

April 29, 2007

Mr. Bruce H. Hamilton
Vice President, Oconee Site
Duke Power Company LLC
7800 Rochester Highway
Seneca, SC 29672

SUBJECT: OCONEE NUCLEAR STATION, UNIT 1 - PRESSURIZER SURGE, SPRAY, SAFETY, AND RELIEF NOZZLE WELD SUSCEPTIBILITY TO PRIMARY WATER STRESS CORROSION CRACKING (TAC NO. MD4165)

Dear Mr. Hamilton:

This letter acknowledges the receipt of information from Duke Power Company LLC, d/b/a Duke Energy Carolinas, LLC (Duke), pertaining to the pressurizer surge, spray, safety, and relief nozzle and safe end welds at Oconee Nuclear Station, Unit 1.

The discovery, in October 2006, of five circumferential indications in three Alloy 82/182 dissimilar metal (DM) welds on the pressurizer at the Wolf Creek Generating Station (Wolf Creek) raised safety concerns based on the size and location of the indications. At Wolf Creek, three indications were in the pressurizer surge nozzle-to-safe end weld, and two separate indications were in the safety and relief nozzle-to-safe end welds. These findings also indicated that significant concerns might exist with the inspection schedules for addressing the pressurizer weld concerns issued by the industry-sponsored Materials Reliability Program (MRP), in "Primary System Piping Butt Weld Inspection and Evaluation Guideline (MRP-139)."

The Nuclear Regulatory Commission (NRC) is concerned about the pressurizer surge nozzle-to-safe end weld indications, as this is the first time that multiple circumferential primary water stress-corrosion cracking (PWSCC) indications have been identified in a weld. This condition calls into question the degree of safety margin present in past structural integrity evaluations for flawed DM welds susceptible to PWSCC, since multiple stress-corrosion cracking flaws may grow independently and ultimately grow together, significantly reducing the time from flaw initiation to leakage or rupture.

Based on discussions with the NRC staff, licensees of plants susceptible to this condition have committed to enhanced inspection frequency and reactor coolant system RCS leakage monitoring until actions to mitigate the potential of PWSCC in the affected welds have been completed.

B. Hamilton

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In your letter dated January 31, 2007 (Agencywide Documents Access and Management System Accession Number ML070390049), you stated that the pressurizer surge, spray, safety, and relief nozzle and safe end welds containing Alloy 82/182 material have been mitigated through application of full structural weld overlay at Oconee Nuclear Station, Unit 1. As a result, your response adequately addresses the concerns that the NRC has at this time regarding PWSCC susceptibility of these welds.

This completes the NRC staff efforts on TAC No. MD4165 for the review associated with this issue. If you have any questions regarding this matter, please contact the Oconee Nuclear Station Project Manager, Leonard N. Olshan at 301-415-1419.

Sincerely,

/RA/

Catherine Haney, Director
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-269

cc: See next page

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Catherine Haney, Director
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Oconee Nuclear Station, Units 1, 2, and 3

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