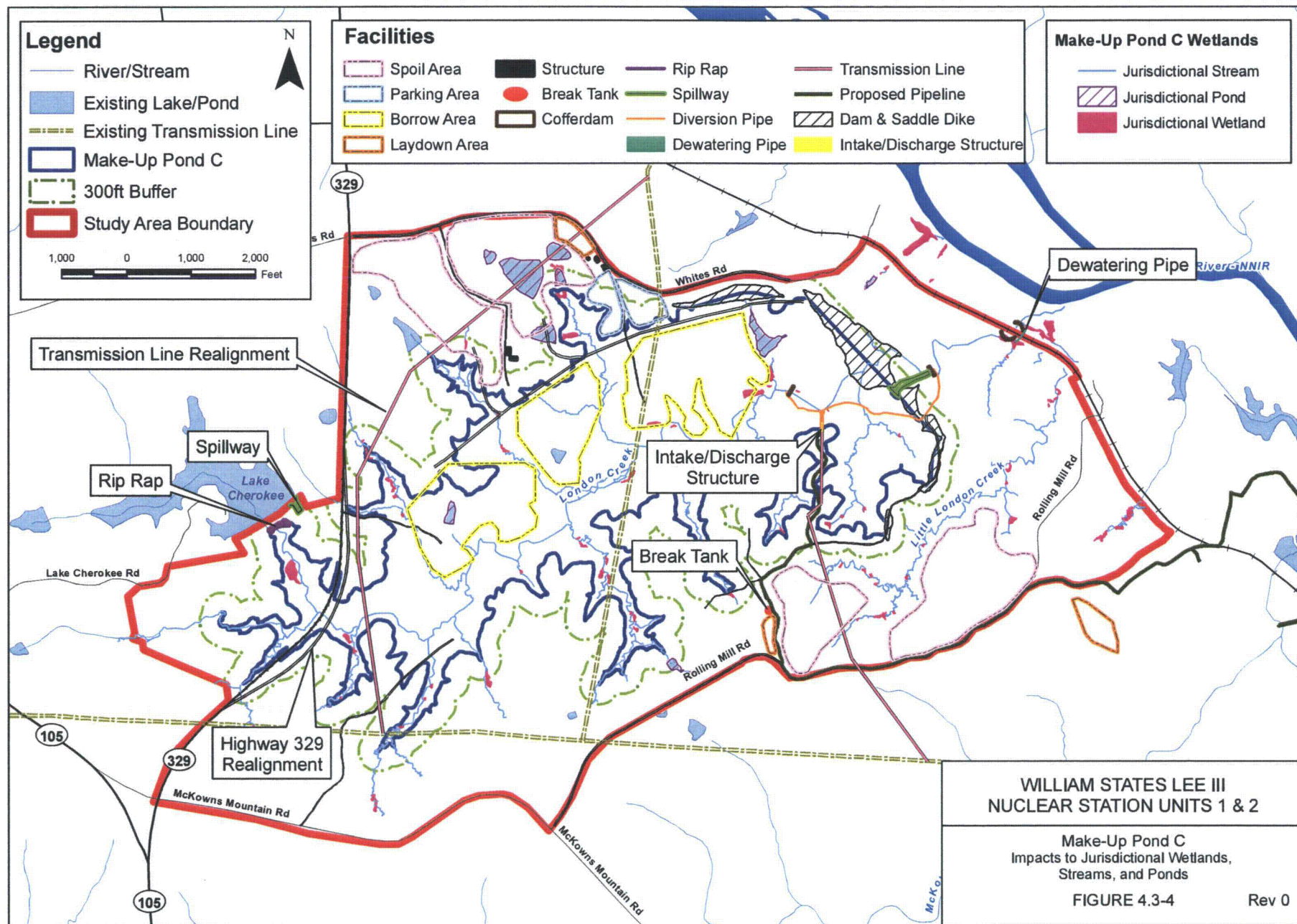
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\*Wetland delineations have not been confirmed by USACE.

~~Construction impacts outside of the Make-Up Pond C Study Area boundary are not included in the figures above.~~

Attachment 164-06

Markup of ER Supplement, Subsection 4.3.2.2.2



**Lee Nuclear Station Response to Request for Additional Information (RAI)**

**RAI Letter Dated: June 22, 2010**

**Reference NRC RAI Number: ER RAI 171, Ecology-Terrestrial**

**NRC RAI 171:** Provide a description of any plans or commitments that are in place to ensure all land clearing activities and Pond C inundation occur outside the bird nesting season.

**Duke Energy Response:**

As described in Duke's response to RAI 142, efforts will be made to plan land clearing operations outside the avian breeding season. However, if construction activities are deemed necessary during the spring, all appropriate depredation permits will be obtained from the South Carolina Department of Natural Resources and the US Fish and Wildlife Service.

**Reference:**

None

**Associated Revision to the Lee Nuclear Station Combined License Application:**

None

**Attachment:**

None

**Lee Nuclear Station Response to Request for Additional Information (RAI)**

**RAI Letter Dated: June 22, 2010**

**Reference NRC RAI Number: ER RAI 172, Ecology - Terrestrial**

**NRC RAI:**

Provide references for the aerial and satellite photos discussed on page 4-25.

**Duke Energy Response:**

The aerial imagery referred to on page 4-25 of the ER Supplement came from *USGS, 2006, Digital Orthophoto Quarter Quadrangles (DOQQs): Kelton NE, NW, SE, SW*. The satellite imagery used to augment/verify the photo-interpretation came from *NASA, April 2000, Landsat 7 Enhanced Thematic Mapper Imagery, N17-35-2000.sid and N17-30-2000.sid Mosaics*.

**Associated Revision to the Lee Nuclear Station Combined License Application:**

None

**Attachment:**

None

**Lee Nuclear Station Response to Request for Additional Information (RAI)**

**RAI Letter Dated: June 22, 2010**

**Reference NRC RAI Number: ER RAI 173, Ecology-Terrestrial**

**NRC RAI:**

Provide a description of any plans or commitments that are in place to relocate the population of Georgia aster from the existing transmission line in the Pond C inundation area. Describe any plans or commitments to relocate the other State species of concern and rare plant species.

**Duke Energy Response:**

At the present time no plans or commitments have been developed to relocate the Georgia aster or any of the SC state-listed flora. Prior to any such efforts, formal discussions will be initiated with the SCDNR, USFWS, SC Natural Heritage Program, and the Daniel Stowe Botanical Gardens (Belmont, NC).

**Associated Revision to the Lee Nuclear Station Combined License Application:**

None

**Attachment:**

None

**Lee Nuclear Station Response to Request for Additional Information (RAI)**

**RAI Letter Dated: June 22, 2010**

**Reference NRC RAI Number: ER RAI 180, Ecology – Terrestrial**

**NRC RAI:**

Provide information on what was considered potential habitat for each protected species in the Lee Nuclear Station and railroad spur avian reports, and where (e.g., just along certain or along all transects and point count stations in the corridor, etc.) and how (e.g., sightings, calls, nest searches) the protected species surveys were conducted.

**Duke Energy Response:**

Section 4.3 of the Lee Nuclear Station avian report and section 4.4 of the railroad spur avian report (Reference 1) contain the information concerning potential for protected species. Both reports state: "During the migration and breeding surveys, habitats that correspond with those of known federal protected or avian species of concern, such as the Bald Eagle (*Haliaeetus leucocephalus*), and species of concern Henslow's Sparrow (*Ammodramus henslowii*), Loggerhead Shrike (*Lanius ludovicianus*), and American Kestrel were searched for by visual methods and response to call back recordings. The federally endangered Red-cockaded Woodpecker (*Picoides borealis*) was not searched for due to the lack of necessary habitat to support the woodpecker within and in the vicinity of the Project corridor."

The habitats noted for each species below were considered potential habitat for each species on the Lee Nuclear Station (station) and railroad projects. The transects and point counts that went through potential habitat of a species of concern were set up to provide maximum coverage over a majority of the onsite habitat on both the station and railroad spur projects.

The Henslow's sparrow is found in weedy or neglected pastures or fields that have dense vegetation within one to two feet high (Reference 2). During the surveys of the railroad, this sparrow species was surveyed for visually and by song recognition during all transect and point count surveys as well as during any miscellaneous observations. The only potential habitat where the call back surveys were completed for the Henslow's sparrow on the proposed railroad corridor is the rights-of-way within Transect 6.

During the surveys of the station, this sparrow species was surveyed for visually and by song recognition during all transect and point count surveys, as well as during any miscellaneous observations. However, the call back surveys were completed for the Henslow's sparrow on the power line right-of-way within Transect 1, the starting point of Transect 2, and various random points along Transects 3, 4, and 5 during each survey.



The American kestrel inhabits open fields, farmland/pastures, cities, and wood edges throughout its range (Reference 2). During the surveys of the railroad corridor, this falcon species was surveyed for visually and by call recognition during all transect and point count surveys as well as during any miscellaneous observations. The only potential habitat where the call back surveys were completed for the American kestrel on the railroad corridor is the gas line rights-of-way within Transect 6 where the habitat was poor. In addition, the kestrel was surveyed during the April 7, 2009 survey for breeding raptors along the railroad corridor. The survey was conducted on the area immediately adjacent to the proposed railroad corridor.

During the surveys of the station, the American kestrel species was surveyed for by using visual and by call recognition during all transect and point count surveys as well as during any miscellaneous observations. However, the call back surveys were completed for the falcon at various random points along Transects 3, 4, and 5 during each survey. After a miscellaneous sighting of a kestrel by Duke Energy scientist, the area around the new meteorological monitoring tower near Makeup Pond B Point Count was surveyed by visual and audible methods.

The loggerhead shrike inhabits open country, clearings, pastureland and scrubby areas along roadways (Reference 2). During the surveys of the proposed railroad corridor, this shrike species was surveyed for visually and by song and call recognition during all transect and point count surveys as well as during any miscellaneous observations. The only potential habitat where the call back surveys were completed for the loggerhead shrike on the proposed railroad is the rights-of-way within Transect 6 and various areas along Transect 3.

During the surveys of the station, the loggerhead shrike was surveyed for by visual and by song and call recognition during all transect and point count surveys as well as during any miscellaneous observations. However, the call back surveys were completed for the loggerhead shrike on the power line right-of-way within Transect 1, the starting point of Transect 2, and various random points along Transects 3, 4, and 5 during each survey.

The bald eagle's breeding habitat most commonly includes areas close (within 4 km) to coastal areas, bays, rivers, lakes, or other bodies of water that reflect the general availability of primary food sources including fish, waterfowl, and seabirds (Reference 3). During the surveys of the railroad corridor, the eagle was surveyed for visually and by call recognition during all transect and point count surveys as well as during any miscellaneous observations. The only potential habitat for the bald eagle along the proposed railroad is on the areas adjacent to Transects 1 and 2 in super canopy trees which were found to be scarce along these transects. In addition, the bald eagle was surveyed during the April 7, 2009 survey for breeding raptors along the proposed railroad.

During the surveys of the station, the bald eagle was surveyed for visually and by call recognition during all transect and point count surveys as well as during any miscellaneous observations. No call back surveys were performed for the bald eagle.

The red-cockaded woodpecker (RCW) prefers stands of large mature pines that are required for nesting. Preferred nest clusters are relatively open pine stands with few to no hardwood trees above 15 feet in height (understory) (Reference 2). As stated previously, the RCW was not searched for due to the lack of necessary habitat to support this woodpecker species within and in the vicinity of the railroad corridor or within the station project boundaries.

No federally protected or avian species of concern was noted during the migration or breeding surveys for both sites as well as during miscellaneous observations. The only exception included several sightings of an American kestrel during the late winter/spring months on the Lee Nuclear Station. No sightings were made during breeding season nor were any nest-building activities observed.

**References:**

1. Letter from Bryan J. Dolan (Duke Energy) to Document Control Desk, U.S. Nuclear Regulatory Commission, Response to Request for Additional Information, Ltr# WLG 2009.11-01, dated November 2, 2009 (ML093130451).
2. Terres, John K. 1980. The Audubon Society Encyclopedia of North American Birds. Alfred A. Knopf, New York, NY. 1109 p.
3. NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed July 9, 2009).

**Associated Revision to the Lee Nuclear Station Combined License Application:**

None

**Attachment:**

None

**Lee Nuclear Station Response to Request for Additional Information (RAI)**

**RAI Letter Dated: June 22, 2010**

**Reference NRC RAI Number: ER RAI 182, Ecology – Terrestrial**

**NRC RAI:**

Provide information on where the raptor survey was conducted on the railroad spur avian report. Clarify whether the surveys consisted of sightings, calls, and/or nest searches. Clarify whether the surveys were conducted along all or part of the railroad corridor.

**Duke Energy Response:**

Section 4.3, Raptor Breeding Survey, of the railroad spur avian report (Reference 1) states: "On April 7, 2009, a survey for breeding raptors (e.g., hawks, owls, and eagles) was conducted for the proposed Project. The survey was conducted on the area immediately adjacent to the proposed railroad corridor. During the April 7, 2009 survey, numerous nest-like structures were noted, but after further examination none turned out to be active raptor nests and no breeding raptors were observed."

As supporting information for this discussion, the raptor breeding survey was completed in the spring during the courtship and nesting of potentially breeding raptors that could utilize the areas immediately adjacent to the proposed railroad corridor. In addition, the survey was completed by reviewing the entire length of the proposed corridor (with the exception of the Reedy Creek Ice Plant railroad spur as described in the response to RAI 181) prior to leaf out to assist in visual observation of raptors, nest building, and past years nests. The location of each potential nest was noted for further observation, but no nesting raptors were ever observed.

Although no raptor nests were observed during the migration and breeding surveys, a pair of Barred Owls (*Strix varia*) was observed adjacent to the railroad corridor in the area of Milepost 2.4. Based on call back recordings (using Stokes Field Guide to Bird Songs – Eastern Region, iMainGo 2 Handheld Speaker system, and Apple iPod classic), and due to the reaction of the birds to the call back recordings, the owls were assumed to be a mated pair. The area adjacent to the corridor was checked for potential nest locations, but none were found within the study area.

With no raptor nesting observed within the proposed railroad corridor, the construction of the proposed railroad is projected to have no impact on raptor nesting.

**Reference:**

1. Letter from Bryan J. Dolan (Duke Energy) to Document Control Desk, U.S. Nuclear Regulatory Commission, Response to Request for Additional Information, Ltr# WLG 2009.11-01, dated November 2, 2009 (ML093130451).

**Associated Revision to the Lee Nuclear Station Combined License Application:**

None

**Attachment:**

None

**Lee Nuclear Station Response to Request for Additional Information (RAI)**

**RAI Letter Dated: June 22, 2010**

**Reference NRC RAI Number(s): ER RAI 189, Site Layout and Plant Description**

**NRC RAI:**

Provide geo-referenced (GIS) data and legible graphics for the Lee Nuclear Station site and vicinity that has changed since the May 2008 GIS data submittal. Include metadata (source, scale, capture date, processing methods, data quality, etc.), and any layers that were used to revise or develop figures for ER Rev. 1 and the Supplement to the ER.

**Duke Energy Response:**

Duke Energy is providing GIS files for ER Rev. 1 (updated since May 2008) and the ER-Supplement as two attachments, 189-01 and 189-02.

**Associated Revision to the Lee Nuclear Station Combined License Application:**

None

**Attachments:**

Attachment 189-01: William States Lee III Nuclear Station, Environmental Report Rev 1, GIS Files, June 2010 (CD)

Attachment 189-02: GIS Files for ER-Supplement, William States Lee Nuclear Station, ER-Supplement for Make-Up Pond C, September 2009 (DVD)

**Lee Nuclear Station Response to Request for Additional Information (RAI)**

**RAI Letter Dated: June 22, 2010**

**Reference NRC RAI Number: ER RAI 196, Land Use**

**NRC RAI:**

Clarify whether any permanent structures would be built on the Pond C site.

**Duke Energy Response:**

The only permanent structures planned for the Make-Up Pond C site are the dam, intake structure, breaktank, pipeline, transmission line, road to the intake, a property fence, and the SR 329 reroute. These are all illustrated in Figure 4.1-2 of the Environmental Report Supplement. The property fence is not shown on Figure 4.1-2 since the location has not been determined, but it will most likely run along the outside perimeter of the 300 ft buffer.

**Associated Revision to the Lee Nuclear Station Combined License Application:**

None

**Attachment:**

None

**Lee Nuclear Station Response to Request for Additional Information (RAI)**

**RAI Letter Dated: June 22, 2010**

**Reference NRC RAI Number: ER RAI 200, Socioeconomics/Environmental Justice/Benefit Cost**

**NRC RAI:**

Provide an explanation for the in-migration scenario for Pond C. Explain the basis for the assumption that in-migration would be the same as for the Lee Nuclear Station. Describe what type and percentage of specialized labor would be needed to construct Pond C and whether that type of labor is available within the 50 mile region. Provide a breakdown of labor needed by occupation and the current availability of labor in the region by the same occupation.

**Duke Energy Response:**

It is assumed that in-migration would be the same as for the Lee Nuclear Station because construction of Make-Up Pond C will coincide with the construction of the Lee Nuclear Station and it is assumed that those working on Make-Up Pond C will come from the same pool of workers that will be involved in construction of the Lee Nuclear Station.

As discussed in Section 4.4.1 of the ER Supplement, construction manpower estimates for Make-Up Pond C indicate that a maximum of 185 craft workers would be needed during the construction phase. Craft workers would include, but are not limited to, truck drivers, equipment operators, laborers, and concrete finishers/cement masons. Specific percentages of labor types needed are not known. Employment levels for the Spartanburg, SC Metropolitan Statistical Area (MSA), Greenville, SC MSA, and Charlotte, NC MSA indicate a sufficient number of construction professionals with industrial experience reside within a 50-mile radius of the Lee Nuclear Station and subsequently Make-Up Pond C (732 for Spartanburg, SC; 2,000 for Greenville, SC; and 6,044 for Charlotte, NC) (U.S. Department of Labor 2006).

**References:**

U.S. Department of Labor, Bureau of Labor Statistics. 2006. Regional Employment Levels.

**Associated Revision to the Lee Nuclear Station Combined License Application:**

None

**Attachments:**

None

**Lee Nuclear Station Response to Request for Additional Information (RAI)**

**RAI Letter Dated: June 22, 2010**

**Reference NRC RAI Number: ER RAI 201, Socioeconomics/Environmental  
Justice/Benefit Cost**

**NRC RAI:**

Provide additional information on the final plans or reports for realignment of SR 329, the size of the area to be disturbed in the realignment, the length of new access roads and their availability to the public.

**Duke Energy Response:**

Due to the elevation of Make-Up Pond C, South Carolina Highway 329 (SC 329) is planned to be realigned slightly to the east of its current location with construction of a bridge over Make-Up Pond C (see Figure 1 in Attachment 201-01). A total of 1.3 miles of SC 329 is affected.

Construction of the new bridge and roadway alignment is planned to occur while the existing SC 329 segment is still available to public use, and prior to inundation of the construction area from filling Make-Up Pond C. Removal of the existing SC 329 segment will occur after the new bridge and roadway realignment are operational and available for public use and before inundation of the construction area by filling Make-Up Pond C.

The limits of the SC 329 realignment begin approximately 200 ft north of McKowns Mountain Road intersection and continue to approximately 1000 ft north of the intersection with Smith Road. Smith Road is planned to be extended slightly to meet the intersection with relocated SC 329.

Impacts resulting from this realignment include approximately 11.9 acres of disturbed area and a total of 144,000 cubic yards of earthwork. Approximately 96,000 cubic yards of excess earthwork soil material is expected to be generated by the roadway construction. This excess soil material is expected to be spoiled as fill material on site and possibly used in the construction of the dam, pending additional geotechnical data on the nature of the soil material. Excess material not needed for construction will be spoiled on site in locations identified in Figure 4.1-2 in the ER Supplement.

**Associated Revision to the Lee Nuclear Station Combined License Application:**

None

**Attachment:**

Attachment 201-01 Figure 1, Conceptual Design Proposed SC-329 Relocation



**Attachment 201-01**

**Figure 1, Conceptual Design Proposed SC-329 Relocation**

