

October 1, 2001

Mr. Oliver D. Kingsley, President
Exelon Nuclear
Exelon Generation Company, LLC
200 Exelon Way, KSA 3-E
Kennett Square, PA 19348

SUBJECT: RELIEF REQUEST RR-13 ASSOCIATED WITH THE SECOND 10-YEAR
INTERVAL INSERVICE INSPECTION (ISI) PROGRAM, PEACH BOTTOM
ATOMIC POWER STATION, UNITS 2 AND 3 (TAC NOS. MB1042 AND
MB1043)

Dear Mr. Kingsley:

In a letter dated January 5, 2001, PECO Energy Company (PECO), the previous licensee, requested, pursuant to 10 CFR 50.55a, that the U.S. Nuclear Regulatory Commission (NRC) grant relief from and authorize alternatives to certain provisions of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, at the Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3. Specifically, the previous licensee submitted a revision to its second 10-Year Interval ISI Program Plan Request for Relief No. RR-13 (Revision 3). The second 10-year ISI interval ended on November 4, 1998, for PBAPS Unit 2 and on August 14, 1998, for PBAPS unit 3.

PECO was succeeded by Exelon Generation Company, LLC (EGC) as the licensed operator of PBAPS on January 12, 2001. By letter dated January 30, 2001, EGC requested that the NRC staff continue to process and disposition licensing actions previously docketed and requested by PECO.

The NRC staff previously approved relief request RR-13 (Revision 2) by letter to Mr. James A. Hutton of PECO dated May 31, 2000. The NRC staff has reviewed the proposed revision to RR-13, and the NRC staff's evaluation is contained in the enclosed safety evaluation. In RR-13, pursuant to 10 CFR 50.55a(g)(5)(iii), the licensee requested relief from examining 100 percent of the Code-required volume of Category B-D nozzle-to-vessel attachment welds because of access restrictions due to plant design or component configuration which make it impractical to meet the Code requirement. The limited examinations combined with visual inspections (VT-2) performed during system pressure tests provide reasonable assurance of the continued structural integrity of these nozzle-to-vessel welds. Therefore, relief is granted pursuant to 10 CFR 50.55a(g)(6)(i).

O. Kingsley

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This completes our effort on this request, and we are, therefore, closing out TAC Nos. MB1042 and MB1043. If you have any questions regarding this matter, please contact the Peach Bottom Project Manager, John P. Boska, at (301) 415-2901.

Sincerely,

/RA/

James W. Clifford, Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-277 and 50-278

Enclosure: Safety Evaluation

cc w/encl: See next page

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Units 2 and 3

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O. Kingsley

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This completes our effort on this request, and we are, therefore, closing out TAC Nos. MB1042 and MB1043. If you have any questions regarding this matter, please contact the Peach Bottom Project Manager, John P. Boska, at (301) 415-2901.

Sincerely,

/RA/

James W. Clifford, Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-277 and 50-278

Enclosure: Safety Evaluation

cc w/encl: See next page

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ADAMS ACCESSION NUMBER: ML012550070

* SE provided, no major changes made.

**No legal objection

OFFICE	PM/PD1-2	LA/PD1-2	EMCB	OGC/NLO**	SC/PD1-2
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SECOND 10-YEAR INTERVAL INSERVICE INSPECTION

REQUEST FOR RELIEF NO. 13, REVISION 3

EXELON GENERATION COMPANY, LLC

PEACH BOTTOM ATOMIC POWER STATION (PBAPS), UNITS 2 AND 3

DOCKET NOS. 50-277 AND 50-278

1.0 INTRODUCTION

Inservice inspection (ISI) of the American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 components is to be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel (B&PV) Code and applicable addenda as required by Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). In 10 CFR 50.55a(a)(3) it states that alternatives to the requirements of paragraph (g) may be used, when authorized by the U.S. Nuclear Regulatory Commission (NRC), if the licensee demonstrates that: (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 difficulty 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 pre-service examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection (ISI) 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 first 10-year 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) twelve months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. The Code of record for the Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3, second 10-year ISI interval is the 1980 Edition through 1981 Winter Addenda of the ASME B&PV Code.

The NRC staff previously approved relief request RR-13 (Revision 2) by letter to Mr. James A. Hutton of PECO Energy Company (PECO) dated May 31, 2000.

Enclosure

2.0 EVALUATION

The Materials and Chemical Engineering Branch has reviewed the information concerning the second 10-year ISI program Request for Relief No. 13, Revision 3, for PBAPS Units 2 and 3, in the PECO (the previous licensee) letter dated January 5, 2001. PECO was succeeded by Exelon Generation Company, LLC (EGC) as the licensed operator of PBAPS Units 2 and 3 on January 12, 2001. By letter dated January 30, 2001, EGC requested that the NRC staff continue to process and disposition licensing actions previously docketed and requested by PECO.

The information provided by the licensee in support of the request for relief from Code requirements has been evaluated and the basis for disposition is documented below.

Request for Relief No. 13, Revision 3 Category B-D, Item B3.90, Full Penetration Nozzle-to-Vessel Welds in Class 1 Pressure Vessels

Code Requirements:

ASME Code, Section XI, Table IWB-2500-1, Examination Category B-D, Item No. B9.30 requires 100% volumetric examination of all full penetration nozzle-to-vessel welds as detailed in Figures IWB-2500-7(a) through -7(d) each inspection.

Licensee's Code Relief Request (As stated):

"Relief is requested from performance of a complete examination of the Code required volume due to access restrictions as a consequence of plant design and/or component configuration."

System/Components(s) for Which Relief is Requested:

Table RR-13-1, Unit 2 Category B-D Welds ^{1,6}				
Nozzle Identification/Description (Note 9)	Actual Data Reported in Rev 1 of this relief			Added Information per Rev 3
	Type Scan ²	% Code Complete ³	% Inner 1/4T Code Complete ⁴	% Composite Coverage ⁸
N1A Recirculation Outlet	45T	17.2(A)	41.5(A)	
	60T	28.3(A)	66.9(A)	
	60P	23.6(A)	57.2(A)	
N1B Main Recirc Outlet	-	-	-	28.5
N2A Recirculation Inlet	45T	29.1(A)	51.5(A)	
	60T	37.4(A)	71.1(A)	
	60P	23.0(A)	43.9(A)	
N2B Recirculation Inlet	45T	28.7(A)	50.8(A)	
	60T	36.9(A)	70.1(A)	
	60P	22.7(A)	43.2(A)	
N2C Recirculation Inlet	45T	28.7(A)	50.8(A)	

Table RR-13-1, Unit 2 Category B-D Welds ^{1, 6}				
Nozzle Identification/Description (Note 9)	Actual Data Reported in Rev 1 of this relief			Added Information per Rev 3
	Type Scan ²	% Code Complete ³	% Inner 1/4T Code Complete ⁴	% Composite Coverage ⁸
	60T	36.9(A)	70.1(A)	
	60P	24.0(A)	45.8(A)	
N2D Recirculation Inlet	45T	29.5(A)	52.2(A)	
	60T	37.9(A)	72.1(A)	
	60P	23.4(A)	44.5(A)	
N2E Recirculation Inlet	45T	32.0(A)	56.7(A)	
	60T	41.1(A)	78.1(A)	
	60P	25.7(A)	48.9(A)	
N2F Recirculation Inlet	45T	28.2(A)	50.0(A)	
	60T	36.3(A)	69.0(A)	
	60P	22.4(A)	42.6(A)	
N2G Main Recirc Inlet	-	-	-	36.6
N2H Recirculation Inlet	45T	33.6(A)	59.6(A)	
	60T	43.2(A)	82.2(A)	
	60P	26.7(A)	50.8(A)	
N2J Main Recirc Inlet	-	-	-	41.7
N2K Main Recirc Inlet	-	-	-	37.4
N3A Main Steam	45T	9.6(A)	33.4(A)	
	60T	23.7(A)	66.9(A)	
	60P	11.3(A)	40.1(A)	
N3B Main Steam	-	-	-	17.4
N3C Main Steam	-	-	-	18.1
N3D Main Steam	45T	8.9(A)	31.2(A)	
	60T	22.2(A)	62.5(A)	
	60P	10.4(A)	36.7(A)	
N4A Feedwater	-	-	-	29.3
N4B Feedwater	-	-	-	30.7
N4C Feedwater	-	-	-	33
N4D Feedwater	-	-	-	36.3

Table RR-13-1, Unit 2 Category B-D Welds ^{1, 6}				
Nozzle Identification/Description (Note 9)	Actual Data Reported in Rev 1 of this relief			Added Information per Rev 3
	Type Scan ²	% Code Complete ³	% Inner 1/4T Code Complete ⁴	% Composite Coverage ⁸
N4E Feedwater	-	-	-	27.2
N4F Feedwater	-	-	-	28.2
N5A Core Spray	45T	23.6(A)	46.7(A)	
	60T	34.2(A)	65.1(A)	
	60P	19.7(A)	39.4(A)	
N5B Core Spray	45T	23.6(A)	46.7(A)	
	60T	34.2(A)	65.1(A)	
	60P	19.7(A)	39.4(A)	
N6A CH-NA Nozzle	-	-	-	36.2
N6B CH-NC Nozzle	-	-	-	35.6
N7	-	-	-	(minimum) 30 (see Note 10)
N8A Jet Pump Inst.	45T	92.4(M)	100.0(M)	
	60T	93.0(M)	100.0(M)	
	45P	80.1(M)	83.7(M)	
	60P	80.1(M)	83.7(M)	
N8B Jet Pump Inst.	-	-	-	76.3 (Changed from 76.7 as reported in Rev 2)
N9 Control Rod Drive	-	-	-	25.8
N10 SLC Nozzle	-	-	-	0 ⁷

Footnotes for Table RR-13-1:

1. Component inspectability is based on actual examination results.
2. Unless indicated, a 45-degree parallel scan is not practical due to weld configuration.
3. % Code complete is that percent of the ASME Code required examination volume which can effectively be examined using automated (A) or manual (M) ultrasonic examination techniques.
4. % inner 1/4T Code complete is that percent of the critical inner 1/4T wall volume which can effectively be examined using automated (A) or manual (M) ultrasonic examination techniques.
5. Deleted
6. The total number of nozzles in revision 1 of this relief was 30. It increased to 31 because an additional component, N-10, was reclassified into this examination Category B-D, Item 3.90. It was previously categorized incorrectly as B-E, the category for partial penetration weld nozzles.
7. Nozzle N-10 was inaccessible due to interferences with the bio-shield and mirror insulation.
8. The percent composite coverage is determined by the examiner's procedure. The procedure applies to the specific equipment utilized for the examination and complies with ASME Code, Section XI, and Section V, Article 4.
9. All of the 31 nozzles (Category B-D, Item No. B3.90) are included in the table.

10. The data necessary to calculate nozzle N7 coverage was not obtained due to the use of a procedure that was subsequently superceded. The nozzle was identified as greater than 90% coverage in Revision 2 because 360-degree coverage was obtained by a manual examination. A calculation to determine the coverage was not able to be performed because the inspection technique of the (superceded) procedure did not require recording some of the inspection information required by the subsequent procedure to enable the calculation to be performed. In lieu of the calculation to identify the appropriate code coverage, the similar Unit 3 (other unit) N7 nozzle coverage will be used to estimate the % coverage. The Unit 3 N7 nozzle coverage was calculated with current procedures, and was determined to be 48.62%. Therefore, a conservatively estimated coverage of a minimum of 30% is being reported for Unit 2 nozzle N7. (PECO Energy Company reference PEP 10010423.)

Table RR-13-2, Unit 3 Category B-D Welds ^{1,6}				
Nozzle Identification/Description Note 8	Actual Data Reported in Rev. 1 of this Relief			Added Information per Rev. 3
	Type Scan ²	% Code Complete ³	% Inner 1/4T Code Complete ⁴	% Composite Coverage ⁷
N1A Recirculation Outlet	45T	6.2(A)	27.0(A)	
	60T	18.9(A)	63.5(A)	
	60P	12.4(A)	47.6(A)	
N1B Main Recirc Outlet	-	-	-	28.6
N2A Recirculation Inlet	45T	16.1(A)	40.4(A)	
	60T	30.5(A)	70.2(A)	
	60P	13.9(A)	34.3(A)	
N2B Recirculation Inlet	45T	14.9(A)	37.4(A)	
	60T	28.3(A)	65.1(A)	
	60P	12.8(A)	31.8(A)	
N2C Recirculation Inlet	45T	17.1(A)	42.8(A)	
	60T	32.3(A)	74.3(A)	
	60P	14.7(A)	36.4(A)	
N2D Recirculation Inlet	45T	16.4(A)	41.0(A)	
	60T	31.0(A)	71.2(A)	
	60P	13.9(A)	34.3(A)	
N2E Recirculation Inlet	45T	16.6(A)	41.6(A)	
	60T	31.4(A)	72.3(A)	
	60P	14.3(A)	35.4(A)	
N2F Recirculation Inlet	45T	16.1(A)	40.4(A)	
	60T	31.4(A)	72.3(A)	
	60P	14.3(A)	35.4(A)	
N2G Main Recirc Inlet	-	-	-	26.36
N2H Recirculation Inlet	45T	16.8(A)	42.2(A)	
	60T	31.9(A)	73.3(A)	
	60P	14.3(A)	35.4(A)	
N2J Main Recirc Inlet	-	-	-	26.36
N2K Main Recirc Inlet	-	-	-	26.36

Table RR-13-2, Unit 3 Category B-D Welds ^{1,6}				
Nozzle Identification/Description Note 8	Actual Data Reported in Rev. 1 of this Relief			Added Information per Rev. 3
	Type Scan ²	% Code Complete ³	% Inner 1/4T Code Complete ⁴	% Composite Coverage ⁷
N3A Main Steam	45T	9.8(A)	38.1(A)	
	60T	24.3(A)	76.4(A)	
	60P	11.4(A)	45.0(A)	
N3B Main Steam	-	-	-	30.23
N3C Main Steam	-	-	-	30.23
N3D Main Steam	45T	9.4(A)	36.6(A)	
	60T	23.4(A)	73.4(A)	
	60P	11.0(A)	43.4(A)	
N4A Feedwater	-	-	-	26.5
N4B Feedwater	-	-	-	31.0
N4C Feedwater	-	-	-	25.7
N4D Feedwater	-	-	-	32.2
N4E Feedwater	-	-	-	16.4
N4F Feedwater	-	-	-	28.9
N5A Core Spray	45T	19.9(A)	44.0(A)	
	60T	31.3(A)	65.4(A)	
	60P	15.1(A)	35.6(A)	
N5B Core Spray	45T	20.2(A)	44.7(A)	
	60T	31.8(A)	66.4(A)	
	60P	15.3(A)	36.2(A)	
N6A CH-NA Nozzle	-	-	-	(minimum) 30 (see note 9)
N6B CH-NC Nozzle	-	-	-	(minimum) 30 (see note 9)
N7 CH-NB Nozzle	-	-	-	48.62
N8A Jet Pump Inst.	45T	91.8(M)	100.0(M)	
	60T	92.5(M)	100.0(M)	
	45P	77.3(M)	80.7(M)	
	60P	77.3(M)	80.7(M)	
N8B Jet Pump Inst.	-	-	-	76.7
N9 Control Rod Drive	-	-	-	33.1
N10 SLC Nozzle	-	-	-	43.3

Footnotes for Table RR-13-2:

1. Component inspectability is based on actual examination results.
2. Unless indicated, a 45-degree parallel scan is not practical due to weld configuration.

3. % Code complete is that percent of the ASME Code required examination volume which can effectively be examined using automated (A) or manual (M) ultrasonic examination techniques.
4. % inner 1/4T Code complete is that percent of the critical inner 1/4T wall volume which can effectively be examined using automated (A) or manual (M) ultrasonic examination techniques.
5. Deleted
6. The total number of nozzles in revision 1 of this relief was 30. It increased to 31 because an additional component, N-10, was reclassified into this examination Category B-D, Item 3.90. It was previously categorized incorrectly as B-E, the category for partial penetration weld nozzles.
7. The percent composite coverage is determined by the examiner's procedure. The procedure applies to the specific equipment utilized for the examination and complies with ASME Code, Section XI, and Section V, Article 4.
8. All of the 31 nozzles (Category B-D, Item No. B3.90) are included in the table.
9. The data necessary to calculate the nozzle N6A and N6B coverages was not obtained due to the use of a procedure that was subsequently superseded. A calculation to determine the coverages was not able to be performed and is, therefore, not used as the code acceptable coverage. In lieu of the calculation to identify the code coverage, the similar Unit 2 (other unit) N6A and N6B nozzle coverages will be used to estimate the percent coverage. The Unit 2 N6A and N6B nozzle coverages were calculated with current procedures, and were determined to be 36.2% and 35.6%, respectively. Therefore, a conservatively estimated coverage of a minimum of 30% is being utilized for nozzles N6A and N6B. (PECO Energy Company reference PEP 10010423).

Licensee's Basis for Requesting Relief (as stated):

PBAPS has thirty-one (31)⁶ Code Category B-D nozzle to vessel attachment welds on each unit, many of which cannot be completely examined due to vessel nozzle forging configuration. The barrel type nozzle forging configuration precludes complete ultrasonic examination since scanning of the weld is only practical from one side of the weld. Also, in support of ALARA, many of the nozzle to vessel welds are examined utilizing a remote automated nozzle scanner; thereby, slightly exaggerating the limitations, versus a manual examination, due to scanner design. In addition to the nozzle forging configuration, physical design restrictions, such as adjacent components, further limit the available scan path.

Tables RR-13-1 (Unit 2) and RR-13-2 (Unit 3) list the nozzle to vessel welds and detail the extent of examinations completed. The tables show information from the Rev. 1 submittal and the supplemental information required for this submittal.

All examinations are performed to the maximum extent practical. In the case of examinations performed utilizing remote automatic equipment, only a very slight increase in examination coverage (~5%) can be realized with supplemental manual exams; however, this small increase comes with a significant increase in personnel exposure, and, therefore, manual examination was not performed.

Limited volumetric examination coupled with the visual examination requirements of Code Examination Category B-P during system pressure testing provide reasonable assessment of weld structural integrity.

The licensee made the following changes in Revision 3 of Request for Relief RR-13: (As stated)

1. The first correction involves correcting the reported coverage for Unit 2, N8B nozzle. As the result of a transposition error, the correct calculated percent coverage should have been 76.3% as compared to the reported coverage of 76.7%.

2. RR- 13 is being updated to the enclosed Revision 3 to correct inconsistencies in the way that the percent coverages for nozzles N6A (Unit 3), N6B (Unit 3) and N7 (Unit 2) were reported. These three nozzles were examined with approved techniques and procedures at that time. Since then, the knowledge of the techniques, and the method and ability to calculate the resultant coverages has improved. The relief has been revised to identify this inconsistency in the nozzle coverages. Further discussion is provided in Notes 10 and 9 of the attached RR-13, for PBAPS Units 2 and 3, respectively.
3. Associated with the inconsistency described above for the N7 (Unit 2) nozzle, Note 9 of the Unit 2 table is also being revised to reflect that 31 nozzles are included in the Unit 2 table as compared to 30 nozzles previously identified in the Revision 2 Note 9. RR-13 previously reported N7 (Unit 2) as achieving greater than 90% coverage and was not included in the total of 30 nozzles.
4. The reference to Note 9 on the Unit 2 table, and Note 8 on the Unit 3 table have been added for clarity.
5. The coverages for the feedwater nozzle to vessel welds (N4A, N4B, N4C, N4D, N4E and N4F) for Unit 3 were incorrectly calculated due to an error in the spreadsheet used to calculate these coverages. The coverages for these nozzles have been re-calculated.

Licensee's Proposed Alternative Examination (as stated):

No alternate provisions are practical for these examinations.

Evaluation:

The ASME Code requires that the subject Class 1 full penetration nozzle-to-vessel welds be 100% volumetrically examined during the inspection interval. In the NRC Safety Evaluation dated May 31, 2000, relief was granted for the second 10-year inspection interval from the ultrasonic examination coverage requirements of Item 3.90 for Category B-D welds, as specified in Revision 2 of RR-13. Revision 3 of RR-13 requests the same relief for all but one of the remaining Category B-D welds for Nozzle N7 in Unit 2, and all of the remaining Category B-D welds in Unit 3. The licensee revised this relief as part of the corrective actions associated with errors identified in the submittal of Request for Relief 13, Revision 2. The corrections were minor and included percentage of coverage increases, a reduction by four tenths of a percent for one weld, and clarification of the table footnotes as noted above.

For the Unit 2 CH-NB Nozzle N7 the licensee noted that the data necessary to calculate nozzle N7 coverage was not obtained due to the procedure in effect at the time, that did not require the recording of some of the relevant inspection information. That version of the procedure has since been revised. The nozzle was identified as greater than 90% coverage in Revision 2, because 360-degree coverage was obtained by a manual examination. To determine the estimated amount of coverage obtained for the Unit 2 N7 nozzle, the licensee used the Unit 3 N7 nozzle inspection data and the revised procedures. The licensee's calculated volumetric coverage for the Unit 2 N7 nozzle was 48.62%. To be conservative, the licensee in its relief request reported that the Unit 2 N7 nozzle estimated volumetric coverage was 30%. Therefore, this relief is based on the Unit 2 N7 nozzle estimated volumetric coverage of 30%.

CH-NB Nozzle N7 is of the barrel-type design. This design limits examination to one side of the weld, thus limiting the extent of ultrasonic coverage. Additionally, access is restricted due to plant design and the location of other components, which further limits examination coverage. Based on the information provided in this request for relief the staff determined that it is impractical to examine the subject weld to the extent required by the ASME Code. In order to obtain the required examination coverage, redesign and modification of the reactor vessel and other structures and components would be necessary. Imposition of this requirement would result in a significant burden on the licensee.

The licensee has examined the subject weld to the extent practical, which amounts to an estimated composite coverage of 30%. The percentages covered on individual welds along with the information obtained from similar nozzle weld examinations should have revealed any ongoing conditions of degradation if it had occurred. The limited examinations combined with visual inspections (VT-2) performed during system pressure tests provide reasonable assurance of the continued structural integrity of these nozzle-to-vessel welds. Therefore, relief is granted pursuant to 10 CFR 50.55a(g)(6)(i) for the Unit 2, CH-NB Nozzle N7 weld.

3.0 CONCLUSION

The NRC staff concludes that the relief request as evaluated by this safety evaluation will provide reasonable assurance of structural integrity of the subject components in the licensee's Request for Relief 13, Revision 3. The NRC staff has determined for the Unit 2 CH-NB Nozzle N7 weld that the requirements of the ASME Code are impractical and that relief is granted pursuant to 10 CFR 50.55a(g)(6)(i) for RR-13, Revision 3.

Furthermore, the NRC staff concludes that only administrative corrections were made regarding the remaining welds and the technical evaluation remains the same as it did for Revisions 1 and 2 of the subject request for relief. Therefore, relief remains granted pursuant to 10 CFR 50.55a(g)(6)(i) for Request for Relief 13, Revision 3. 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. Request for Relief 13, Revision 3, was for the closure of the second 10-year ISI interval, which concluded on November 4, 1998, and August 14, 1998, for PBAPS Units 2 and 3 respectively.

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