VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

April 30, 2002

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. 02-278
NL&OS/ETS R0
Docket No. 50-339
License No. NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNIT 2
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
THIRD INSPECTION INTERVAL ISI PROGRAM
RELIEF REQUESTS SPT-001, 003 AND 004

In a letter dated June 13, 2001 (Serial No. 01-328), Virginia Electric and Power Company (Dominion) submitted the inservice inspection (ISI) program for the Third Inspection Interval for North Anna Unit 2, including the associated relief requests.

In April 11 and 25, 2002 telephone conference calls with the NRC Staff regarding the ISI program and associated relief requests, additional clarifying information was requested regarding remote visual inspection of the Reactor Coolant System and the required examination following the discovery of leakage at a bolted connection. The clarifying information is provided in the attachment to this letter as revised Relief Requests SPT-001 and SPT-003.

In our letter dated December 12, 2001 (Serial No. 01-328B), which provided additional information regarding the third interval program and associated relief requests, an incorrect code case was referenced in our response to relief request SPT-004. The correct Code Case is N498-1, which will be followed for system pressure testing of Class III components.

If you have any questions or require additional information, please contact us.

Very truly yours,

Leslie N. Hartz
Vice President – Nuclear Engineering

Commitments made in this letter: None

Attachment

A047

cc: U.S. Nuclear Regulatory Commission
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Mr. M. M. Grace
Authorized Nuclear Inspector
North Anna Power Station

Request for Additional Information
North Anna Power Station Unit 2
Third Inspection Interval Program

North Anna Power Station Unit 2
Virginia Electric and Power Company
(Dominion)

RELIEF REQUEST SPT-003 Revision 1

I. IDENTIFICATION OF COMPONENTS

Pressure retaining bolted connections within the scope of ASME Section XI.

II. CODE REQUIREMENTS

Section XI 1995 Edition with addenda up to and including the 1996 Addenda, paragraph IWA-5250(a)(2) requires, in part, that "if leakage occurs at a bolted connection on other than a gaseous system, one of the bolts shall be removed, VT-3 examined, and evaluated in accordance with IWA-3100."

III. BASIS FOR PROPOSED ALTERNATIVE

Section XI requires the bolting to be removed and evaluated even if sufficient evidence exists to support the conclusion that the involved bolting has not been harmed by the leakage. Such factors as the age of the bolts or the susceptibility of the bolting material to corrosion by the leaking liquid may not be used to justify leaving bolting material in service without further examination. Code Case N-566-1, "Corrective Action for Leakage Identified at Bolted Connections," dated February 15, 1999, used in lieu of the Section XI requirements would allow greater flexibility and prudent decision making. Leaking conditions at a bolted connection may be an important factor in the degradation of bolting. However, the removal of bolting unnecessarily may result in damage to sound bolting, the exposure of personnel to radiation, and the expenditure of resources for no gain in safety. Code Case N-566-1 provides a basis for determining the acceptability of bolting based upon several factors including material, leaking medium, duration of the leak, general corrosion of the connection and the impact of such leakage on the system. An evaluation to determine the need to remove a bolt for examination prior to any action to remove the bolting is required by Code Case N-566-1. This is an alternative to the requirements of Section XI that provides an acceptable level of quality and safety.

A relief request to use Code Case N-566-1 was approved for North Anna Unit 1 for that unit's third interval inspection ISI Program by letter dated April 25, 2000, under TAC NO. MA5750.

IV. ALTERNATE PROVISIONS

NAPS 2 requests approval in accordance with 10 CFR 50.55a(a)(3)(i) to use Code Case N-566-1, "Corrective Action for Leakage Identified at Bolted Connections," dated February 15, 1999, as part of its third inspection interval. If the evaluation determines that examination is required, a VT-1 examination will be performed on the removed bolting in lieu of the Code required VT-3 examination.

RELIEF REQUEST SPT-001 Revision 2

I. IDENTIFICATION OF COMPONENTS

Class 1 pressure retaining components.

II. CODE REQUIREMENTS

The Code requirements from which relief is requested are contained in Section XI, 1995 Edition with addenda up to and including the 1996 Addenda as follows:

1) Table IWB-2500-1, Category B-P requires that all Class 1 pressure retaining components receive a system leakage test each refueling outage. Note (2) of the table states "The system leakage test (IWB-5220) shall be conducted prior to plant startup following each reactor refueling outage."

2) IWB-5220 (a) requires, "The system leakage test shall be conducted at a pressure not less than nominal operating pressure associated with normal system operation."

3) IWA-2212 (b) by reference to Table IWA-2210-1 requires the "maximum examination distance (*as allowed by Table IWA-2210-1*) shall apply to the distance from the eye to the surfaces being examined." The maximum distance allowed by Table IWA-2210-1 is six feet.

III. BASIS FOR RELIEF

NAPS 2 is designed with a subatmospheric containment. The Class 1 system leakage test is performed during Mode 3. The plant's Technical Specifications require the subatmospheric conditions to exist when the plant is in Mode 3. The subatmospheric requirements create conditions that require the use of self-contained breathing apparatus (SCBA) with full-face respirators by anyone required to be in the containment.

The VT-2 visual examination procedure has been demonstrated using no visual aids to a distance of nine feet nine inches using a visual card that complies with the 1995 Edition, 1996 Addenda of the ASME Code. We have evaluated additional remote monitoring equipment and determined they are not practical for inspectors wearing full-face respirators and SCBA. The use of binoculars or a telescope is not feasible due to not being able to place the eyepiece directly to the inspector's eye.

In order to perform direct examination within the maximum distance requirements of IWA-2212 (b) it will be necessary to leave scaffolding in place to be able to access, within six feet, all surfaces that require examination. The use of scaffolding would only be allowed in containment during Mode 3 if it has been designed and erected to withstand the design seismic event without causing damage to safety related equipment. The design of the scaffolding, installation at the end of one outage, and then disassembly at the beginning of the next refueling outage only to start the installation process over at the end of that outage is impractical. To leave the scaffolding in place until the Class 1 system leakage test is completed and then remove it before proceeding with startup is also impractical. Because of the subatmospheric containment, it would be necessary to either bring the unit back to Cold Shutdown, Mode 5 or attempt to remove the scaffolding using self-contained breathing apparatus, which would be an unreasonable burden for the personnel involved.

ASME Code Interpretation XI-1-98-06 is consistent with this relief request. XI-1-98-06 states:

> Subject: IWA-2210, IWA-2212, and IWA-5240; VT-2 Visual Examination Requirements (1992 Edition Through the 1995 Edition with the 1997 Addenda), Date Issued: January 16, 1998, File: IN97-034
>
> Question (1): Is it a requirement of IWA-2212(b) and Table IWA-2210-1 that all VT-2 examinations be conducted by direct examination?
> Reply (1): No
>
> Question (2): When items subject to VT-2 examinations are inaccessible for direct examination because the distance requirement is exceeded, does IWA-2210 require a remote examination be performed?
> Reply (2): No. Alternatives are described in IWA-5241 and IWA-5242
>
> Question (3): When performing a VT-2 visual examination on surrounding areas (including floor areas or equipment surfaces) per IWA-5241 (b) or IWA-5242(b), do the requirements of Table IWA-2210-1 apply to the surrounding area rather than the actual component?
> Reply (3): Yes

IV. ALTERNATE PROVISIONS

NAPS 2 requests approval in accordance with 10CFR50.55a(a)(3)(ii) to perform the Class 1 system leakage test without the erection of temporary scaffolding to satisfy the examination requirements of Table-2210-1. As an alternative, existing permanent structures, platforms or ladders will be used to the extent practical to gain access to the surface to be examined. The required visual examination will be performed from the access afforded by these structures, ladders or platforms to the extent practical. Any examination surface that cannot be accessed per the requirements of Table-2210-1 or to the maximum qualified distance will be considered "inaccessible". As such the surrounding area (including floor areas or equipment surfaces located underneath the inaccessible components) will be examined for leakage as required by IWA-5241 (b) or IWA-5242 (b).