

**PECO NUCLEAR**

A Unit of PECO Energy

Nuclear Group Headquarters
200 Exelon Way
Kennett Square, PA 19348

January 5, 2001

Docket Nos. 50-277
50-278License Nos. DPR-44
DPR-56U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Subject: Peach Bottom Atomic Power Station, Units 2 and 3
Submittal of Revised Relief Request (RR) 13 associated with the Second
10 Year Interval Inservice Interval (ISI) Program

- References:
- 1) Letter from G. D. Edwards (PECO Energy Company) to U. S. Nuclear Regulatory Commission, dated June 24, 1999
 - 2) Letter from J. A. Hutton (PECO Energy Company) to U. S. Nuclear Regulatory Commission, dated November 11, 1999
 - 3) Letter from J. W. Clifford (U. S. Nuclear Regulatory Commission) to J. A. Hutton (PECO Energy Company), dated May 31, 2000

Dear Sir/Madam:

In the Reference 1 letter, PECO Energy Company supplied for your review and approval seven (7) proposed relief requests and one (1) alternative associated with the end of the second, ten-year-interval, Inservice Inspection (ISI) Program for the Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3. The second, ten-year-interval concluded for PBAPS, Units 2 and 3 on November 4, 1998, and August 14, 1998, respectively.

These seven (7) relief requests and one (1) alternative were submitted in accordance with 10 CFR 50.55a(g)(5)(iv) within 12 months from the completion of the interval. The seven (7) (six (6) new and one (1) revised) relief requests were submitted per 10 CFR 50.55a(g)(5) based on impracticability. The one (1) proposed alternative was requested per 10 CFR 50.55a(a)(3)(i) for an examination performed after the closure of the interval. These requests and alternative were approved in the Reference 3 letter.

The purpose of this letter is to revise Relief Request (RR) 13 to Revision 3. As a result of a review initiated as a part of the corrective actions associated with an error identified in the submittal of one of the relief requests associated with our third, ten-year interval, Inservice Inspection (ISI) Program discussed in the Reference 2 letter, errors were discovered in RR-13. These are minor corrections which do not effect the conclusions reached regarding the acceptability of the relief as discussed in the Reference 3 letter.

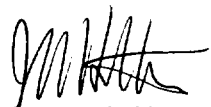
A047

The corrections are as follows:

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.

If you have any questions, please contact us.

Very truly yours,



James. A. Hutton
Director - Licensing

Attachment

cc H. J. Miller, Administrator, Region I, USNRC
A. C. McMurtry, USNRC Senior Resident Inspector, PBAPS

ATTACHED REVISED RELIEF REQUEST

Relief Request RR-13

RELIEF REQUEST NO. RR-13
Revision 3

Note: Revision 1 of this relief was approved in an NRC SER dated 12/23/92.
The revision 2 changes were submitted to NRC by letter dated June 24, 1999. This revision 3 includes corrections identified during a review of submitted relief requests per PEP 10010423. Corrections are identified by revision bars in the margin.

I. IDENTIFICATION OF COMPONENTS

ISI Class 1 full penetration nozzle to vessel welds in the reactor pressure vessel, Code Examination Category B-D, Item Number B3.90.

II. CODE REQUIREMENTS FROM WHICH RELIEF IS REQUESTED

ASME Section XI 1980 Edition Winter 1981 Addenda, Code Category B-D requires volumetric examination of the nozzle to vessel welds (full penetration) of all nozzles in the reactor pressure vessel during the second inservice inspection interval.

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.

III. BASIS FOR RELIEF

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 plant 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 ($\approx 5\%$) 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.

IV. ALTERNATE PROVISIONS

No alternate provisions are practical for these examinations.

RELIEF REQUEST NO. RR-13 REV. 3 (CONTD)

TABLE RR-13-1

Effect of Nozzle Design Configuration on Component Inspectability¹
Examination Category B-D, Item No B3.90

Unit 2

Nozzle Identification/Description (note 9)	Actual Data Reported in Rev 1 of this relief			Added information per Rev 2
	Type Scan (note 2)	% Code Complete (note 3)	% Inner 1/4T Code Complete (note 4)	% Composite Coverage (note 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)	
	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)	

RELIEF REQUEST NO. RR-13 REV. 3 (CONTD)

Unit 2

Nozzle Identification/Description (note 9)	Actual Data Reported in Rev 1 of this relief			Added information per Rev 2
	Type Scan (note 2)	% Code Complete (note 3)	% Inner 1/4T Code Complete (note 4)	% Composite Coverage (note 8)
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 In	--	--	--	41.7
N2K Main Recirc In	--	--	--	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	--	--	--	33.0

RELIEF REQUEST NO. RR-13 REV. 3 (CONTD)

Unit 2

Nozzle Identification/Description (note 9)	Actual Data Reported in Rev 1 of this relief			Added information per Rev 2
	Type Scan (note 2)	% Code Complete (note 3)	% Inner 1/4T Code Complete (note 4)	% Composite Coverage (note 8)
N4D Feedwater	--	--	--	36.3
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 CH-NB Nozzle	--	--	--	(minimum) 30 (See note 10)
N8A Jet Pump Instrumentation	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 Instrumentation	--	--	--	76.3 (Changed from 76.7 as reported in Rev. 2)
N9 Control Rod Drive Nozzle	--	--	--	25.8
N10 SBLC Nozzle	--	--	--	0% (note 7)

RELIEF REQUEST NO. RR-13 REV. 3 (CONTD)

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 No. 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 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 I0010423.)

RELIEF REQUEST NO. RR-13 REV. 3 (CONTD)

TABLE RR-13-2

Effect of Nozzle Design Configuration on Component Inspectability¹
Examination Category B-D, Item No. B3.90

Unit 3

Nozzle Identification/Description (note 8)	Actual Data Reported in Rev 1 of this relief			Added Information per Rev 2
	Type Scan (note 2)	% Code Complete (note 3)	% Inner 1/4T Code Complete (note 4)	% Composite Coverage (note 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)	

RELIEF REQUEST NO. RR-13 REV. 3 (CONTD)

Unit 3

Nozzle Identification/Description (note 8)	Actual Data Reported In Rev 1 of this relief			Added Information per Rev 2
	Type Scan (note 2)	% Code Complete (note 3)	% Inner 1/4T Code Complete (note 4)	% Composite Coverage (note 7)
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 In	--	--	--	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 In	--	--	--	26.36
N2K Main Recirc In	--	--	--	26.36
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

RELIEF REQUEST NO. RR-13 REV. 3 (CONTD)

Unit 3

Nozzle Identification/Description (note 8)	Actual Data Reported in Rev 1 of this relief			Added Information per Rev 2
	Type Scan (note 2)	% Code Complete (note 3)	% Inner 1/4T Code Complete (note 4)	% Composite Coverage (note 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 Instrumentation	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 Instrumentation	--	--	--	76.7
N9 Control Rod Drive Nozzle	--	--	--	33.1
N10 SBLC Nozzle	--	--	--	43.3

RELIEF REQUEST NO. RR-13 REV. 3 (CONTD)

Footnotes for Table RR 13-2:

- 1) Component inspectability 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 this category was 30. It increased to 31 because an additional component, N-10, was reclassified into this examination category B-D, Item No. 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 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 I0010423.)