

10 CFR 50.55a

RS-04-168

November 5, 2004

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

Byron Station, Unit 1
Facility Operating License No. NPF-37
NRC Docket No. STN 50-454

Subject: Second Interval Inservice Inspection Program Relief Request I2R-50

In accordance with 10 CFR 50.55a, "Codes and standards," paragraph (a)(3)(i), Exelon Generation Company, LLC (EGC), is requesting relief from the 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 the proposed alternative provides an acceptable level of quality and safety.

Specifically, this proposed alternative would allow Byron Station, Unit 1 to use an alternate flaw depth sizing tolerance when performing ultrasonic examinations of dissimilar metal welds from the inside surface of piping. The details of the request for relief are contained in the attachment to this letter.

This relief is being requested as a contingency in the event detectable indications, requiring depth sizing, are identified during upcoming inservice inspections in the Byron Station, Unit 1 March 2005 refueling outage.

Should you have any questions concerning this letter, please contact David J. Chrzanowski at (630) 657-2816.

Respectfully,



Kenneth A. Ainger
Manager, Licensing

Attachment: 10 CFR 50.55a Relief Request I2R-50

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**Request for Relief In Accordance with 10 CFR 50.55a(a)(3)(i)
Alternative Requirements to ASME Section XI Class 1 Pressure Retaining Welds
When Examined From The Inside Surface
Use of Alternative Through-Wall Sizing Requirements for
Implementation of Appendix VIII, Supplement 10**

1. ASME CODE COMPONENT(S) AFFECTED:

Code Class: 1
Examination Categories: Category R-A (Risk Informed ISI)
Item Numbers: R1.15 (Risk Informed ISI)
Component Numbers: See Table 1
Drawing Numbers: See Table 1

2. APPLICABLE CODE EDITION AND ADDENDA:

The current inservice inspection (ISI) program is based on the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section XI, 1989 Edition with no Addenda. The ultrasonic examination of applicable Class 1 and 2 components is governed by Appendix VIII, "Performance Demonstration for Ultrasonic Examination Systems," of the ASME Code, Section XI, 1995 Edition with the 1996 Addenda.

3. APPLICABLE CODE REQUIREMENTS:

The examinations of Class 1 and 2 piping welds are required to be performed using procedures, personnel, and equipment qualified to the criteria of the ASME Code, Section XI, 1995 Edition 1996 Addenda, Appendix VIII, Supplement 10, "Qualification Requirements for Dissimilar Metal Pipe Welds," Paragraph 3.2(b), "Sizing Acceptance Criteria," as modified by Byron Station Inservice Inspection relief request approved in a letter from J. W. Clifford (U. S. NRC) to J. L. Skolds (Exelon Generation Company, LLC and AmerGen Energy Company, LLC), "Relief for Qualification Requirements for Dissimilar Metal Pipe Welds," dated July 16, 2003.

In addition, the 1995 Edition with 1996 Addenda of the ASME Code, Section XI, Appendix VIII Supplement 10, Paragraph 3.2(b), states that the examination procedures, equipment, and personnel are qualified for depth sizing when the root mean square error (RMSE) of the flaw depth measurements, as compared to the true flaw depths, is less than or equal to 0.125-inch.

4. REASON FOR THE REQUEST:

Exelon Generation Company, LLC. (EGC) has been informed that WesDyne International, the inspection vendor performing examinations at Byron Station, has been unsuccessful at achieving the 0.125-inch RMSE depth-sizing criterion for the procedure and personnel qualifications for dissimilar metal examinations performed from the inside surface of the pipe and instead has achieved an accuracy of 0.189-inch RMSE. To date, there has not been a vendor who has met the RMSE Code requirement for dissimilar metal weld examinations performed from the inside surface.

This relief is being requested as a contingency in the event detectable indications, requiring depth sizing, are identified during upcoming inservice inspections in the Byron Station, Unit 1 March 2005 refueling outage.

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(Page 2 of 3)**5. PROPOSED ALTERNATIVE AND BASIS FOR USE:**

Pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested for an alternative requirement that will provide an acceptable level of quality and safety. EGC requests relief to consider examination procedures, equipment, and personnel qualified for depth sizing when the RMSE of the flaw depth measurements, as compared to the true flaw depths, is less than or equal to 0.189-inch for the ultrasonic examination of dissimilar metal welds performed from the inside surface of the pipe at Byron Station, Unit 1. The RMSE of 0.189-inch is based on actual vendor demonstrated, in-process, field qualifications and is the optimum value that could be achieved.

The proposed procedure to address sizing of the flaws that may be detected during the examination is to add the difference between the 0.189-inch achieved sizing error and the 0.125-inch RMSE Appendix VIII, Supplement 10 acceptance criteria to the measured flaw size. EGC considers the use of this difference (0.064-inch) as an adjustment to the measured flaw will ensure a conservative bounding flaw depth value for dissimilar metal welds at Byron Station, Unit 1.

6. DURATION OF PROPOSED ALTERNATIVE:

This relief request will be implemented during the remainder of the Byron Station, Unit 1 second ten-year inservice inspection interval which ends June 30, 2005.

7. PRECEDENTS:

In a J. A. Nakoski (U. S. NRC) to S. A. Byrne (South Carolina Electric & Gas Company) letter dated February 3, 2004, the NRC authorized the same relief for Virgil C. Summer Nuclear Station, Docket No. 50-395 (Relief Request RR-II-20).

8. ATTACHMENTS

None

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TABLE 1: APPLICABLE COMPONENTS				
WELD NUMBER	DESCRIPTION	DRAWING NUMBER	FORMER ASME XI ITEM NUMBER	CURRENT RI-ISI ITEM NUMBER
Byron Station Unit 1				
1RC-01-R/RPVS-A/F1	Reactor Pressure Vessel (RPV) Nozzle Safe-End Hot Leg Loop C	1RPV-1	B5.10	R1.15
1RC-01-R/RPVS-B/F1	RPV Nozzle Safe-End Cold Leg Loop C	1RPV-1	B5.10	R1.15
1RC-01-R/RPVS-C/F1	RPV Nozzle Safe-End Cold Leg Loop D	1RPV-1	B5.10	R1.15
1RC-01-R/RPVS-D/F1	RPV Nozzle Safe-End Hot Leg Loop D	1RPV-1	B5.10	R1.15
1RC-01-R/RPVS-E/F1	RPV Nozzle Safe-End Hot Leg Loop A	1RPV-1	B5.10	R1.15
1RC-01-R/RPVS-F/F1	RPV Nozzle Safe-End Cold Leg Loop A	1RPV-1	B5.10	R1.15
1RC-01-R/RPVS-G/F1	RPV Nozzle Safe-End Cold Leg Loop B	1RPV-1	B5.10	R1.15
1RC-01-R/RPVS-H/F1	RPV Nozzle Safe-End Hot Leg Loop B	1RPV-1	B5.10	R1.15