Mr. James Scarola, Vice President
Shearon Harris Nuclear Power Plant
Carolina Power & Light Company
Post Office Box 165, Mail Code: Zone 1
New Hill, North Carolina 27562-0165

September 20, 1999

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING THE ALTERNATIVE PLAN FOR SPENT FUEL POOL COOLING AND CLEANUP SYSTEM PIPING - SHEARON HARRIS NUCLEAR POWER PLANT (TAC NO. MA4432)

Dear Mr. Scarola:

By letter dated April 30, 1999, you provided your response to a U. S. Nuclear Regulatory Commission (NRC) staff request for additional information (RAI) dated March 24, 1999. The RAI was related to your December 23, 1998, amendment request to increase the spent fuel storage capacity at the Harris Nuclear Plant by placing spent fuel pools C and D in service. Specifically, the RAI requested information on your proposed alternative plan to demonstrate compliance with American Society of Mechanical Engineers (ASME) Code requirements for the cooling and cleanup system piping in accordance with 10 CFR 50.55a(a)(3)(i).

In reviewing your RAI response, the NRC staff has determined that additional information is necessary to complete its review. The enclosed request for additional information was discussed with your staff during a teleconference on August 19,1999. The participants in the teleconference were Don Naujock, Ken Heck, and myself from the NRC, and Kevin Shaw, Jeff Lane, and Steve Edwards of your staff. A mutually agreeable target date of October 29, 1999, for your response was established. If circumstances result in the need to revise the target date, please call me at the earliest opportunity.

Sincerely,

Original signed by:

Richard J. Laufer, Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-400

Enclosure: As stated

cc w/encl: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 20, 1999

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Richard J. Laufer

Richard J. Laufer, Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-400

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cc w/encl: See next page

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Request for Additional Information
Proposed License Amendment: Spent Fuel Storage
Shearon Harris Nuclear Power Plant
Docket No. 50-400

1. Explain how the Metorex X-Met 880 Alloy Analyzer discriminates between the different standards that you used in your analysis described in Enclosure 4, "Metallurgy Unit Report for Spent Fuel Pool Weld Metal Composition analysis," of your April 30, 1999, RAI response. What are the chemical element ranges associated with the different standards that you used? What determines a match on a particular standard? What chemical elements are not included in the "Match" determination and how are these elements reconciled?

2. Provide assurance that the ferrite numbers are acceptable for A-No. 8 weld wire (ND-2433) used in welds with missing weld wire documentation.

3. Explain the chemical analysis in the Table associated with PQR 6(c), dated 11/15/84, page 2 of 2, laboratory test No. 9-2-149 described in Enclosure 6, "Lab Test Reports," of your April 30, 1999, RAI response. What row(s) are associated with the base material, weld, and standard(s)? What criteria were used to determine acceptability?

4. For the piping and welds examined internally, provide a discussion of the examination results. What inspection criteria are used for evaluating the piping and welds for corrosion and fouling? Describe the corrosion and fouling inspection procedure and inspection personnel qualification process. For the embedded welds not examined internally, describe what is preventing their examination. Discuss why the decision not to inspect all of the embedded welds will result in an acceptable level of quality and safety.

5. What are the chemical analyses for steel welds 2-CC-3-FW-207, 2-CC-3-FW-208, and 2-CC-3-FW-209?

6. Describe the paper trail that identifies a specific weld material to a specific weld on the isometric drawings, i.e., show that the weld material being verified with the Metorex X-Met 880 was specified for that location. Identify missing documentation that breaks the paper trail, if any.

7. Discuss the chemical analysis and any other analysis performed on the water in the fuel pool cooling and cleanup system (FPCCS) and component cooling water system (CCWS) for spent fuel pools (SFPs) C and D. Where did the water come from? Discuss any differences between the chemical analysis and the original water source. Provide the staff with a representative analysis of the water.

8. In Enclosure 8, "Hydrotest Records for Embedded Spent Fuel Pool Cooling Piping and Field Welds," of your April 30, 1999, RAI response, you provided signed hydrostatic test reports for 13 embedded welds. Starting with the signed hydrostatic test report, back track through procedures and program requirements to the point where the missing document(s) were verified as being complete. In other words, identify the specific procedural and program controls requiring verification of completion of the missing documentation (manufacturing/fabrication records, weld data records, updated isometric drawings, and inspections) starting backward from the hydrostatic test report.

9. Identify the concrete pouring procedure that requires checking for the welder symbol and a successful hydrostatic test before pouring.

10. Describe how the liner leak tests support weld integrity for welds 2-SF-8-FW-65 and 2-SF-8-FW-66 (Enclosure 3 of your response to NRC's RAI). For these two welds, back track through procedures and program requirements to the point where the missing documents were verified as being completed.

11. Describe precautions that were taken to protect system components (e.g., pumps, valves, heat exchangers, piping) from deleterious environmental effects during layup. Describe the layed up condition of the partially completed piping system and how this was determined. How would these layup conditions be different if it was known that SFPs C and D would be put in service later?

12. Why was visual inspection rather than ultrasonic inspection chosen to examine the integrity of the embedded welds?

13. Describe the post modification testing and other activities to be performed to ensure that the system(s) and components will satisfy all design requirements. Include description of hydrotests to verify the integrity of the system pressure boundaries, flushing to ensure unobstructed flow through system components, and preoperational functional testing under design flow/heat loads.