

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

May 24, 1994

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

Serial No. 94-274  
NL&P/EJW  
Docket No. 50-339  
License No. NPF-7

Gentlemen:

**VIRGINIA ELECTRIC AND POWER COMPANY**  
**NORTH ANNA POWER STATION UNIT 2**  
**SECOND TEN-YEAR INTERVAL INSERVICE INSPECTION PROGRAM**  
**REVISION 3**

North Anna Unit 2 is presently in the second period of the second ten-year interval. North Anna Unit 2 examinations have been conducted to the requirements of the 1986 Edition of ASME Section XI.

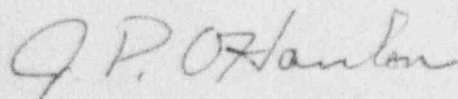
The first period of the second interval ended on December 14, 1993. The North Anna Unit 2 Inservice Inspection (ISI) Program has been revised requiring changes to be submitted following completion of the first period. Revision 3 to the ISI Program is hereby submitted (Attachment 4). The changes are summarized in Attachment 1.

Along with previously submitted relief requests, a revision to Relief Request NDE-6 and an additional Relief Request (NDE-21) are also included as part of this revision. The "Alternate Examination" section of Relief Request NDE-6 (Attachment 2) has been revised to perform a visual examination on one valve out of a group of similar valves. The examination will be performed once an interval when one of the valves is disassembled for maintenance purposes. Relief Request NDE-21 (Attachment 3) will allow Code Case N-509 to be used as an alternative for examining integral attachments.

Revision 5 to the Unit 2 ISI Program Plan for Components and Component Supports is also provided for your information (Attachment 5). The ISI Program Plan reports the examinations performed and scheduled for the Second Interval.

If you have any questions concerning this request, please contact us.

Very truly yours,



J. P. O'Hanlon  
Vice President - Nuclear Operations

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Attachments

1. Summary of Changes to Inservice Inspection Program
2. Relief Request NDE-6 (Revised)
3. Relief Request NDE-21
4. Unit 2 Inservice Inspection Program
5. Unit 2 Inservice Inspection Program Plan

cc: U. S. Nuclear Regulatory Commission  
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Mr. R. D. McWhorter  
NRC Senior Resident Inspector  
North Anna Power Station

**Attachment 1**

**North Anna Power Station Unit 2**

**Summary of Changes to Inservice Inspection Program**

**SUMMARY OF CHANGES  
NORTH ANNA UNIT 2  
INSERVICE INSPECTION PROGRAM REVISION 3**

- 1) Changed the Augmented Inspection Table for reactor coolant loop bypass lines by changing "every weld" to "selected welds." Not every weld on these lines is in the augmented inspection program.
  - 2) Changed the Augmented Inspection Table by removing the main steam and feedwater listings. The table is for augmented programs that are on ASME XI Class 1, 2, or 3 components. The main steam and feedwater high energy break points are on the non classed portion of these systems.
  - 3) Changed the Augmented Inspection Table by removing the requirement for Rockwell Edwards valve examinations. This inspection program is no longer required.
  - 4) Changed Relief Request NDE-6 Alternate Examination section to allow one valve within a group of similar valves to be examined. The examination will be done when one of the valves in the group is opened for maintenance purposes. The examination will be done once an interval. The previous version of Relief Request NDE-6 required a visual examination every time a valve was opened for maintenance.
  - 5) Added Code Case N-489 to the list of ASME Section XI Code Cases incorporated into the program. This Code Case increases the time between Level III recertification from 3 years to 5 years.
  - 6) Added the following relief requests:
    - NDE-20 Partial examinations from the 1993 outage which was submitted to the NRC on April 6, 1994 (letter Serial No. 94-086).
    - NDE-21 Allows use of Code Case N-509 as an alternative for examining integral attachments. This has not been previously submitted to the NRC.
    - SPT-12 Alternative to hydrostatic testing which was submitted to the NRC on August 5, 1993 (letter Serial No. 93-435).
    - SPT-14 Removal of bolting near leaking connections which was submitted to the NRC on July 30, 1993 (letter Serial No. 93-434).
- Interim relief request to use Code Case N-524 to reduce the required examination volume and area for long seam welds submitted on December 10, 1993 (letter Serial No. 93-754).

Interim relief request for an alternative to removing bolting with evidence of boric acid and performing a VT-3 examination submitted on January 7, 1994 (letter Serial no. 94-008).

- 7) Removed superfluous attachments (WMKS drawings, photos, UT traces) from Relief Requests NDE-16, NDE-17, NDE-18, and NDE-19. This information is on record with the original letters to the NRC. Second and third generation copies of this material have become illegible.



**Attachment 2**

**North Anna Power Station Unit 2**

**Relief Request NDE-6 (Revised)**

## RELIEF REQUEST NDE-6

### I. IDENTIFICATION OF COMPONENTS

ISI Class 1 Valve Bodies Exceeding 4 in. Nominal Pipe Size.

### II. IMPRACTICABLE CODE REQUIREMENTS

Section XI of the ASME Boiler and Pressure Vessel Code, 1986 Edition, Category B-M-2, Item No. B12.50, requires a visual examination (VT-3) be performed on the internal pressure boundary surfaces of one valve in each group of valves that are the same construction design and manufacturing method, and that perform similar functions in the system.

Because these examinations must be met whether or not the valves have to be disassembled for maintenance, this requirement is considered impractical.

### III. BASIS FOR RELIEF

The requirement to disassemble primary system valves for the sole purpose of performing a visual examination of the internal pressure boundary surfaces has a very small potential of increasing plant safety margins and a very disproportionate impact on expenditures of plant manpower and radiation exposure.

The ISI Class 1 systems at North Anna Unit 2 include valves which vary in size, design, and manufacturer, but all are produced from either cast stainless steel or cast carbon steel. None of the valve bodies are welded.

The performance of both carbon and stainless cast steel valve bodies has been excellent in Pressurized Water Reactor (PWR) applications. Based on this experience and both industry and regulatory acceptance of these alloys, continued excellent service performance is anticipated.

A more practical approach is to examine the internal pressure boundary of only those valves that require disassembly for maintenance purposes. This methodology would provide a modified sampling program to that required by Section XI while significantly reducing radiation exposure to plant personnel.

Virginia Electric and Power Company feels this approach would provide a reasonable level of assurance that the integrity of the primary system valves is being maintained.

RELIEF REQUEST NDE-6  
CONTINUED

**IV. ALTERNATIVE EXAMINATION**

The visual examination of the internal pressure boundary surfaces will be performed on one valve within each group of valves that are of the same size, constructional design (such as globe, gate or check valves), and manufacturing method, and that perform similar functions in the system (such as containment isolation and system over protection), to the extent practical, when a valve is disassembled for maintenance purposes.

NOTE: Similar relief was submitted by letter dated May 22, 1987, Serial No. 86-796A, for North Anna Unit 1, Interval 1 and approved by NRC letter dated July 13, 1987. The information contained in the May 22, 1987 letter concerning the number of reactor coolant pump casing welds was corrected by letter dated March 30, 1988, Serial No. 86-796B.



**Attachment 3**

**North Anna Power Station Unit 2**

**Relief Request NDE-21**

## RELIEF REQUEST NDE-21

### **I. IDENTIFICATION OF COMPONENTS**

Class 1, 2, and 3 Integrally Welded Attachments.

### **II. IMPRACTICABLE CODE REQUIREMENTS**

Examination Categories B-H, B-K-1, C-C, D-A, D-B, and D-C of ASME Section XI, 1986 Edition, with regard to Integrally Welded Attachments.

### **III. BASIS FOR RELIEF**

Code Case N-509, Alternate Rules for the Selection and Examination of Class 1, 2, and 3 Integrally Welded Attachments, Section XI, Division 1, is not currently approved by Regulatory Guide 1.147 for use. 10 CFR 50.55a(a)(3) footnote 6 notes that the use of other Code Cases may be authorized by the Director of the Office of Nuclear Reactor Regulation upon request. As such, Code Case N-509 is requested for use on North Anna Unit 2 in the second inspection interval.

The current Code requires a certain size base material design thickness before examination is required on Class 1 or 2 integrally welded attachments. This size limitation is apparently arbitrary with no technical basis. The current Code also has no inspection requirements for Class 1 integrally welded attachments for piping, pumps, and valves (B-K-1) for the third inspection interval of Inspection Program B (North Anna's). Additionally, there is no selection criteria for Class 3 nonexempt integrally welded attachments, requiring 100% examination. These deficiencies have been corrected in Code Case N-509.

### **IV. ALTERNATIVE PROVISIONS**

Code Case N-509 will be used in its entirety. The 1990 Addenda of ASME Section XI, as referenced within Code Case N-509, contains the same provisions as Code Case N-491, which has been implemented by our support program.