

10 CFR 50.55a

October 16, 2018

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001Peach Bottom Atomic Power Station, Units 2 and 3
Renewed Facility Operating License Nos. DPR-44 and DPR-56
NRC Docket Nos. 50-277 and 50-278

Subject: Inservice Inspection Relief Request I4R-63

Exelon Generation Company, LLC is submitting for your review Relief Request I4R-63 associated with the fourth Inservice Inspection (ISI) interval for the Peach Bottom Atomic Power Station, Units 2 and 3. This relief request concerns the examination of the Standby Liquid Control (SLC) nozzle inside radius section. The fourth interval program complies with the 2001 Edition, 2003 Addenda of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code.

We request your review and approval by October 16, 2019.

There are no regulatory commitments in this request.

If you have any questions concerning this request, please contact Tom Loomis at (610) 765-5510.

Respectfully,



David P. Helker
Manager - Licensing & Regulatory Affairs
Exelon Generation Company, LLC

cc: USNRC Region I, Regional Administrator
USNRC Senior Resident Inspector, PBAPS
USNRC Project Manager, PBAPS
R. R. Janati, Pennsylvania Bureau of Radiation Protection
D. A. Tancabel, State of Maryland

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**Request for Relief I4R-63 for the Examination of Standby Liquid Control Nozzle
Inside Radius Section in Accordance with 10 CFR 50.55a(g)(5)(iii)**

1. ASME Code Component(s) Affected

Code Class:	1
Reference:	IWB-2500, Table IWB-2500-1
Examination Category:	B-D
Item Number:	B3.100
Description:	Examination of Standby Liquid Control Nozzle Inside Radius Section
Component Numbers:	Unit 2: N10-IRS, Unit 3: N10-IRS

2. Applicable Code Edition and Addenda

The fourth Inservice Inspection (ISI) program is based on the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section XI, 2001 Edition and 2003 Addenda.

3. Applicable Code Requirement

Table IWB-2500-1, Examination Category B-D, Item No. B3.100, requires a volumetric examination to be performed on the inner radius section of all reactor vessel nozzles each inspection interval. Table IWB-2500-1, Examination Category B-D, Item No. B3.100 refers to the nozzle configurations shown in Figure No. IWB-2500-7.

4. Impracticality of Compliance

The Standby Liquid Control (SLC) nozzle, as shown in Figure 1, is designed with an integral socket to which the boron injection piping is fillet welded. This design is different from the configurations shown in ASME, Section XI, Figure No. IWB-2500-7. The SLC nozzle is located in the bottom head of the vessel in an area that is inaccessible for ultrasonic examinations from the inside of the vessel. Therefore, ultrasonic examinations can only be performed from the outside diameter of the vessel. As shown in Figure 1, the ultrasonic scan would need to travel through the full thickness of the vessel into a complex cladding/socket configuration. These geometric and material reflectors inherent in the design prevent a meaningful examination from being performed on the inner radius of the SLC nozzle.

In addition, the inner radius socket attaches to piping that injects boron at locations far removed from the nozzle. Therefore, the SLC nozzle inner radius is not subjected to turbulent mixing conditions that are a concern at other nozzles.

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5. Burden Caused by Compliance

Pursuant to 10 CFR 50.55a(g)(5)(iii), relief is requested on the basis that conformance with these ASME Section XI Code requirements is impractical as conformance would require extensive structural modifications to the component or surrounding structure. In order to perform the examinations to meet the code requirements, cost prohibitive modifications would need to be performed on the reactor vessel.

6. Proposed Alternative and Basis for Use

As an alternative examination, a system leakage test of the Class 1 pressure boundary is conducted at the end of each outage at operating pressure. The reactor pressure vessel bottom head penetrations, including the SLC penetration, are visually inspected during the leakage test, with the acceptance criteria being zero leakage.

7. Duration of Proposed Alternative

Relief is requested for the fourth ISI interval for PBAPS, Units 2 and 3 which began on November 5, 2008 and is scheduled to conclude on December 31, 2018, and the remainder of the plant life.

8. Precedents

1. Letter from J. Clifford (U.S. Nuclear Regulatory Commission) to J. Hutton (Exelon Generation Company, LLC), "Third 10-Year Interval Inservice Inspection Program Plan Request for Relief Nos. RR-08, RR-10, RR-17, RR-23, RR-24, RR-25, RR-26, RR-27, RR-28, RR-29, RR-30, RR-31, RR-32, and RR-33 for Peach Bottom Atomic Power Station, Units 2 and 3 (TAC Nos. MA4008 and MA4009)," dated July 31, 2000 (ML003728069)

FIGURE 1

2 INCH STANDBY LIQUID CONTROL NOZZLE

