

Exelon Generation Company, LLC
Dresden Nuclear Power Station
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10 CFR 50.55a

May 4, 2004

SVPLTR: #04-0024

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Dresden Nuclear Power Station, Units 2 and 3
Facility Operating License Nos. DPR-19 and DPR-25
NRC Docket Nos. 50-237 and 50-249

Subject: Relief Request CR-26, Inservice Inspection Program Relief Regarding Examination Coverage for Third 10-Year Inservice Inspection Interval

- Reference:
- 1) Letter from L. W. Rossbach (U. S. NRC) to O. D. Kingsley (Exelon Generation Company, LLC), "Exemption from the Requirements of 10 CFR 50.55a(g)(6)(ii)(A)(2), Inservice Examination of the Reactor Pressure Vessel," dated September 28, 2001
 - 2) Letter from A. J. Mendiola (U. S. NRC) to J. L. Skolds (Exelon Generation Company, LLC), "Relief Request CR-25 for Third 10-Year Inservice Inspection Interval," dated July 1, 2003

In accordance with 10 CFR 50.55a, "Codes and Standards," paragraph (g)(5)(iii), Dresden Nuclear Power Station (DNPS) is requesting relief from American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," on the basis that compliance with the specified requirements is impractical due to plant design. DNPS is submitting this relief request for those ASME Section XI weld examinations performed during the Third 10-Year Inservice Inspection Interval where the inspection coverage achieved was less than or equal to 90%. Specifically, this includes examinations completed during the third period of the Third 10-Year Inservice Inspection Interval for both Units 2 and 3.

The proposed relief request is for the third period of the Third 10-Year Inservice Inspection Interval for both Units 2 and 3. For Unit 2, the Third 10-Year Inservice Inspection Interval began on March 1, 1992, and ended on September 30, 2003. All scheduled Unit 2 ASME Section XI examinations were completed prior to September 30, 2003, with the exception of Examination Category B-A reactor vessel shell welds and Examination Category B-O control rod drive housing welds. Approval to delay both groups of welds was provided by the NRC in References 1 and 2 respectively. Examination Category B-A and B-O examinations were completed during the Unit 2 refueling outage, which began on October 14, 2003, and was completed on

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November 11, 2003. A relief for the Examination Category B-A longitudinal reactor vessel shell welds is being submitted under separate cover.

For Unit 3, the Third 10-Year Inservice Inspection Interval began on March 1, 1992, and ended on October 31, 2003. All scheduled Unit 3 ASME Section XI examinations were completed prior to October 31, 2003, with the exception of Examination Category B-A reactor vessel shell welds. Approval to delay examinations was provided by the NRC in Reference 1. The remaining Examination Category B-A longitudinal reactor weld shell welds are scheduled to be completed during the upcoming Unit 3 refueling outage currently scheduled to begin on October 26, 2004, and a separate relief request will be submitted.

Should you have any questions concerning his letter, please contact Mr. Jeff Hansen at (815) 416-2800.

Respectfully,

A handwritten signature in black ink, appearing to read "D. Bost". The signature is stylized and cursive.

Danny Bost
Site Vice President
Dresden Nuclear Power Station

Attachment: 10 CFR 50.55a Request Number CR-26

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Dresden Nuclear Power Station

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ASME Code Components Affected

Components affected are American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI, Class 1 and 2 components specified in Table CR-26.1 and CR-26.2.

Applicable Code Edition and Addenda

The applicable ASME Code, Section XI, for Dresden Nuclear Power Station (DNPS), Units 2 and 3 Third 10-Year Inservice Inspection Interval is the 1989 Edition.

Applicable Code Requirement

Subarticle IWB-2500 states in part "Components shall be examined and tested as specified in Table IWB-2500-1." Table IWB-2500-1 requires a volumetric examination or a surface and volumetric examination be performed on the component based on Category and Item Number. The applicable examination area or volume and method required is as shown below from Table IWB-2500-1:

Examination Category	Item Number	Examination Requirements/ Figure Number	Examination Method
B-A	B1.30	IWB-2500-4	Volumetric
B-D	B3.90	IWB-2500-7(a) IWB-2500-7(b)	Volumetric
B-D	B3.100	IWB-2500-7(a) IWB-2500-7(b)	Volumetric
B-M-1	B12.40	IWB-2500-17	Volumetric

Subarticle IWC-2500 states in part "Components shall be examined and pressure tested as specified in Table IWC-2500-1." Table IWC-2500-1 requires a surface examination or a surface and volumetric examination be performed on the component based on Category and Item Number. The applicable examination area or volume and method required is as shown below from Table IWC-2500-1:

Examination Category	Item Number	Examination Requirements /Figure Number	Examination Method
C-B	C2.21	IWC-2500-4(b)	Surface & Volumetric
C-C	C3.20	IWC-2500-5(a) IWC-2500-5(b)	Surface

Entire volume or area required is defined by ASME Section XI Code Case N-460, "Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1." Code Case N-460 states in part, "...when the entire examination volume or area cannot be examined...a reduction in examination coverage...may be accepted provided the reduction in coverage for

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that weld is less than 10%." DNPS invokes Code Case N-460 for use during the Third 10-Year Inservice Inspection Interval.

NRC Information Notice 98-42, "Implementation of 10 CFR 50.55a(g) Inservice Inspection Requirements," termed the reduction in coverage of less than 10% to be "essentially 100 percent." Information Notice 98-42 states in part, "The NRC has adopted and further refined the definition of "essentially 100 percent" to mean "greater than 90 percent"...has been applied to all examinations of welds or other areas required by ASME Section XI."

Impracticality of Compliance

DNPS, Units 2 and 3, obtained Construction Permits CPPR-18 and CPPR-22 on January 10, 1966 and October 14, 1966, respectively. The piping systems and associated components were designed and fabricated before the examination requirements of ASME Section XI were formalized and published. Since this plant was not specifically designed to meet the requirements of ASME Section XI, full compliance is not feasible or practical within the limits of the current plant design.

Physical obstructions imposed by design, geometry and materials of construction are typical of vessel appurtenances and sacrificial shield, insulation support rings, structural and component support members, adjacent component weldments in close proximity, unique component configurations and dissimilar metal weldments.

Burden Caused by Compliance

Compliance with the examination requirements of ASME Section XI would require modification of plant components to remove obstructions, redesigning of plant systems, and replace components where geometry is inherent to component design.

Proposed Alternative and Basis for Use

Proposed Alternative

In accordance with 10 CFR 50.55a(g)(5)(iii), relief is requested on the basis that the required "essentially 100%" coverage examination is impractical due to physical obstructions and limitations imposed by design, geometry and materials of construction for the components of Table CR-26.1 and Table CR-26.2.

DNPS will continue to perform best effort examinations in order to achieve the maximum amount of coverage. Additionally, a VT-2 examination performed on the subject components during system pressure test per examination category B-P each refueling outage and category C-H each inspection period is performed.

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Basis For Use

Improved examination techniques have been progressively upgraded during this interval to augment the required Section XI examinations. EGC has used the Electric Power Research Institute (EPRI), the Performance Demonstration Initiative (PDI), Inservice Inspection vendors and other industry sources to encourage the development of and provide an awareness of improved examination techniques to enhance coverage and flaw detection commensurate with radiation dose reduction.

EGC examination procedures are revised on a continuing basis to incorporate proven techniques for a higher level of safety and quality as they become available. The examinations and techniques used today exceed the examinations conducted in the past on each component.

All components received as a minimum, the required examination(s) applicable to the extent practical due to the limited or lack of access available. The examinations conducted, confirmed satisfactory results evidencing no unacceptable flaws present, even though "essentially 100%" coverage was not attained. EGC has concluded that if any active degradation mechanisms were to exist in the subject welds, those degradations would have been identified in the examinations performed.

Based on the above, with our earlier design, the underlying objectives of the code required volumetric and surface examinations have been met. The examinations were completed to the extent practical and evidenced no unacceptable flaws present. Additionally, a VT-2 examination performed on the subject components during system pressure test per examination category B-P each refueling outage and category C-H each period provides additional assurance that the structural integrity of the subject components is maintained.

Duration of Proposed Alternative

Relief is requested for the Third 10-Year Inservice Inspection Interval of the Inservice Inspection Program for DNPS Units 2 and 3.

Precedents

The NRC has previously approved similar relief for Quad Cities Nuclear Power Station, Units 1 and 2, and Dresden Nuclear Power Station, Units 2 and 3. The NRC granted relief for Quad Cities Nuclear Power Station in Reference 1, and the Dresden Nuclear Power Station in Reference 2.

References

1. Letter from U. S. NRC to O. D. Kingsley (Commonwealth Edison Company), "Quad Cities, Units 1 and 2 - Relief Request CR-32 for Third 10-Year Inservice Inspection Interval," dated September 6, 2000

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2. Letter from U. S. NRC to Mr. John L. Skolds (Exelon Generation Company, LLC), "Dresden Nuclear Power Station, Units 2 and 3 – Relief Request CR-24 For Third 10-Year Inservice Inspection Interval," dated January 8, 2003

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TABLE CR-26.1

UNIT 2 COMPONENTS WITH LESS THAN "ESSENTIALLY 100%" COVERAGE

Section XI Category & Item No.	Component System & Line	Component Number	Component Description	Condition Limiting Coverage	Examination & Coverage Percent
B-A B1.30	RPV SHELL	2-SC4-FLG	SHELL TO FLANGE	REACTOR VESSEL TO FLANGE CONFIGURATION.	UT 88
B-D B3.90	RPV NOZZLE	N1B-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 20.07
B-D B3.90	RPV NOZZLE	N2G-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 20.85
B-D B3.90	RPV NOZZLE	N2H-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 20.85
B-D B3.90	RPV NOZZLE	N2J-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 20.85
B-D B3.90	RPV NOZZLE	N2K-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 20.85
B-D B3.90	RPV NOZZLE	N3A-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 62.5
B-D B3.90	RPV NOZZLE	N3B-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 62.5
B-D B3.90	RPV NOZZLE	N3C-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 62.5
B-D B3.90	RPV NOZZLE	N3D-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 62.5
B-D B3.90	RPV NOZZLE	N5A-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 20.06
B-D B3.90	RPV NOZZLE	N8-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 47.24
B-D B3.90	RPV NOZZLE	N18A-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 20.4
B-D B3.90	RPV NOZZLE	N18B-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 20.4

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TABLE CR-26.1

UNIT 2 COMPONENTS WITH LESS THAN "ESSENTIALLY 100%" COVERAGE

Section XI Category & Item No.	Component System & Line	Component Number	Component Description	Condition Limiting Coverage	Examination & Coverage Percent
B-D B3.90	RPV NOZZLE	N12-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 75.31
B-D B3.90	RPV NOZZLE	N20B-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 75.32
B-D B3.100	RPV NOZZLE	N8-1	NOZZLE INNER RADIUS SECTION	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 83.6
B-D B3.100	RPV NOZZLE	N18A-1	NOZZLE INNER RADIUS SECTION	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 83.6
B-D B3.100	RPV NOZZLE	N18B-1	NOZZLE INNER RADIUS SECTION	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 83.6
B-M-1 B12.40	MS ERV	2/3-203- 3B/C/D/E	VALVE BODY WELD	INTERNAL CAGE INTERFERENCE	RT 86.32
C-C C3.20	CRD 0318A-20	M-1152D-1201	INTEGRALLY WELDED ATTACHMENT	BOX GUIDE & BRANCH LINE INTERFERENCE WITH SHEAR LUG ATTACHMENT.	MT 82
C-C C3.20	CRD 0318B-20	M-1152D-1251	INTEGRALLY WELDED ATTACHMENT	BOX GUIDE & BRANCH LINE INTERFERENCE WITH SHEAR LUG ATTACHMENT.	MT 62.5
C-C C3.20	HPCI 2304-14	M-1151D-10	INTEGRALLY WELDED ATTACHMENT	BOX GUIDE INTERFERENCE WITH SHEAR LUG ATTACHMENT.	MT 81.63
C-C C3.20	ISCO 1302-14	M-1163D-261	INTEGRALLY WELDED ATTACHMENT	PIPE CLAMP INTERFERENCE WITH SHEAR LUG ATTACHMENT.	PT 75
C-C C3.20	ISCO 1303-12	M-1163D-254	INTEGRALLY WELDED ATTACHMENT	PIPE CLAMP INTERFERENCE WITH SHEAR LUG ATTACHMENT.	PT 78

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TABLE CR-26.2

UNIT 3 COMPONENTS WITH LESS THAN "ESSENTIALLY 100%" COVERAGE

Section XI Category & Item No.	Component System & Line	Component Number	Component Description	Condition Limiting Coverage	Examination & Coverage Percent
B-D B3.90	RPV NOZZLE	N2A-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 20.85
B-D B3.90	RPV NOZZLE	N2C-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 20.85
B-D B3.90	RPV NOZZLE	N2F-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 20.85
B-D B3.90	RPV NOZZLE	N2H-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 20.85
B-D B3.90	RPV NOZZLE	N2J-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 20.85
B-D B3.90	RPV NOZZLE	N2K-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 20.85
B-D B3.90	RPV NOZZLE	N3A-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 62.5
B-D B3.90	RPV NOZZLE	N3B-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 62.5
B-D B3.90	RPV NOZZLE	N9-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 44
B-D B3.90	RPV NOZZLE	N20A-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 75.32
B-D B3.90	RPV NOZZLE	N20B-2	NOZZLE TO VESSEL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 75.32
B-M-1 B12.40	MS ERV	2/3-203- 3B/C/D/E	VALVE BODY WELD	INTERNAL CAGE INTERFERENCE	RT 86.46
C-B C2.21	ISCO 1303A-8	8-8	NOZZLE TO SHELL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 44.56
C-B C2.21	ISCO 1303B-8	8-9	NOZZLE TO SHELL WELD	NOZZLE, RADIUS BLEND AND WELD CONFIGURATION.	UT 44.56

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TABLE CR-26.2

UNIT 3 COMPONENTS WITH LESS THAN "ESSENTIALLY 100%" COVERAGE

Section XI Category & Item No.	Component System & Line	Component Number	Component Description	Condition Limiting Coverage	Examination & Coverage Percent
C-C C3.20	CRD 0409B-20	M-1188D-1001	INTEGRALLY WELDED ATTACHMENT	BOX GUIDE INTERFERENCE WITH SHEAR LUG ATTACHMENT.	MT 79.66
C-C C3.20	ISCO 1302-14	M-1199D-261	INTEGRALLY WELDED ATTACHMENT	PIPE CLAMP INTERFERENCE WITH SHEAR LUG ATTACHMENT.	PT 77.16
C-C C3.20	CORE SPRAY 1403-12	M-3409-26	INTEGRALLY WELDED ATTACHMENT	BOX GUIDE INTERFERENCE WITH SHEAR LUG ATTACHMENT.	MT 88.24
C-C C3.20	CORE SPRAY 1404-12	M-3408-08	INTEGRALLY WELDED ATTACHMENT	PIPE CLAMP INTERFERENCE WITH SHEAR LUG ATTACHMENT.	MT 78.72
C-C C3.20	CORE SPRAY 1404-12	M-3408-10	INTEGRALLY WELDED ATTACHMENT	BOX GUIDE INTERFERENCE WITH SHEAR LUG ATTACHMENT.	MT 85.7
C-C C3.20	LPCI 1504-18	M-3414-10	INTEGRALLY WELDED ATTACHMENT	BOX GUIDE INTERFERENCE WITH SHEAR LUG ATTACHMENT.	MT 85.71
C-C C3.20	HPCI 2304-14	M-1187D-86	INTEGRALLY WELDED ATTACHMENT	PIPE CLAMP INTERFERENCE WITH SHEAR LUG ATTACHMENT.	MT 83.33
C-C C3.20	HPCI 2306-24	M-3412-03	INTEGRALLY WELDED ATTACHMENT	PIPE CLAMP INTERFERENCE WITH SHEAR LUG ATTACHMENT.	MT 85.71