

April 18, 2007

Mr. David A. Christian  
Senior Vice President  
and Chief Nuclear Officer  
Virginia Electric and Power Company  
Innsbrook Technical Center  
5000 Dominion Boulevard  
Glen Allen, VA 23060-6711

SUBJECT: SURRY POWER STATION, UNIT NOS. 1 AND 2 - PRESSURIZER SURGE,  
SPRAY, SAFETY, AND RELIEF NOZZLE WELD SUSCEPTIBILITY TO  
PRIMARY WATER STRESS CORROSION CRACKING (TAC NOS. MD4189  
AND MD4190)

Dear Mr. Christian:

This letter acknowledges the receipt of information from Virginia Electric and Power Company (Dominion) pertaining to the pressurizer surge, spray, safety, and relief nozzle and safe end welds at Surry Power Station, Unit Nos. 1 and 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.

D. Christian

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In your letter dated February 12, 2007 (Agencywide Documents Access & Management System (ADAMS) Accession Number ML070440188), you stated that the pressurizer spray, surge, safety and relief nozzles at Surry Power Station, Unit Nos. 1 and 2, do not have Alloy 82/182 butt welds. As a result, your response adequately addresses the concerns that the NRC has at this time regarding PWSCC susceptibility of these welds.

Sincerely,

***/RA/***

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

Docket Nos. 50-280 and 50-281

License Nos. DPR-32 and DPR-37

cc: See next page

D. Christian

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Surry Power Station, Units 1 & 2

cc:

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