

April 18, 2007

Mr. Timothy G. Mitchell
Vice President, Operations
Arkansas Nuclear One
Entergy Operations, Inc.
1448 SR 333
Russellville, AR 72802

SUBJECT: ARKANSAS NUCLEAR ONE, UNIT 2 - PRESSURIZER SURGE, SPRAY,
SAFETY, AND RELIEF NOZZLE WELD SUSCEPTIBILITY TO PRIMARY
WATER STRESS-CORROSION CRACKING (TAC NO. MD4131)

Dear Mr. Mitchell:

This letter acknowledges the receipt of information from Entergy Operations, Inc. (Entergy) pertaining to the pressurizer surge, spray, safety, and relief nozzle and safe end welds at Arkansas Nuclear One, Unit 2 (ANO-2).

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 leakage monitoring until actions to mitigate the potential of PWSCC in the affected welds have been completed.

T. Mitchell

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In your letter dated January 31, 2007 (Agencywide Documents Access and Management System Accession Number ML070370414), you stated that you replaced the pressurizer during the fall 2006 refueling outage (2R18) with one manufactured of materials resistant to PWSCC at ANO-2. 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. MD4131 for the review associated with this issue. If you have any questions regarding this matter, please contact the ANO-2 Project Manager, Farideh Saba, at (301) 415-1447.

Sincerely,

/RA/

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

Docket No. 50-368

cc: See next page

T. Mitchell

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