



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

ENCLOSURE

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

THE SECOND 10-YEAR INTERVAL INSERVICE INSPECTION PLAN

RELIEF REQUEST NO. NDE-30

VIRGINIA ELECTRIC AND POWER COMPANY

NORTH ANNA POWER STATION, UNIT 1

DOCKET NUMBER: 50-338

1.0 INTRODUCTION

The Technical Specifications for North Anna Power Station, Unit 1, state that the inservice inspection and testing of the American Society of Mechanical Engineers (ASME) Code Class 1, 2 and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda as required by 10 CFR 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). The 10 CFR 50.55a(a)(3) states that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if (i) the proposed alternatives would provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2 and 3 components (including supports) shall meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the initial 120-month interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) on the date twelve months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. The applicable edition of the ASME Code, Section XI, for North Anna Power Station, Unit 1, during the second ten-year inservice inspection (ISI) interval, is the 1983 edition, including the summer 1983 addendum. The components (including supports) may meet the requirements set forth in subsequent editions and addenda of the ASME Code incorporated by reference in 10 CFR 50.55a(b) subject to the limitations and modifications listed therein and subject to Commission approval.

Pursuant to 10 CFR 50.55a(g)(5), if the licensee determines that conformance with an examination requirement of Section XI of the ASME Code is not practical for its facility, information shall be submitted to the Commission

in support of that determination and a request made for relief from the ASME Code requirement. After evaluation of the determination, pursuant to 10 CFR 50.55a(g)(6)(i), the Commission may grant relief and may impose alternative requirements that are determined to be authorized by law, will not endanger life, property, or the common defense and security, and are otherwise in the public interest, giving due consideration to the burden upon the licensee that could result if the requirements were imposed.

By letter dated July 24, 1996, Virginia Electric and Power Company submitted to the NRC its relief request No. NDE-30 for the second inservice inspection interval for North Anna Unit 1.

The NRC staff has reviewed and evaluated the licensee's request and the supporting information on the proposed relief request No. NDE-30 for North Anna, Unit 1, pursuant to the provisions of 10 CFR 50.55a(g)(6)(i).

## 2.0 DISCUSSION

### LICENSEE'S RELIEF REQUEST NO. NDE-30

The volumetric and the surface examination coverages for weld No. SW-8 on line 12"-SI-69-1502-Q1, were 71 percent and 80 percent respectively due to restrictions from an integrally attached component support. North Anna Unit 1 has adopted ASME Code Case N-460 "Alternative Examination Coverage for Class 1 and Class 2 Welds" in the ISI Program which allows a reduction in examination coverage of less than 10 percent due to interference by another component or part geometry as being acceptable in lieu of the Code-required examination coverage of 100 percent. Pursuant to 10 CFR 50.55a(g)(5), the licensee requests relief from the examination coverage requirements of the applicable ASME Code during the second inspection interval of North Anna Unit 1.

### LICENSEE'S BASIS FOR RELIEF (as stated)

"The component listed above has been examined to the extent practical as required by the Code. The Code required surface and volumetric examination coverage was reduced due to a component support which could not be removed. The scope of volumetric examination coverage completed for the above listed weld is listed in Table NDE-30-1. Figure NDE-30-1 is provided detailing the limitations experienced. Alternative components could not be substituted for examination due to the mandatory selection requirements of the Code."

### LICENSEE'S ALTERNATE PROVISIONS (as stated)

"It is proposed that the examinations already completed at the reduced coverage be counted as meeting the Code requirements."

## 3.0 EVALUATION

The ASME Code, Section XI, 1983 edition including the summer 1983 addendum requires 100 percent volumetric and surface examinations of the subject weld. However, the ASME Code Case N-460 allows that a reduction in examination coverage below ten percent is acceptable due to interference by another

component or part geometry. The figure provided by the licensee depicts the interference caused by an integrally attached component support adjacent to the weld. Consequently, the volumetric and the surface examinations of the weld are impractical to perform even to the extent permitted by the Code Case N-460. In order to obtain the required examination coverage, design modifications would be required, causing a significant burden on the licensee.

The licensee performed the volumetric and the surface examinations to the extent practical, resulting in examination coverages of 71 percent and 80 percent respectively for the subject weld. Based on the examination coverages obtained, it can be concluded that a degradation, if present, would have been detected. As a result, reasonable assurance of structural integrity has been provided. Therefore, the staff has determined that the relief requested by the licensee be granted pursuant to 10 CFR 50.55a(g)(6)(i).

#### 4.0 CONCLUSION

The staff has evaluated the licensee's submittal on the relief request NDE-30 and concludes that the Code-required examinations of the subject weld are impractical due to interference caused by the component support and would impose significant burden on the licensee if the Code requirements were to be met. The limited volumetric and surface examination performed on the weld provides reasonable assurance of operational readiness. The granting of this relief is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility. Therefore, it is recommended that relief be granted pursuant to the provisions of 10 CFR 50.55a(g)(6)(i).