VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

10 CFR 50.55a(a)(3)(ii)

May 8, 2009

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. 09-306A
NLOS/GDM R0
Docket Nos. 50-280
License Nos. DPR-32

**VIRGINIA ELECTRIC AND POWER COMPANY**
**SURRY POWER STATION UNIT 1**
**ASME SECTION XI INSERVICE INSPECTION PROGRAM**
**PROPOSED ALTERNATIVE TO CODE REQUIREMENTS - SPT-008**
**REQUEST FOR ADDITIONAL INFORMATION**

By letter dated May 8, 2009 (Serial No. 09-306), Virginia Electric and Power Company (Dominion) requested authorization of Alternative Request SPT-008 for Surry Power Station Unit 1 for the fourth 10-year inservice inspection interval. Alternative Request SPT-008 was submitted in accordance with 10 CFR 50.55a(a)(3)(ii) and was associated with a Service Water (SW) System piping weld repair and the post-maintenance testing required by the ASME Code. Specifically, testing required by ASME Section XI for the repaired SW piping would require flowing SW to two Recirculation Spray Heat Exchangers (RSHXs), which are required to be maintained clean and dry during normal operation. Flowing the RSHXs would require subsequent heat exchanger disassembly, cleaning, draining and reassembly, which would result in significant hardship without a compensating increase in the level of quality and safety.

A conference call with the NRC staff was held on May 8, 2009, to discuss the proposed alternative, and, as a result of the call, the NRC requested additional information from Dominion to perform their review. The requested information has been prepared and is included in the attachment to facilitate NRC review of Alternative Request SPT-008.

If you have any questions or require additional information, please contact Mr. Gary D. Miller at (804) 273-2771.

Very truly yours,

J. Alan Price
Vice President – Nuclear Engineering

Commitments made in this letter: None

Attachment

- Response to NRC Request for Additional Information, Alternative Request SPT-008, Surry Unit 1

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**Attachment**

# Response to NRC Request for Additional Information
# Alternative Request SPT-008
# Surry Unit 1

**Virginia Electric and Power Company**
**(Dominion)**
**Surry Power Station**

**Response to NRC request for Additional Information**
**Alternative Request SPT-008**
**Surry Power Station Unit 1**

A conference call with the NRC staff was held on May 8, 2009, to discuss Alternative Request SPT-008. As a result of the call, the NRC requested additional information from Dominion to perform their review. The requested information has been prepared and is provided below.

## NRC Question No. 1

*Delineate the specific ASME Code requirements from which Dominion is seeking relief.*

## Dominion Response

10 CFR 50.55a(a)(3) allows alternatives to the requirements of 10 CFR 50.55a(g), which requires Surry Unit 1 to comply with the 1998 Edition through the 2000 Addenda of ASME Section XI during the fourth inservice inspection interval. The alternative being requested applies to two ASME Section XI requirements as follows:

a) IWA-4540(a)(1), "A system hydrostatic test shall be performed in accordance with IWA-5000 prior to, or as part of returning to service."

b) IWA-5244(b), "For buried components where a VT-2 visual examination cannot be performed, the examination requirement is satisfied by the following:

(1) The system pressure test for buried components that are isolable by means of valves shall consist of a test that determines the rate of pressure loss. Alternatively, the test may determine the change in flow between the ends of the buried components. The acceptable rate of pressure loss or flow shall be established by the Owner.

(2) The system pressure test for nonisolable buried components shall consist of a test to confirm that flow during operation is not impaired.

(3) Test personnel need not be qualified for VT-2 visual examination."

Dominion has provided an alternative per 10 CFR 50.55a(a)(3)(ii) to the hydrostatic test requirements of IWA-4540(a)(1) and the visual VT-2 examination requirements of IWA-5244(b) as described in the above Code paragraphs. The proposed alternative supports the conclusion that the code requirements are a hardship without a compensating increase in the level of quality and safety.

**NRC Question No. 2**

*Regarding the specified hardship associated with flowing SW to the RSHXs, specifically identify the number of personnel and time required to perform the work activities that would be required to return the RSHXs to a clean and dry condition following a flow test, the approximate percentage of the work activities that would have to be performed in the containment, and whether dose estimates are for the general area or contact.*

**Dominion Response**

Flowing the RSHXs to satisfy the pressure test requirements would result in the following activities, which, based on previous outages, would take approximately 96 hours to complete:

- Blowdown of piping and heat exchanger
- Tagout of RSHXs
- Installation of scaffolding
- Removal of both endbells
- Clean and flushing of RSHX tubes
- Re-installation of endbells
- Removal of scaffolding
- Pressure test the piping and RSHXs to ensure integrity of the closed system, and
- Re-fill SW lines to RSHX inlet valves with demineralized water.

The RSHXs are located in the containment basement where a majority of this work would occur. It was estimated that 90% of the work activities would be performed inside the containment basement, which has a general area dose rate in the vicinity of the RSHXs of approximately 25 mR per hour.

An average of eight (8) craft personnel would be needed to complete the work per RSHX.

**NRC Question No. 3**

*Provide hardship discussion regarding why a vacuum box was not/could not be used for local testing of the weld repair area. In addition, identify the number of personnel and the time required, etc. to implement the vacuum box at this time.*

**Dominion Response**

During the late afternoon of Wednesday, May 6, 2009, Engineering management and Station Licensing met to discuss the options available for performing code required testing for the SW piping weld repair. Station personnel were subsequently informed by Corporate Engineering personnel that there was the potential to utilize IWA-2240, which

allows for alternative examination methods provided the Authorized Nuclear Inservice Inspector is satisfied that the results are demonstrated to be equivalent or superior to those of the specified method. Engineering caucused to determine if a local leak rate test was possible that met the intent of the code. At approximately 1900 hours on May 6th, 2009, it was identified that a local leak rate test was potentially feasible at the weld repair area internal to the pipe. To perform such a local leak rate test, a test rig would have to be fabricated and a procedure written to perform the test. It was estimated that it would take at least eight hours to complete the test preparation activities. However, based upon a deficiency in the work order package (i.e., a required code pressure test for a through-wall leak was not identified as being required in the work order), Operations was already in the process of returning the line to service, which resulted in this testing option no longer being practical. A Condition Report was entered into Corrective Action System to address the identified work order deficiency.

To attempt a local leak rate test internal to the pipe at this time, the "C" CW line would have to have been removed from service. Activities required to support that effort would be as follows:

- Installation of three separate tagouts, which are coordinated with the installation of the stop logs and the installation of a blank at the CW inlet
- Dewatering of the high level intake bay and draining of the 48 inch and 30 inch SW lines
- Establishment of Foreign Material Exclusion (FME) controls
- Removal of blanks to access the piping
- Establishment of an environment to conduct the test
- Installation of lighting for personnel
- Removal of coating at the weld repair area
- Local leak rate testing at the weld repair area
- Re-installation of the permanent coating, which requires a cure time of at least 24 hours
- Removal of lighting
- FME closeout
- Re-installation of blanks
- Removal of the three tagouts, which is coordinated with removal of the blank, and stop logs.

These activities would be performed sequentially and would be performed at the High Level Intake Structure and the Unit 1 Turbine Building basement. No dose would be obtained by these personnel since the areas are located outside of the Radiological Controlled Area. Based on previous work activity durations involving similar work on the CW lines, it is estimated that it would take at least 7 days and 2 hours to accomplish these activities.