

December 12, 2008

MEMO TO: William Burton, Branch Chief
Environmental Projects Branch 1
Division of Site and Environmental Reviews

MEMO FROM: Donald Palmrose, Project Manager /RA/
Environmental Projects Branch 1
Division of Site and Environmental Reviews

SUBJECT: SUMMARY OF THE ENVIRONMENTAL SITE AUDIT RELATED TO THE
REVIEW OF THE COMBINED LICENSE APPLICATION FOR SHEARON
HARRIS, UNITS 2 AND 3

On July 14 -18, 2008, the U.S. Nuclear Regulatory Commission (NRC) staff and their contractors from Pacific Northwest National Laboratory (PNNL) participated in an environmental site audit, related to the review of the combined license (COL) application submitted by Progress Energy Carolinas, Inc. (PEC). The primary goal of the site audit was to review documentation in the Environmental Report (ER) as part of the COL application, visit the proposed site and alternative site locations, and to interface with officials in state and federal government agencies.

This report provides a summary of the audit and site tour. Enclosure 1 is a list of agencies that participated in the environmental site tour and audit, and an itinerary of each day's activities. Enclosure 2 is the site audit report summarizing the main discipline area reviews. The additional information needs submitted to PEC prior to the site audit can be found in the NRC's Agency Documents Access and Management System (ADAMS), under accession number ML082130603 accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. Note that the Uniform Resource Locator (URL) is case-sensitive.

Monday, the team met at the Shearon Harris Energy and Environmental Center (HEEC). After a safety briefing and introductions, PEC personnel led NRC staff and other agency attendees on a tour of the existing Shearon Harris Nuclear Plant. The tour included stops at the existing water intake structure for Unit 1, including location of center points for the containment vessels and cooling towers for Units 2 and 3, and shoreline of Harris Reservoir. Some staff went on discipline-specific tours, such as a boat tour along the Harris Reservoir for the ecologist; meteorological towers; Buckhorn Dam and discharge location for hydrologists; and cultural site. The team continued with discipline area break-out sessions throughout the day.

CONTACT: Donald Palmrose, NRO/DSER/RAP1
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Tuesday, the team returned to the HEEC to review documentation referenced in the ER and discuss issues with the PEC staff. In the morning, PEC gave a presentation on the alternative site selection process for Shearon Harris Site. Also, North Carolina Department of Transportation presented a presentation on the Transportation Impact Analysis, which was followed by discipline area break-out sessions for the rest of the day. At the end of the day, NRC provided a quick summary to PEC of the day's progress for each discipline area.

Wednesday, the team returned to the HEEC to continue their document review and discussions. PEC gave a presentation on the current site permits and permitting plans for the proposed units. The team continued with discipline area break-out sessions throughout the day.

Thursday, the team wrapped up their discussions and reviews. NRC held a close-out meeting with PEC to summarize the week's activities, highlight issues raised during the audit, and to determine when documents would be provided to the staff. PEC committed to providing responses to the team's requests as soon as possible.

NRC staff participated in a Government-to-Government meeting June 9, 2008 during the Scoping Meeting for Shearon Harris COL. This meeting covered the NRC Environmental Scoping Process. During this meeting, the government officials had the opportunity to ask questions about the NRC National Environmental Policy Act process.

On August 19-25, 2008, PEC personnel led a small NRC and PNNL team on a tour of the three alternative sites. Those sites are Brunswick Nuclear Power Plant, located in Brunswick County, North Carolina; the H.B. Robinson Nuclear Power Plant, located in Darlington County, South Carolina; and a greenfield site located in Marion County, South Carolina.

If you have any questions or comments, please call me at (301) 415-3803 or via email at Donald.Palmrose@nrc.gov or Ms. Tomeka Terry at (301) 415-1488 or via email at Tomeka.Terry@nrc.gov.

Docket Nos.: 52-022 and 52-023

Enclosures: As stated

cc w/encl: See next page

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(Revised 09/19/2008)

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July 14-18, 2008**

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Jon Richards	U. S. Environmental Protection Agency
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SITE AUDIT DAILY ITINERARY

Monday, July 14, 2008

- 7:45 – 8:00 Arrival and Check-in
- 9:30 -10:00 Safety Briefing and Orientation
- 10:00 -12:00 General Site Tour
- 12:00 - 1:00 Lunch
- 1:00 - 3:00 Specialty Tours and Breakout Sessions
- 3:00 - 4:00 NRC Summary
- 4:00 - 5:00 NRC-PEC Debrief

Tuesday, July 15, 2008

- 7:45 – 8:00 Arrival and Check-in
- 8:00 - 8:30 Presentation on Site Selection Process
- 8:30 -12:00 Breakout Sessions
- 12:00 - 1:00 Lunch
- 1:00 - 3:00 Breakout Sessions
- 3:00 - 4:00 NRC Summary
- 4:00 - 5:00 NRC-PEC Debrief

Wednesday, July 16, 2008

- 7:45 – 8:00 Arrival and Check-in
- 8:00 -12:00 Breakout Sessions
- 12:00 - 1:00 Lunch
- 1:00 - 3:00 Breakout Sessions
- 3:00 - 4:00 NRC Summary
- 4:00 - 5:00 NRC-PEC Debrief

Thursday July 17, 2008

- 7:45 - 8:00 Arrival and Check-in
- 8:00 - 12:00 Breakout Session Follow-up
- 12:00 - 1:00 Lunch
- 1:00 - 3:00 Breakout Session Follow-up
- 3:00 - 4:00 NRC-PEC Close Out

Site Audit Trip Report
Shearon Harris Nuclear Plant COL, Units 2 and 3
(Progress Energy Carolinas, Inc)

July 14 -18, 2008

The U.S. Nuclear Regulatory Commission (NRC), and Pacific Northwest National Laboratory (PNNL) submitted a list of additional information needs prior to the site audit; Progress Energy Carolinas, Inc. (PEC) made many documents available during the audit in response to these requests. However, due to the volume of documents presented during the breakout sessions, NRC and PNNL reviewers required more time than was available to complete a thorough review of the applicant's documentation. PEC agreed at the closeout of the site audit to set up reading rooms in Richland, Washington, and near the NRC offices in Rockville, Maryland, for the staff to complete their reviews. The reading rooms have been made available and the document reviews are ongoing. Requests for additional information were issued on November 13, 2008.

SUMMARY OF TECHNICAL DISCUSSIONS AND ISSUES

The site proposed for the Shearon Harris Nuclear Plant, Units 2 and 3, is located in the southwestern corner of Wake County, North Carolina, with portions located in southeastern Chatham County. The City of Raleigh, North Carolina, is approximately 34.9 kilometers (km) (21.7 miles [mi]) northeast of the site, and the City of Sanford, North Carolina, is approximately 26.5 km (16.5 mi) southwest of the site. Also, it is located just northwest of the existing Shearon Harris Nuclear Power Plant on a peninsula that extends into Harris Reservoir.

Hydrology

Most of the hydrology issues were resolved at the site audit. Additional information is needed on several topics. This information will be provided by the applicant in the weeks following the audit or will form the basis for requests for additional information (RAIs) related to hydrology.

Aquatic Ecology

Aquatic ecology issues were resolved through discussions held during the audit and through the information PEC plans to provide in the weeks following the audit. This includes reviewing and anticipated docketing of the biological sampling results in the Cape Fear River near the proposed intake structure.

Terrestrial Ecology

Several issues and information needs were identified that are anticipated to be resolved for the most part through the PEC audit response. However, issues remain that may necessitate additional information that will be requested through RAI such as lack of ecological survey/review for transportation development and certain construction areas, noise impacts from blasting during construction, new bald eagle nest site identified during an ecology tour, no mitigation planning completed for relatively large acreage of wetland habitat to be destroyed through inundation and construction activities, and

ephemeral wetlands connected to the reservoir were incorrectly identified in the ER as being vernal pools.

Socioeconomics, Environmental Justices, Benefits and Costs, Land Use, and Transmission Lines

One open issue is the treatment of construction costs. Expectations regarding information needed to complete draft Environment Impact Statement include:

- Projected costs will be updated to reflect current information about capital cost; GIS coverages will be provided of the proposed transmission routing, Shearon Harris Units 2 and 3 structures, and the expected disturbed area at the site.
- Transportation impact study will be docketed to allow reference and citation in the draft EIS.

Need for Power/Alternatives

The information needs were generally addressed at the site audit, but there remain a few outstanding issues as follows:

- Circulating fluidized bed discussion in the ER will be adjusted to reflect pulverized coal plant at commensurate output levels. The impacts discussion also needs to be adjusted to reflect the change to a more reasonable power generation source.
- The lack of an identifiable process in the selection of candidate sites will be addressed by the applicant. A very clear process was established and used to quantitatively rank the candidate sites to determine the appropriate proposed site. However, the process of evaluating the ROI, candidate areas, and potential sites, was unclear. The process description must also address the systematic application of exclusionary and/or avoidance screening criteria as they pertain to sites that were dismissed.

Cultural Resources

The cultural resources information needs are anticipated to be provided in the weeks following the site audit through the PEC audit response package. Due to the length of time likely needed to obtain the information in some cases, the needs may be reiterated during the RAI process.

On July 17, 2008, NRC staff visited the State Historic Preservation Office (SHPO) to discuss potential issues and clarification of needs. The SHPO indicated that there was a positive relationship between them and PEC and that they are in concurrence with PEC plans to address cultural resources issues for the planned expansion at Harris.

Meteorology, Air Quality, and Accidents

The plume analysis in Section 5.3.3 references an old study performed in the applicant's 1983 FSAR. The NRC staff requested that the applicant performed a plume analysis and updated Section 5.3.3 in the environment report with the results. Also, no major issues remain associated with the design basis and severe accidents reviews.

Radiological, Fuel Cycle, Waste Systems, and Decommissioning

The information needs were resolved pending the receipt of calculations packages and references requested at the site audit via the PEC audit response package to address the questions raised. One concern was the use, or lack of use, of an Impoundment Model on Harris Reservoir. This affected the assumptions and exposure pathways analysis from Harris Reservoir.

Transportation

The transportation analysis report, revised to conform to NRC requirements, was requested as an information need during the site audit. NRC staff will review the report and determined if an RAI is needed.