

**Additional Information Summarizing the  
William S. Lee\NRC Environmental Staff Site Visit  
Location: William S. Lee Site, Gaffney, SC  
May 9-10, 2007**

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As a result of the visit, the staff has identified the following issues or concerns:

1. Cooling water. The proposed closed-cycle Lee nuclear plants will require water withdrawal from the Broad River of approximately 25% of the 7Q10 flow (minimum 7-day flow for any period in the last 10 years). The onsite nuclear service water pond of the abandoned Cherokee station would provide about a 30-day water supply during low flow conditions. The NRC staff was not provided with a comprehensive water budget for the site. The water budget should include operation in normal conditions and during drought events. The frequency and duration of low flow periods had not yet been addressed. The cumulative impacts of planned water use at the Lee site on downstream users had not yet been addressed, including the potential impacts on existing and planned new units at the Summer Nuclear Plant. Flow in the Broad River can be influenced by the operation of upstream reservoirs located in North Carolina. Issues related to maintenance of flow in the Broad River during extended drought conditions had not yet been addressed; this is important in light of the State's oversight of aquatic resources.

The COL application is expected to address the interdisciplinary issues related to water use and quality. The details related to water use and quality need to be consistent among the various disciplines.

2. Ecological issues. There are still a number of unresolved siting issues related to the plant. Among these issues are the location and design of the station discharge into the Broad River below the Ninety-Nine Island Dam. This area appears to be ecologically sensitive and proper design and siting of this discharge may have aquatic ecological ramifications. The location of the station transmission corridors was unavailable during the staff's visit. The COL application is expected to address the potential ecological impacts due to the construction, operation, and maintenance the transmission system.

The potential impacts to wetlands located at the margins at the abandoned Cherokee Sedimentation Basin and Nuclear Service Water Pond, both of which are jurisdictional wetlands, are expected to be characterized in the ER. The applicant plans to use both of these water bodies for the Lee station. In addition, the potential impacts to wildlife and wetland vegetation inhabiting these water bodies are expected to be addressed during low water periods in the Broad River.

3. Incomplete assessments. Duke Energy intends to submit the COL application prior to finalizing several studies or decisions critical to the staff's assessment. Two documents related to the AP1000 design certification that may not be completed include a "dual unit topical report" that will describe security and projected dose to construction workers following startup of the first unit and an owner's group update of operating practices. Design of the radiation monitoring program would depend on the location and design of the discharge structure that, as stated in item 2 above, were not finalized at the time of the staff's visit. Additionally, a traffic

study of rural roads in the vicinity of the Lee site may not be completed before the application is submitted. Shortcomings of the current access road were acknowledged.

4. Alternative Sites. Duke Energy utilized a detailed site selection process, and has selected a set of alternative sites. Duke Energy was not inclined to reveal the locations of two of the alternative sites. The NRC staff would be given the site locations for its evaluation, but Duke Energy is expected to request that the exact locations would not be disclosed. This issue needs to be addressed to determine whether withholding such information is acceptable under NEPA, and if it is, how the staff should document the details of its analysis.

5. Need for Power. Duke has an integrated resource plan that has been approved by the State of North Carolina. The applicability of that plan, to the Lee site, which is in South Carolina, needs to be determined. The State of South Carolina has not passed judgement on the plan.

6. Cultural Resources. Duke representatives have interacted with the appropriate officials in the South Carolina Department of Archives and History to prepare for the consultation process under the National Historic Preservation Act. The State is interested in establishing an agreement with Duke governing land-disturbing activities. One or more of the alternative sites may be in North Carolina, necessitating more detailed discussions with counterparts in the neighboring State.

Based on its review of information during this visit, the staff believes that the main areas of difficulty the applicant is currently facing are (1) issues related to the adequacy and control of cooling water in the Broad River, and (2) the impacts of the undefined transmission line corridors, incomplete information such as the design and location of discharge structures, development of a radiological monitoring plan, evaluation of projected doses to Unit 2 construction workers, and completion of a study of rural roads. The latter issues can be addressed by the applicant through development of the associated information. However, the first issue requires interactions with the permitting authorities.

The current schedule for submittal of the application is toward the end of 2007. Based on this readiness assessment at this stage, the staff believes that the applicant is on target to meet the schedule that it provided to the NRC in response to RIS 2007-08 provided that the evaluation of the water budget for the cooling system demonstrates that the water supply is adequate and all supporting studies are completed prior to submission of the application.