

REDACTED VERSION

Report submitted under 10 CFR 2.390(a)(3).

**Portions of this report are withheld under
Section 304 of the Archaeological Resources
Protection Act (16 U.S.C. 470w-3(a)).**



Appendix A.

**Cultural Resources Survey of the Proposed Lee Nuclear Station
Addendum Report**

[REDACTED]

Cultural Resources Survey of the Proposed Lee Nuclear Station

Addendum

Brockington and Associates, Inc.
May 2007

Introduction

Duke Energy, Carolinas plans to construct a meteorological tower (MET Tower 3) to replace two extant towers at the proposed William S. Lee III Nuclear Station (LNS). The proposed tower site is located outside the area previously disturbed by the former Cherokee Nuclear Station project.

On 15–16 May 2007, Brockington and Associates, Inc., conducted an archaeological survey of the proposed MET Tower 3 location. The Met Tower 3 Area of Potential Effect (APE) includes a landform that sits overlooking a flooded portion of McKowns Creek, located along the north edge of the LNS Tract. The entire APE will be cleared of trees, and two specific areas of high ground will be graded for the construction of MET Tower 3, its associated support structure(s), and access road.

Brockington and Associates also recorded the locations of four known cemeteries located on the LNS Tract. These cemeteries were originally located by land surveyors during the Cherokee Project. We located each cemetery using sub-meter accuracy GPS and assessed the condition of each. Figure 1 displays the location of the MET Tower 3 APE and the four cemeteries.

MET Tower 3

The field investigations consisted of shovel testing and visual inspection of the landforms associated with the MET Tower 3 location, and visual inspections of side slopes for possible rock shelters. We investigated two landforms that lie west of a spillway/drainage for a reservoir. Figure 2 displays these as Landforms 1 and 2. A narrow saddle connects these two landforms. Landform 2 is the proposed location of MET Tower 3. Landform 2 and the saddle to the south will likely be cleared of trees.

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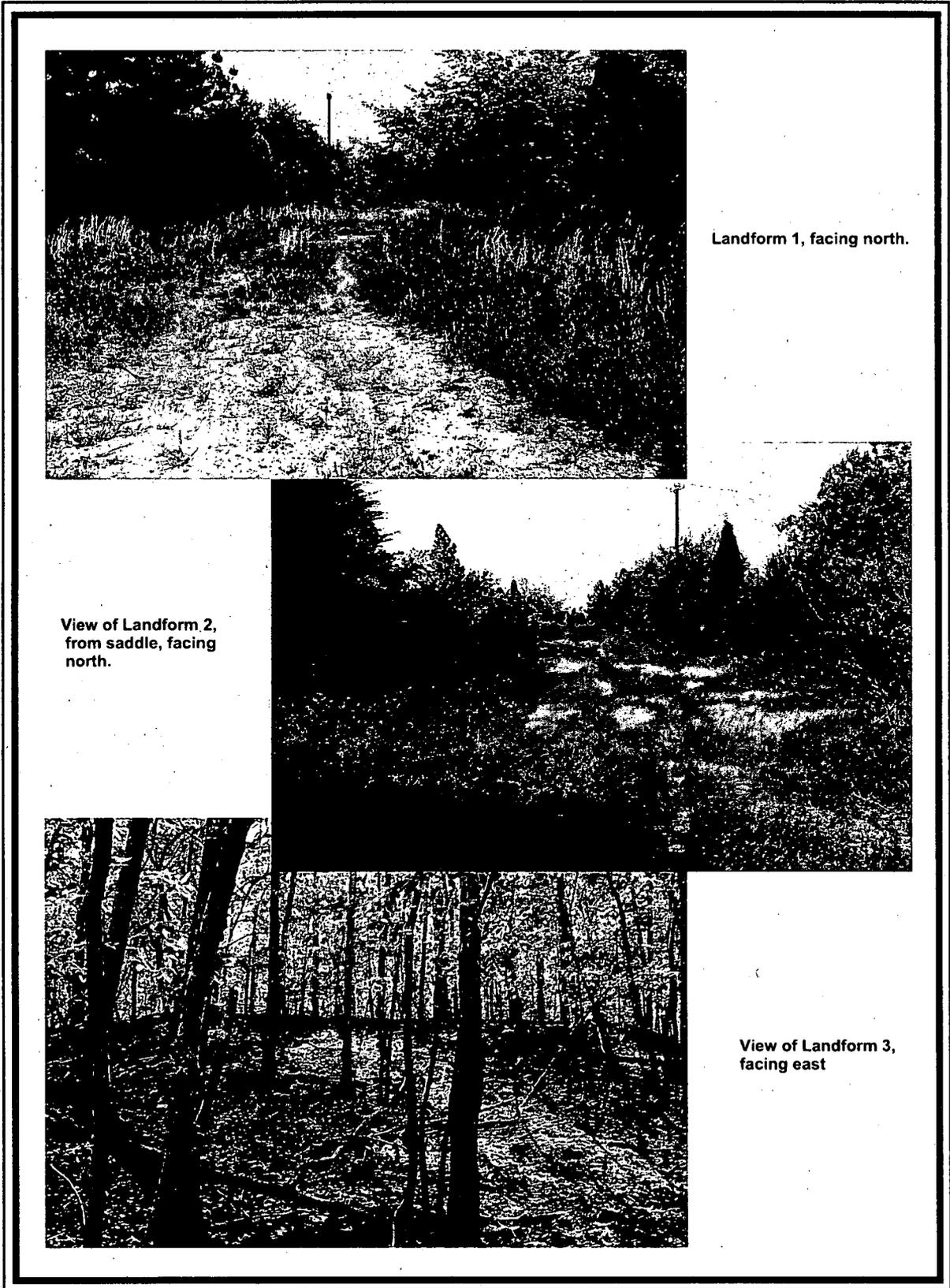


A slightly broader saddle connects Landform 2 with a small hilltop to the east, Landform 3 (see Figure 2). The prominent vegetation on Landforms 1 and 2 is young and mature pines, with thorny understory in open areas along a woods road that runs through the hills. Landform 3 and the saddle between Landforms 2 and 3 support mature pine and hardwood growth with light hardwood understory. Several outcroppings of granite boulders and bedrock were seen on the hilltops, prompting our investigation of the side slopes for more exposed granite that might be indicative of rock shelters. We also checked the granite on the landforms for evidence of petroglyphs. Figure 3 displays views of the APE.

We excavated our shovel tests at 100-foot (30-meter) intervals, with occasional judgmental shovel tests to ensure proper coverage. All shovel tests were 30 centimeters in diameter, with all soils screened through ¼-inch hardware cloth. Notes concerning each shovel test and the terrain encountered were recorded in field notebooks.

Our shovel testing covered all three landforms and the two saddles between them. Since these landforms have been logged for timber, soils have been deflated. We noticed large amounts of heavy quartz rock, possibly from the original gravel bed, on the ground and in exposed soils along the woods road. We checked a large portion of these quartz rocks for evidence of stone tool working and found no cultural modifications. Our visual inspection of the side slopes found granite outcroppings that do not protrude to the degree that they would create overhangs for possible rock shelters.

We excavated 19 shovel tests across the three landforms and the two saddles. Six shovel tests were excavated on Landform 1, revealing no screenable soils with subsoil clay lying just underneath the pine straw/leaf litter and a very shallow (0–3 centimeters below surface [cm bs]) rootmat. Two shovel tests were excavated in the saddle between Landforms 1 and 2, revealing the same soil profile described above. We were able to excavate eight shovel tests on Landform 2. Again, all of these shovel tests revealed clay at ground surface. We were able to excavate two shovel tests along the saddle between Landforms 2 and 3. Here our shovel tests revealed a soil profile of a reddish-brown clayey loam (0–5 cm bs) with clay subsoil below (+5 cm bs). Landform 3 is barely 50 feet wide, with the majority of it taken up by a borrow pit. We were able to excavate one shovel test here, revealing dense gravel below the leaf litter that overlies clay subsoil. We found no artifacts in our shovel tests or on the surface. We also found no culturally modified granite outcroppings nor any outcroppings suitable for rock shelters.



Landform 1, facing north.

View of Landform 2,
from saddle, facing
north.

View of Landform 3,
facing east

Figure 3. Views of the terrain in the MET Tower 3 APE.

[REDACTED]

Cemetery Recording

Brockington and Associates also verified the locations of four known cemeteries (J. H. Stroup Cemetery, Moss Cemetery, McKown Family Cemetery, and Unnamed Cemetery) and recorded their exact locations with a Trimble GeoXH handheld receiver. Investigators used GPS Pathfinder software for post-processing and differential correction. Brief descriptions of these cemeteries and their locations follows. All four cemeteries will be outside the fence for the LNS and will remain undisturbed and accessible to the public.

J. H. Stroup Cemetery.

[REDACTED] This cemetery is contained by a fence. A few of the stones have fallen over. Most of the stones are in good condition and their inscriptions are legible. A few foot marker stones were also observed. This cemetery is easily accessible by road. Figure 4 provides a view of the J. H. Stroup Cemetery.



Figure 4. J. H. Stroup Cemetery.

Moss Cemetery.

[REDACTED] This cemetery is also contained by a fence. Some of the stones here have fallen over. Most of the inscriptions on stones still standing are legible. A few foot

[REDACTED]

markers accompanying headstones were observed. This cemetery is easily accessible by road. Figure 5 provides a view of the Moss Cemetery.



Figure 5. Moss Cemetery.

McKown Family Cemetery. [REDACTED]

[REDACTED] This cemetery is the largest of the four we visited. It is not contained by a fence. Most of the stones are in good condition and the inscriptions are legible. Some foot markers were seen with their headstones. A large barbwire fence separates this cemetery from a service road that runs along the north edge of the hill; this road sits roughly 20 feet down slope from the cemetery. Figure 6 provides a view of the McKown Family Cemetery.

Unnamed Cemetery. This cemetery is the smallest of the four, and is the hardest to access. It consists of two grave markers and a few possible footstones that do not have headstones associated with them. This cemetery is accessible by a dirt footpath/ATV trail. [REDACTED]

[REDACTED] Figure 7 provides a view of the Unnamed Cemetery.



Figure 6. McKown Family Cemetery.



Figure 7. Unnamed Cemetery.

Summary

Brockington and Associates, Inc., conducted investigations of the proposed MET Tower 3 in May 2007. These investigations consisted of systematic and judgmental shovel testing across three landforms along the northern edge of the LNS Tract. The planned timbering and grading required for the MET Tower 3 construction will not affect any cultural resources. No further cultural resource management is recommended.



Cultural Resources Survey of the Lee Nuclear Station Railroad Corridor Cherokee County, South Carolina

Ralph Bailey Jr., RPA
Brockington and Associates, Inc.
December 3, 2007

Introduction

In November 2007, Brockington and Associates, Inc., conducted an intensive cultural resources survey of the proposed railroad corridor that will serve the proposed William S. Lee III Nuclear Station (hereinafter referred to as the Lee Nuclear Station or LNS) in Cherokee County, South Carolina. The proposed corridor for the railroad line is seven miles long and approximately 50 feet wide, extending from the northwestern portion of the plant site west to Gaffney. This corridor is the Area of Potential effect (APE). We also considered possible visual or audible effects to known historic properties near the corridor. The proposed rail line lies almost entirely within the existing rail bed and right-of-way acquired and constructed in the 1970s for the former Cherokee project. Figure 1 presents the location of the tract on the USGS *Blacksburg South* quadrangle.

The survey was conducted in partial compliance with the National Environmental Protection Act (NEPA) to determine if the undertaking will affect historic properties (i.e., archaeological sites, buildings, structures, objects, or districts eligible for or listed on the National Register of Historic Places [NRHP]). Compliance will be administered by the regulatory programs of the Nuclear Regulatory Commission (NRC). This survey was completed in compliance with state laws and regulations concerning the management of historic properties.

The cultural resources portion of the NEPA process will be completed in four phases. The first phase is the 2,000-acre plant site. The scope was approved by the South Carolina State Historic Preservation Office (SHPO) in late February 2007, and the survey was completed on March 12–14, 2007. The remaining phases involve infrastructure, including future railroad, transmission lines, and water discharge. This study includes the railroad line survey. We will submit to SHPO a separate proposed scope for the survey of the water discharge facility and transmission line corridors in the near future after their locations have been determined.

There is one existing business within the right-of-way. Duke Energy plans to acquire a small section of new right-of-way to avoid the business. We conducted an archaeological survey of the

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[REDACTED]

new alignment in this area. No archaeological sites or isolated artifacts were identified. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] There will be no new ground disturbance within 38CK68. We visually inspected 38CK68 to assess the potential for any extant features that may remain at the site to be adversely affected by construction or operation of the railroad through vibration or visual intrusion. Construction of the railroad within the existing corridor through 38CK68 will have no adverse effect on this historic property. The remainder of the right-of-way was extensively graded and/or filled as well and has very little potential to contain historic properties; we do not recommend any further investigations in these areas.

Methods of Investigation

Project Objective. The objective of the cultural resources investigations was to assess the potential for the construction and use of the railroad to affect potential cultural resources. Tasks performed to accomplish this objective include background research, archaeological survey, and architectural survey. Methods employed for each of these tasks are described below.

Background Research. The authors conducted research at the South Carolina Institute of Archaeology and Anthropology (SCIAA) and the South Carolina Department of Archives and History (SCDAH) to identify nearby areas of previous cultural resources investigations and the locations of known archaeological sites, historic architectural resources, and historic properties within one mile of the project corridor. The purposes of the archival research were to identify potential Pre- or Post-Contact archaeological sites and buildings and to develop a historic context that would assist in evaluating cultural resources.

Archaeological Survey. Intensive archaeological survey entailed the systematic examination of the proposed new alignment segment of the corridor. We employed methods recommended in the *South Carolina Standards and Guidelines for Archaeological Investigations* (SCDAH 2005). Shovel tests were excavated at 100-foot intervals along transects spaced 100 feet apart, or 15 meters north and south of the centerline of the new alignment.

Architectural Survey. The project architectural historian conducted an intensive architectural survey of all aboveground cultural resources within the project tract and a 300-foot area surrounding the project area to take into account any possible visual effects of the proposed undertaking (see

[REDACTED]

Figure 1). The survey was designed to identify, record, and evaluate all historic architectural resources (buildings, structures, objects, designed landscapes, and/or sites with aboveground components) in the project. Field survey methods complied with the *Survey Manual: South Carolina Statewide Survey of Historic Places* (SCDAH 2007) and National Register Bulletin 24, *Guidelines for Local Surveys: A Basis for Preservation Planning* (Parker 1985).

Previous Cultural Resources Investigations In and Near the Corridor

There are two sites near the right-of-way, sites 38CK38 and 38CK68 (see Figure 1). Site 38CK68, [REDACTED] is listed on the National Register of Historic Places. Ferguson and Cowan (1986:91, 93) describe this site as follows:

The [REDACTED] is directly related to the Susan Furnace Site in that these were out[ly]ing furnaces to the main manufacturing operation and had sequentially planned production schedules. If one furnace was in operation, the other was generally not. Both sites still exhibit partially collapsed but well preserved furnaces and associated features. Associated features include foundations, sluiceways, slag heaps, and adjacent ore pits.

The [REDACTED] when viewed as an operationally related set of sites offers probably the best single research opportunity of any of the nineteenth century company complexes. The research potential of this site is extremely great, particularly in terms of understanding site patterning and organization.

The ten sites included in the [REDACTED] range of sites document the evolution of the iron industry in the state from plantation iron furnace operations of the late eighteenth and early nineteenth centuries to the large manufacturing complexes associated with the major industrialization of the mid-1800s. The demise of the South Carolina iron industry began on the eve of the Civil War when companies in other regions of the eastern United States adopted broad based raw material procurement and marketing strategies based on rail transportation and more advanced and cheaper coal based production technology. These factors coupled with resource depletion and drastic changes in the once slave based labor structure led to an almost total inability to remain economically competitive.

Site 38CK38 was one of several sites recorded in the late 1970s. The site is recorded as a small Pre-Contact site, and the site form on file at SCIAA indicates that the site is probably not

eligible. Keith Derting, State Site Files Manager at SCIAA, indicated that he considers the location of the site, as well as several others recorded in this area at the same time, to be problematic.

Results of the Field Investigations

Results of the Archaeological Survey. The project tract consists of mostly heavy slopes greater than 15 percent. The only level ground within the project tract was fabricated by machinery when the original bed of the railroad was constructed in the 1970s. Within the project tract, the railroad bed appears to have been cut into the side of a large hill. A portion of the ice plant was constructed on the railroad bed, and the paved driveway into the plant from People's Creek Road lies along the railroad bed also. Duke Energy plans to widen the current railroad alignment to the north along the driveway so that the ice plant will continue to have access to People's Creek Road. The new alignment of the railroad will also shift north of the ice plant, since the plant sits on the old alignment.

Investigators excavated 12 shovel tests at 100-foot intervals north and south of the centerline of the new alignment. Figure 2 presents an aerial view of the proposed alignment shift. Figure 3 presents a plan of the new alignment showing the location of the shovel tests. Shovel tests revealed varying soil profiles that reflect gravelly sand fill north of the existing railroad bed and erosional deposits from the steep hillside south of the railroad bed. Red clay was observed at the ground surface or directly underneath grass in almost all cases where the ground was level. On the hillside to the south of the railroad bed, rock was on the surface in most cases. A large portion of the right-of-way for the new railroad alignment lies within the plant, which consists of large paved surfaces and extremely steep slopes greater than 15 percent. No artifacts were recovered from the shovel tests; all were negative.

Investigators walked the current alignment of the railroad bed through NRHP-listed property 38CK68 to inspect for any ruins from the nineteenth-century-era [REDACTED]. Figure 4 presents a view of this portion of the APE. The majority of the railroad bed lies in an extremely deep manmade cut through the landform on which the furnace site sits. The archaeologists who recorded the site noted that the [REDACTED]

[REDACTED]

[REDACTED] No cut or dressed stones resembling the remnants of stone ruins or architecture were seen, nor were any pilings of stone

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Figure 4. View of the railroad corridor through 38CK68.

indicative of foundations observed. Using the old railroad bed as a railroad today will have no adverse effect on NRHP-listed property 38CK68.

Results of the Architectural Survey.

Brockington's architectural historian conducted a reconnaissance of the railroad line that will be used in the current project. The railroad line was constructed in the 1970s and is not yet 50 years of age; therefore, according to SCDHAH. (2007) regulations, it was not inventoried or assessed. As planned, the proposed project will utilize the

current railroad line, with one reroute near the town of Gaffney. The current railroad line and the proposed reroute comprise the architectural survey universe. See Figure 1 for a portion of the USGS *Blacksburg South* quadrangle map showing the architectural survey universe.

The architectural historian first examined the USGS *Blacksburg South* quadrangle map, which contained the project area, to identify any aboveground resources along the line that might be 50 years of age. Upon inspection of the map, he did not identify any possible resources. Next he conducted a windshield survey of portions of the railroad line that could be reached without trespassing. Again, he identified no new historic architectural resources along the current railroad line and expansion of the line that would require inventory or assessment according to SCDHAH regulations. Finally, the architectural historian walked portions of the railroad line in an effort to identify any other resources. Again, no historic architectural resources were identified.

Since there are no eligible historic resources along the current railroad line or the new construction, and since the proposed undertaking will not require any major alterations to the railroad line, we recommend that there will be no effect on any aboveground resources by the proposed undertaking.

Project Summary

The proposed railroad line to provide service to the LNS in Cherokee County will not affect any historic properties. With the exception of a small section of realignment to avoid taking an existing plant, the entire corridor is within an existing, graded alignment. Archaeological survey of

[REDACTED]

the proposed alignment shift did not identify any sites or isolated finds. There are no historic architectural resources near the corridor.

This survey is part of a multiphase program in which Duke Energy is engaged. In consultation with SHPO, Duke Energy will also complete a survey of the proposed transmission lines and water discharge area as part of the Section 106 process for the overall NRC licensing of the LNS.

References Cited

Ferguson, Terry A., and Thomas A. Cowan

1986 Iron Plantations and the Eighteenth- and Nineteenth-Century Landscape of the Northwestern South Carolina Piedmont. In *Carolina's Historical Landscapes: Archaeological Perspectives*, edited by Linda F. Stine, Martha Zierden, Lesley M. Drucker, and Christopher Judge, pp. 113-144. University of Tennessee Press, Knoxville.

Parker, Patricia L.

1985 *Guidelines for Local Surveys: A Basis for Preservation Planning*. National Register Bulletin 24. US Department of the Interior, National Park Service, Interagency Resources Division, Washington, DC.

South Carolina Department of Archives and History (SCDAH)

2005 *Guidelines and Standards for Archaeological Investigations*. State Historic Preservation Office, Review and Compliance Branch, Columbia.

2007 *Survey Manual: South Carolina Statewide Survey of Historic Properties*. South Carolina Department of Archives and History, Columbia.



June 8, 2007

Mr. Ralph Bailey
Brockington and Associates
1051 Johnnie Dodds Blvd., Ste. F
Mt. Pleasant, SC 29464

Re: Draft Report and Addendum; *Cultural Resources Survey of the Proposed Lee Nuclear Station, Cherokee County, South Carolina*

Dear Mr. Bailey:

Our office has had the opportunity to review the above-referenced report and addendum. The report meets federal and state guidelines for the identification and assessment of historic properties.

Our office concurs with your assessment that architectural resources 0061.00-0068.03 are **not eligible** for listing in the National Register of Historic Places. The development and construction of the Lee Nuclear Station will not affect these properties. Architectural resource 0042.00-01, the Ninety-Nine Islands Hydro Plan and Dam, is eligible for listing in the National Register of Historic Places. We believe that the proposed work at the Lee Nuclear Station should cause **no adverse effect** to this historic property.

This cultural resources investigation was prepared in anticipation of an application for construction and operation to the Nuclear Regulatory Commission. We understand that additional cultural resources work will be conducted on the railroad, transmission lines, and the discharge facility for the plant. It is likely that some sort of agreement will be needed to govern future cultural resources identification and address future work to be done at the plant through the life of the license, if granted. We look forward to continuing to work with you and Duke Energy on this project.

These comments are provided by the State Historic Preservation Office pursuant to Section 106 of the National Historic Preservation Act, as amended. If you have questions, please contact me at (803) 896-6169 or dobrasko@scdah.state.sc.us.

Sincerely,

Rebekah Dobrasko

Rebekah Dobrasko
Review and Compliance Coordinator
State Historic Preservation Office



January 9, 2008

Mr. Theodore Bowling
Environmental Project Manager
Duke Energy
EC09D/P.O. Box 1006
Charlotte, NC 28201-1006
704382-5917

Re: Cherokee Nuclear/Lee Nuclear Station
Cherokee County, South Carolina

Dear Mr. Bowling:

Thank you for your letter of December 10, which we received on December 12, along with two copies of the draft report entitled *Cultural Resources Survey of the Lee Nuclear Station Railroad Corridor, Cherokee County, South Carolina*. This survey focuses on the railroad corridor portion of the overall Cherokee Nuclear/Lee Nuclear Station project.

The [REDACTED] listed in the National Register of Historic Places and is within the Area of Potential Effects for this project. Our office concurs with the assessment that the proposed railroad corridor reactivation will cause **no adverse effect** to the [REDACTED].

We do request that our office be notified immediately if archaeological materials are encountered during any construction activities associated with the railroad. Archaeological materials consist of any items, fifty years old or older, which were made or used by man. These items include, but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal and glass objects, and human skeletal materials.

These comments are provided by the State Historic Preservation Office pursuant to Section 106 of the National Historic Preservation Act, as amended. If you have questions, please contact me at (803) 896-6169 or dobrasko@scdah.state.sc.us.

Sincerely,

Rebekah Dobrasko

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State Historic Preservation Office