

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

10 CFR 50.55a

May 19, 2015

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


Serial No. 15-245
NAPS/JHL R0
Docket No. 50-338
License No. NPF-4

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
NORTH ANNA POWER STATION UNIT 1
ASME SECTION XI INSERVICE INSPECTION PROGRAM
PROPOSED INSERVICE INSPECTION ALTERNATIVE N1-I4-SPT-006

In accordance with 10 CFR 50.55a(a)(3)(ii), Dominion hereby requests Nuclear Regulatory Commission (NRC) approval of proposed inservice inspection (ISI) alternative N1-I4-SPT-006. The reactor coolant pressure boundary pipe segment described in this request is a portion of the auxiliary pressurizer spray line, which is not normally pressurized. This alternative would allow an ASME Section XI, Table IWB-2500-1 and IWB-5221 system leakage test, with isolation valve 1-CH-HCV-1311 in the normally closed position, as an alternative to the system leakage test requirements of IWB-5222(b) for this piping segment. The request for alternative N1-I4-SPT-006 is provided in Attachment 1.

Dominion requests approval of the proposed alternative by May 31, 2016. If you have any questions, please contact Mr. Jay Leberstien at (540) 894-2574.

Sincerely,



Mark Sartain
Vice President Nuclear Engineering

This letter contains no NRC commitments.

Attachment

1. Proposed Inservice Inspection Alternative - N1-I4-SPT-006 in Accordance with 10 CFR 50.55a(a)(3)(ii)

A047
NLR

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Attachment 1

Proposed Inservice Inspection Alternative N1-I4-SPT-006

In Accordance with 10 CFR 50.55a(a)(3)(ii)

**Virginia Electric and Power Company (Dominion)
North Anna Power Station Unit 1**

REQUEST FOR ALTERNATIVE N1-I4-SPT-006

Proposed Alternative in Accordance with 10 CFR 50.55a(a)(3)(ii)

-Hardship or Unusual Difficulty without Compensating Increase in Level of Quality or Safety-

1. ASME CODE COMPONENTS AFFECTED

The Code component associated with this request is the Class 1 Nominal Pipe Size (NPS) 2" Auxiliary Spray Piping, which is part of the extended Class 1 Reactor Coolant Pressure Boundary (RCPB) that requires pressurization once each 10-year inspection interval.

1.1 Category and System Details:

Code Class:	Class 1
System:	Chemical and Volume Control System
Examination Category:	B-P
Item Number:	B15.10

1.2 Component Descriptions:

NPS 2" Auxiliary Spray Piping
Segment Boundary (valve-to-valve) from 1-CH-HCV-1311 to 1-CH-328
Approximate length - 100 feet
Drawing: 11715-CBM-095C-4, Sheet 1 of 2

2. APPLICABLE CODE EDITION AND ADDENDA

ASME Section XI, 2004 Edition

3. APPLICABLE CODE REQUIREMENTS

IWB-5222(b) states, "The pressure retaining boundary during the system leakage test conducted at or near the end of each inspection interval shall extend to all Class 1 pressure retaining components within the system boundary." IWB-5221(a) states, "The system leakage test shall be conducted at a pressure not less than the pressure corresponding to 100% rated reactor power." The paragraphs require pressurization at reactor coolant system nominal operating pressure for this portion of the extended Class 1 boundary at or near the end of the interval.

4. REASON FOR REQUEST

Pressurizer pressure is maintained via normal pressurizer spray, which uses the Reactor Coolant Pumps (RCP). Normal pressurizer spray is controlled by the pressurizer Pressure Control System which automatically controls the pressurizer environment. The primary purpose of the auxiliary spray line is for pressure control when the RCPs are not running (i.e., during a post accident condition when it is desired to decrease Reactor Coolant System (RCS) pressure). Operation of the auxiliary spray line at hot standby or power would lead to an unnecessary plant transient. To meet Code requirements, the normally closed upstream isolation valve 1-CH-HCV-1311 must be opened to pressurize the subject pipe segment. Water in this line is supplied from the Charging System which operates at a pressure slightly greater than the RCS normal operating pressure. Therefore, opening of valve 1-CH-HCV-1311 at hot standby or power would increase pressurizer spray flow which will cause an adverse reduction in RCS pressure. In addition, this piping segment is at containment ambient temperature and with the RCS at normal operating temperature, this test would create a thermal shock transient in the spray piping and spray nozzle.

5. PROPOSED ALTERNATIVES AND BASIS FOR USE

The RCPB pipe segment described in this request is a portion of the auxiliary pressurizer spray line, which is not normally pressurized. This request proposes to perform an ASME Code Section XI, Table IWB-2500-1 and IWB-5221 system leakage test with the isolation valve 1-CH-HCV-1311 in the normally closed position as an alternative to the system leakage test requirements of IWB-5222(b) for this piping segment. This examination will be performed at nominal operating pressure associated with 100% reactor power after satisfying the ASME Code required hold time.

Testing of this piping segment at full RCS operating pressure does not provide a compensating increase in the level of quality or safety for the following reasons:

1. The design pressure rating of this piping segment is the same as the RCPB; however, the operating pressure of the piping segment is well below the normal RCS operating pressure.
2. This segment is isolated from the RCS pressure under normal operating conditions.
3. This segment is subject to ASME Code required VT-2 visual examination. This examination is performed with the segment isolated from the RCS and the RCS at its normal operating pressure and temperature. This examination is performed each refueling outage and is sufficient to identify any structural defects that could potentially challenge the integrity of the segment during normal operation.

Dominion has determined that compliance with the system leakage test requirements of IWB-5222(b) for this piping segment for North Anna Power Station Unit 1 results in an unnecessary hardship and adverse impact to plant equipment without a sufficient compensating increase in the level of quality and safety. Therefore, Dominion requests approval of this alternative pursuant to the provisions of 10 CFR 50.55a(a)(3)(ii).

6. DURATION OF PROPOSED ALTERNATIVE

The proposed alternative to the ASME Code is applicable for the fourth 10-year Interval at NAPS Unit 1.

7. PRECEDENTS

Similar alternatives to the test requirements of Section XI have been approved for Kewaunee Power Station, Indian Point Units 2 and 3, Millstone Power Station Units 2 and 3, and North Anna Power Station Unit 2. Information for the precedents cited are provided below.

1. Kewaunee Power Station, dated February 18, 2005 (ADAMS Accession No. ML050350225).
2. Indian Point Generating Units 2 and 3, dated December 7, 2005 (ADAMS Accession No. ML053110525).
3. Millstone Power Station Unit 3, dated September 27, 2007 (ADAMS Accession No. ML072620318).
4. North Anna Power Station Unit 2, dated November 2, 2010 (ADAMS Accession No. ML102510218).
5. Millstone Power Station Unit 2, dated July 27, 2011 (ADAMS Accession No. ML111881029).