



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

June 18, 2010

Christopher Burton, Vice President  
Shearon Harris Nuclear Power Plant  
Carolina Power & Light Company  
Post Office Box 165, Mail Zone 1  
New Hill, North Carolina 27562-0165

SUBJECT: SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1 – SUPPLEMENTAL RESPONSE REGARDING GENERIC LETTER 2004-02, “POTENTIAL IMPACT OF DEBRIS BLOCKAGE ON EMERGENCY RECIRCULATION DURING DESIGN BASIS ACCIDENTS AT PRESSURIZED WATER REACTORS” (TAC NO. MC4688)

Dear Mr. Burton:

By letters dated February 28, 2008, March 28, 2008, January 27, 2009, and April 27, 2010, Carolina Power & Light Company (the licensee), now doing business as Progress Energy Carolinas, Inc. (PEC), submitted supplemental responses to Generic Letter (GL) 2004-02, “Potential Impact of Debris Blockage on Emergency Recirculation during Design Basis Accidents at Pressurized Water Reactors,” for the Shearon Harris Nuclear Power Plant, Unit 1 (HNP). The last two submittals were made in response to requests for additional information dated September 29, 2008, and December 30, 2009.

The U.S. Nuclear Regulatory Commission (NRC) staff reviewed the licensee’s submittals using a process that involved a detailed review by a team of 10 subject matter experts, with particular focus on the review areas described in the NRC’s *Content Guide for Generic Letter 2004-02 Supplemental Responses* (Agencywide Documents Access and Management System (ADAMS) Accession No. ML073110389). The review process also included a separate review of the submittal informed by inputs from the subject matter experts that focused on whether the licensee has demonstrated that the overall corrective actions for GL 2004-02 are adequate.

The NRC staff has no further questions for PEC at this time regarding the licensee’s planned methods for completion of the actions necessary to fully address GL 2004-02, as described in the supplemental response dated April 27, 2010. Because not all of the tests and evaluations described in the licensee’s responses to GL 2004-02 have been completed, the NRC staff understands (as communicated in an e-mail dated June 1, 2010; ADAMS Accession No. ML101610348) that the licensee plans to report the results of these activities to the NRC by January 31, 2011. Should the planned testing and evaluations indicate that any additional actions are needed to address GL 2004-02, the NRC staff expects that descriptions of planned actions and estimated completion dates would be provided by the same date.

C. Burton

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As PEC may be aware, the NRC has not yet issued a final safety evaluation (SE) regarding Westinghouse Commercial Atomic Power report WCAP-16793-NP, "Evaluation of Long-Term Cooling Considering Particulate, Fibrous, and Chemical Debris in the Recirculating Fluid." The NRC staff has reviewed the GL 2004-02 submittals for HNP and determined that the licensee currently intends to rely on the conclusions reached in WCAP-16793-NP. Assuming disposition of WCAP-16793-NP results in NRC staff issuance of an SE, the NRC intends to send a letter requesting that the licensee confirm whether it still intends to rely on the conclusions reached in WCAP-16793-NP for HNP.

In addition, the letter will likely request a response within 60 days describing: (1) the means the licensee used to determine the amount of debris that bypasses the emergency core cooling system strainer; (2) the fiber loading expected per fuel assembly for the cold-leg and hot-leg break scenarios based on information available as of the date of the letter; (3) the available head-loss margins with bases for the cold-leg and hot-leg break scenarios using the WCAP-16793-NP acceptance criteria; and (4) the licensee's planned actions for HNP should it exceed an acceptance criterion.

The NRC staff will notify licensees of the expected timeline for any necessary actions at the time the safety evaluation is issued, or will notify PEC regarding expectations for additional licensee actions should an SE not be issued. The NRC is not requesting any information from the licensee on this subject at this time.

If you have any further questions regarding this matter, please contact me at 301-415-3178.

Sincerely,

A handwritten signature in black ink, appearing to read "Marlayna Vaaler". The signature is fluid and cursive, written over a white background.

Marlayna Vaaler, Project Manager  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-400

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C. Burton

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Marlayna Vaaler, Project Manager  
Plant Licensing Branch II-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

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