



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

June 15, 2009

Mr. David A. Heacock
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 2 – REQUEST FOR ADDITIONAL
INFORMATION REGARDING THE 2008 STEAM GENERATOR INSPECTIONS
(TAC NO. ME0165)

Dear Mr. Heacock:

By letter dated November 14, 2008, Virginia Electric and Power Company (the licensee) submitted steam generator (SG) tube inspection results from the 2008 inspections at Surry Power Station Unit 2 (SPS Unit 2). By letter dated June 10, 2008, the U.S. Nuclear Regulatory Commission (NRC) staff documented a conference call between the NRC staff and SPS Unit 2 representatives on May 5, 2008.

The NRC staff has reviewed the information the licensee provided and determined that additional information is required in order to complete the evaluation. The requested additional information is enclosed. Please provide a response within 30 days.

Sincerely,

A handwritten signature in black ink that reads "John Stang".

John Stang, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-281

Enclosure:
RAI

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REQUEST FOR ADDITIONAL INFORMATION

2008 STEAM GENERATOR INSPECTIONS

SURRY POWER STATION UNIT 2

DOCKET NO: 50-281

By letter dated November 14, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML090060111), Dominion (the licensee) submitted steam generator (SG) tube inspection results from the 2008 inspections at Surry Power Station Unit 2 (SPS Unit 2). By letter dated June 10, 2008 (ADAMS Accession No. ML081490152), the U.S. Nuclear Regulatory Commission (NRC) documented a conference call between NRC staff and SPS Unit 2 representatives on May 5, 2008. In order to complete its review of the documents listed above, the NRC staff needs the following additional information.

1. For each refueling outage and steam generator (SG) tube inspection, including mid-cycle inspections, since the spring 2002 outage, please provide the effective full power months of operation that the SGs accumulated.
2. The scope section of the November 14, 2008, letter indicates that all tubes which were either not expanded or only partially expanded into the tubesheet would be examined with a +Point™ probe, in SGs B and C. Please discuss how many tubes fall into each category, the extent of any partial expansions, and the results of the inspections.
3. You provided responses to an NRC staff request for additional information in a letter dated August 10, 2007 (ADAMS Accession No. ML072280196), regarding inspections performed in your 2006 refueling outages for SPS Unit 1. Responses 7 and 11 indicated that inspection of the bottom 2 inches of SG hot-leg tubes was not necessary because, based on SPS on Unit 2 lower operating hot-leg temperature, the expected time to develop cracking had not been reached and would not be reached before the 2008 refueling outage. In the fall of 2007, cracking in this region was found in hot-leg and cold-leg SG tubes at Catawba Nuclear Station, Unit 2 (NRC Information Notice 2008-07, ADAMS Accession No. ML080040353). Given the challenge in accurately predicting the onset of cracking and the finding of cold-leg cracking at Catawba, please provide a technical basis for not performing any inspections in the cold-leg tube ends during your 2008 refueling outage.
4. The scope section of the November 14, 2008, letter states that during the 100 percent bobbin program "all tubes" were evaluated for the U-bend offset signal and that no offset signals were noted. However, on page 10 of the same letter, it was indicated that no precursor signals (e.g., Distorted Support Signals) were found in tubes identified as potentially having an elevated residual stress condition. Since the eddy current offset is normally attributed to an elevated residual stress condition in the tube, please clarify the number of tubes with the elevated residual stress condition. Please include in the response how many of these tubes are in low rows (i.e., stress relieved) and high rows.
5. Page 3 of the November 14, 2008, letter indicates that the secondary side inspections did not identify any component degradation that would compromise tube integrity. Please

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discuss degraded conditions found on the secondary side of the SGs, such as erosion of the J-tubes, and the deposit loading at the support plates.

6. Regarding the fourth bullet on page 10 of the November 14, 2008, letter:
 - a. The statement is made that no foreign objects were found among the tubes with volumetric indications and their neighboring tubes. However, both the text and Table 6 on page 8 indicated that three tubes in SG C were plugged and stabilized due to foreign object wear and the inability to remove the object causing the wear. In addition, page 3 indicated that seven foreign objects (possible loose parts (PLPs)) were confirmed by eddy current in SGs B and C. Please clarify the following:
 - i. How the seven foreign objects noted on page 3 were initially detected and then verified, since possible loose parts are usually identified from the eddy current data and then confirmed visually.
 - ii. Whether PLPs from the eddy current data were inspected visually to determine if a part was present. If the region associated with a PLP was not inspected, please discuss how these tubes were dispositioned.
 - iii. Whether all detected loose parts/foreign objects were removed from the SG, and if not removed, whether an analysis was performed confirming tube integrity would be maintained until the next inspection.
 - b. A 32 percent through-wall volumetric indication is listed as the largest indication, yet this indication does not appear in Table 4 or 5 on page 7. Please clarify.
7. Tables 2 and 3 of the November 14, 2008, letter contain depth measurements in a column labeled 2003; however, Note A of Tables 2 and 3 states, "Not reported in 2005 - used 10% as default depth." Please clarify the years referenced in the column headers and in the "Note 'A's." In addition, please clarify why year 2000 datum was reported for the tube in row 44 column 61.
8. Page 14 of the November 14, 2008, letter indicates that, "The accident condition leak rate from cracks in the tubesheet is limited to the operating leakage times 2.5 or less." Please confirm that the intent of this sentence is the same as, "The accident condition leak rate from cracks in the tubesheet is limited to 2.5 times the operating leak rate from cracks in the tubesheet."

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/RA/

John Stang, Project Manager
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ADAMS Accession No. ML091540596

*by memo dated NRR-088

OFFICE	DORL/LPL2-1/PM	DORL/LPL2-1/PM	DORL/LPL2-1/LA	NRR/CSGB/BC	DORL/LPL2-1/BC
NAME	KCotton	JStang	MO'Brien w/changes	MGavrilas*	MWong
DATE	6/10/09	6/15/09	6/10/09	5/28/09	6/15/09

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