



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

February 10, 1989

Dockets Nos. 50-277/278

Mr. George A. Hunger, Jr.  
Director-Licensing  
Philadelphia Electric Company  
Correspondence Control Desk  
P. O. Box 7520  
Philadelphia, Pennsylvania 19101

Dear Mr. Hunger:

SUBJECT: TECHNICAL SPECIFICATIONS TO REFLECT RECIRCULATION SYSTEM  
MODIFICATIONS (UNITS 2 AND 3) AND REMOVAL OF HEAD SPRAY PIPING (UNIT 3)  
(TAC NOS. 67880/67881)

RE: PEACH BOTTOM ATOMIC POWER STATION, UNIT NOS. 2 AND 3

The Commission has issued the enclosed Amendments Nos. 138 and 140 to Facility Operating License Nos. DPR-44 and DPR-56 for the Peach Bottom Atomic Power Station, Unit Nos. 2 and 3. These amendments consist of changes to the Technical Specifications in response to your application dated March 21, 1988 as supplemented on September 23, 1988. The supplemental letter did not make substantive changes to the original application.

These amendments (a) revise the Technical Specification (TS) Bases to reflect the Codes now applicable to the recirculation system piping for Units 2 and 3, (b) revise the TS to reflect removal of the head spray piping for Unit 3, and (c) revise the TS to reflect removal of the recirculation system cross-tie piping and equalizer valves for Units 2 and 3. The category c changes related to the cross-tie piping and equalizer valves involve changes to TS page 148 as appropriately noted by the change bar on that page and as discussed and supported in the body of your application. However, TS page 148, as submitted with your application also contains changes to paragraphs 3.6.E.3 and 4 and 4.6.E.1.c and d that are not noted by change bars and are not supported in the body of the application. Accordingly, since these items are not properly included in or supported by the application and are not related to the stated subject of the application they are not dealt with by this amendment.

8902220384 890210  
PDR ADCK 05000277  
F PDC

DF01  
11 C/P-1  
cc

Mr. George A. Hunger, Jr.

- 2 -

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

  
Robert E. Martin, Project Manager  
Project Directorate I-2  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 138 to DPR-44
2. Amendment No. 140 to DPR-56
3. Safety Evaluation

cc w/enclosures:  
See next page

Mr. George A. Hunger, Jr.

- 2 -

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

/s/

Robert E. Martin, Project Manager  
Project Directorate I-2  
Division of Reactor Projects I/II  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 138 to DPR-44
2. Amendment No. 140 to DPR-56
3. Safety Evaluation

cc w/enclosures:  
See next page

DISTRIBUTION: w/enclosures

Docket File	ACRS(10)	Brent Clayton
NRC PDR	GPA/PA	RGallo
Local PDR	OGC	
PDI-2 Rdg.	RDiggs, ARM/LFMB	
SVarga	TMeeks(8)	
BBoger	EJordan	
WButler	DHagan	
REMartin(2)	Wanda Jones	
RClark	P. T. Kuo	
MO'Brien(2)	EButcher	
BGrimes	TMarsh	

[HUNGER LETTER]

Previously concurred\*

*MB*  
PDI-2/DA  
MO'Brien  
1/18/89

PDI-2/PM\*  
REMartin:tr  
01/17/89

*RM*  
Chief, MEB  
TMarsh  
2/8/89

*OGC OK*  
OGC  
1/29/89

*WB*  
PDI-2/D  
WButler  
2/9/89

Mr. George A. Hunger, Jr.  
Philadelphia Electric Company

Peach Bottom Atomic Power Station,  
Units 2 and 3

cc:

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Environmental Resources  
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Manager - External Affairs  
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Hancocks Bridge, New Jersey 08038

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Power Plant Research Program  
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Tawes State Office Building  
Annapolis, Maryland 21401

Mr. Roland Fletcher  
Department of Environment  
201 West Preston Street  
Baltimore, Maryland 21201



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

PHILADELPHIA ELECTRIC COMPANY

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-277

PEACH BOTTOM ATOMIC POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 138  
License No. DPR-44

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Philadelphia Electric Company, et al. (the licensee) dated March 21, 1988 as supplemented on September 23, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I.
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health or safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. DPR-44 is hereby amended to read as follows:

8902220394 890210  
PDR ADOCK 05000277  
PDC

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 138, are hereby incorporated in the license. PECO shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/s/

Walter R. Butler, Director  
Project Directorate I-2  
Division of Reactor Projects I/II

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: February 10, 1989

PDI-2/D  
WButler  
1/18/89

PDI-2/PM  
REMartin:tr  
12/26/88  
01/17/89

OGC  
JMoore  
01/30/88

PDI-2/D  
WButler  
2/19/88

WB

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 138, are hereby incorporated in the license. PECO shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Walter R. Butler, Director  
Project Directorate I-2  
Division of Reactor Projects I/II

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: February 10, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 138

FACILITY OPERATING LICENSE NO. DPR-44

DOCKET NO. 50-277

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Remove

31  
148

Insert

31  
148

## PBAPS

1.2 BASES

The reactor coolant system integrity is an important barrier in the prevention of uncontrolled release of fission products. It is essential that the integrity of this system be protected by establishing a pressure limit to be observed for all operating conditions and whenever there is irradiated fuel in the reactor vessel.

The pressure safety limit of 1325 psig as measured by the vessel steam space pressure indicator assures not exceeding 1375 psig at the lowest elevation of the reactor coolant system. The 1375 psig value is derived from the limiting design pressures of the reactor pressure vessel (1250 psig at 575 degrees F) and recirculation system piping (suction piping: 1250 psig at 575 degrees F). The pressure safety limit is set in accordance with the ASME Boiler and Pressure Vessel Code Section III to limit the maximum pressure to less than 110% of the design pressures for the reactor vessel ( $110\% \times 1250 = 1375$  psig) and the recirculation system piping (suction:  $110\% \times 1250 = 1375$  psig.).

A safety limit is applied to the Residual Heat Removal System (RHRS) when it is operating in the shutdown cooling mode. At this time it is included in the reactor coolant system.

## PBAPS

LIMITING CONDITION FOR OPERATION

## 3.6.E Jet Pumps

1. Whenever the reactor is in the startup or run modes, all jet pumps shall be operable. If it is determined that a jet pump is inoperable, an orderly shutdown shall be initiated and the reactor shall be in a Cold Shutdown within 24 hours.
2. Flow indications from each of the 20 jet pumps during two loop operation or 10 jet pumps during single loop operation shall be verified prior to initiation of reactor startup from a cold shutdown condition.
3. The indicated core flow is the sum of the flow indication from each of the 20 jet pumps. Flow indication from no more than one jet pump shall be unavailable during two loop operation. If two or more jet pump flow indication failures occur during two loop operation, an orderly shutdown shall be initiated within 12 hours and the reactor shall be in cold shutdown condition within the following 24 hours.
4. During single loop operation, no jet pump flow indication failures in the operating loop are permissible. If a jet pump flow indication failure occurs during single loop operation, an orderly shutdown shall be initiated within 12 hours and the reactor shall be in cold shutdown condition within the following 24 hours.

SURVEILLANCE REQUIREMENTS

## 4.6.E Jet Pumps

1. Whenever there is recirculation flow with the reactor in the startup or run modes, jet pump operability shall be checked daily by verifying that the following conditions do not occur simultaneously:
  - a) The two recirculation loops have a flow imbalance of 15% or more when the pumps are operated at the same speed.
  - b) The indicated value of core flow rate varies from the value derived from loop flow measurements by more than 10%.
  - c) During two loop operation, the diffuser to lower plenum differential pressure reading on an individual jet pump varies from the mean of all jet pump differential pressures by more than 10%.
  - d) During single loop operation, diffuser to lower plenum differential pressure reading on an individual jet pump in the operating loop varies from the mean of all jet pump differential pressures in the operating loop by more than 10%.
2. Additionally when operating one recirculation pump, the diffuser to lower plenum differential pressure shall be checked daily and the differential pressure of any jet pump in the idle loop shall not vary by more than 10% from established pattern.
3. The baseline data required to evaluate the conditions in specification 4.6.E.1 and 4.6.E.2 will be obtained each operating cycle.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

PHILADELPHIA ELECTRIC COMPANY

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-278

PEACH BOTTOM ATOMIC POWER STATION, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 140  
License No. DPR-56

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Philadelphia Electric Company, et al. (the licensee) dated March 21, 1988 as supplemented on September 23, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I.
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health or safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. DPR-56 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 140, are hereby incorporated in the license. PECO shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/s/  
Walter R. Butler, Director  
Project Directorate I-2  
Division of Reactor Projects I/II

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: February 10, 1989

PDI-2/LA  
McBrien  
1/18/89

PDI-2/PM  
REMartin:tr  
10/14/88  
+ 12/20/88  
01/17/89

OGC  
OK  
gm  
1/30/88

PDI-2/D  
WButler  
2/9/88  
WB

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 140, are hereby incorporated in the license. PECO shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Walter R. Butler, Director  
Project Directorate I-2  
Division of Reactor Projects I/II

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: February 10, 1989

ATTACHMENT TO LICENSE AMENDMENT NO.140

FACILITY OPERATING LICENSE NO. DPR-56

DOCKET NO. 50-278

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

<u>Remove</u>	<u>Insert</u>
31	31
80	80
148	148
180	180
185	185

## PBAPS

1.2 BASES

The reactor coolant system integrity is an important barrier in the prevention of uncontrolled release of fission products. It is essential that the integrity of this system be protected by establishing a pressure limit to be observed for all operating conditions and whenever there is irradiated fuel in the reactor vessel.

The pressure safety limit of 1325 psig as measured by the vessel steam space pressure indicator assures not exceeding 1375 psig at the lowest elevation of the reactor coolant system. The 1375 psig value is derived from the limiting design pressures of the reactor pressure vessel (1250 psig at 575 degrees F) and recirculation system piping (suction piping: 1250 psig at 575 degrees F). The pressure safety limit is set in accordance with the ASME Boiler and Pressure Vessel Code Section III to limit the maximum pressure to less than 110% of the design pressures for the reactor vessel ( $110\% \times 1250 = 1375$  psig) and the recirculation system piping (suction:  $110\% \times 1250 = 1375$  psig.).

A safety limit is applied to the Residual Heat Removal System (RHRS) when it is operating in the shutdown cooling mode. At this time it is included in the reactor coolant system.

TABLE 4.2.A

MINIMUM TEST AND CALIBRATION FREQUENCY FOR PCIS

<u>Instrument Channel (5)</u>	<u>Instrument Functional Test</u>	<u>Calibration Frequency</u>	<u>Instrument Check</u>
1) Reactor High Pressure (Shutdown Cooling Permissive)	(1)	Once/3 months	None
2) Reactor Low-Low-Low Water Level (7)	(1)(3)	Once/operating cycle	Once/day
3) Main Steam High Temp.	(1)(3)	Once/operating cycle	Once/day
4) Main Steam High Flow (7)	(1)(3)	Once/operating cycle	Once/day
5) Main Steam Low Pressure	(1)	Once/3 months	None
6) Reactor Water Cleanup High Flow	(1)	Once/3 months	Once/day
7) Reactor Water Cleanup High Temp.	(1)	Once/3 months	None
8) Reactor Pressure (Feedwater Flush Permissive)	(1)(3)	Once/operating cycle	Once/day
<u>Logic System Functional Test (4) (6)</u>		<u>Frequency</u>	
1) Main Steam Line Isolation Vvs. Main Steam Line Drain Vvs. Reactor Water Sample Vvs.		Once/6 months	
2) RHR - Isolation Vv. Control Shutdown Cooling Vvs.		Once/6 months	
3) Reactor Water Cleanup Isolation		Once/6 months	
4) Drywell Isolation Vvs. TIP Withdrawal Atmospheric Control Vvs. Sump Drain Valves		Once/6 months	
5) Standby Gas Treatment System Reactor Building Isolation		Once/6 months	

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Amendment No. ~~29~~, ~~115~~, ~~121~~, 140

Unit 3

## PBAPS

LIMITING CONDITION FOR OPERATION

## 3.6.E Jet Pumps

1. Whenever the reactor is in the startup or run modes, all jet pumps shall be operable. If it is determined that a jet pump is inoperable, an orderly shutdown shall be initiated and the reactor shall be in a Cold Shutdown within 24 hours.
2. Flow indications from each of the 20 jet pumps during two loop operation or 10 jet pumps during single loop operation shall be verified prior to initiation of reactor startup from a cold shutdown condition.
3. The indicated core flow is the sum of the flow indication from each of the 20 jet pumps. Flow indication from no more than one jet pump shall be unavailable during two loop operation. If two or more jet pump flow indication failures occur during two loop operation, an orderly shutdown shall be initiated within 12 hours and the reactor shall be in cold shutdown condition within the following 24 hours.
4. During single loop operation, no jet pump flow indication failures in the operating loop are permissible. If a jet pump flow indication failure occurs during single loop operation, an orderly shutdown shall be initiated within 12 hours and the reactor shall be in cold shutdown condition within the following 24 hours.

SURVEILLANCE REQUIREMENTS

## 4.6.E Jet Pumps

1. Whenever there is recirculation flow with the reactor in the startup or run modes, jet pump operability shall be checked daily by verifying that the following conditions do not occur simultaneously:
  - a) The two recirculation loops have a flow imbalance of 15% or more when the pumps are operated at the same speed.
  - b) The indicated value of core flow rate varies from the value derived from loop flow measurements by more than 10%.
  - c) During two loop operation, the diffuser to lower plenum differential pressure reading on an individual jet pump varies from the mean of all jet pump differential pressures by more than 10%.
  - d) During single loop operation, diffuser to lower plenum differential pressure reading on an individual jet pump in the operating loop varies from the mean of all jet pump differential pressures in the operating loop by more than 10%.
2. Additionally when operating one recirculation pump, the diffuser to lower plenum differential pressure shall be checked daily and the differential pressure of any jet pump in the idle loop shall not vary by more than 10% from established pattern.
3. The baseline data required to evaluate the conditions in specification 4.6.E.1 and 4.6.E.2 will be obtained each operating cycle.

TABLE 3.7.1 (Cont'd.)  
PRIMARY CONTAINMENT ISOLATION VALVES

Group	Valve Identification	Number of Power Operated Valves		Maximum Operating Time (sec.)	Normal Position	Action on Initiating Signal
		Inboard	Outboard			
NA	Feedwater check valves	2*	2*	NA	0	Process
3	Radioactive gas sample isolation valves	4	1#	NA	C	SC
3	Instrument nitrogen compressor suction line isolation valves	1#	1	5	0	GC
3	Oxygen Analyzer System		14	NA	0	GC
NA	Standby liquid control system check valves	1*	1*	NA	C	Process
2B	RHRS shutdown cooling suction isolation valves	1	1	32	C	SC
2B	RHRS shutdown cooling injection isolation valves		1	24	C	SC
2C	Feedwater Flush Valves		2	50	C	SC
4	HPCIS steam line isolation valves	1	1	20	0	GC
5	RCICS steam line isolation valves	1	1	15	0	GC
2A	Reactor water cleanup system isolation valves	1	1	30	0	GC
2A	Reactor water cleanup system return isolation valve		1	20	0	GC

\*Valves not power operated.

#Effective upon completion of the modification required by NUREG 0578, item 2.1.5a

-180-

Amendment No. ~~50~~, ~~51~~, ~~72~~, 140

Unit 3

## PBAPS

TABLE 3.7.4PRIMARY CONTAINMENT TESTABLE ISOLATION VALVES

<u>Pen No.</u>			<u>NOTES</u>
7A	A0-2-80A; A0-2-86A	MSIV	(1) (2) (3) (5) (9)
7B	A0-2-80B; A0-2-86B	"	"
7C	A0-2-80C; A0-2-86C	"	"
7D	A0-2-80D; A0-2-86D	"	"
8	MO-2-74; MO-2-77		(1) (2) (4) (5) (9)
9A	MO-23-19; MO-23-20; MO-23-21		"
9A	MO-2-38A; MO-3663		"
9B	MO-13-21; MO-13-20; MO-13-30; MO-12-68;		"
9B	MO-2-38B; MO-3663		"
10	MO-13-15; MO-13-16		"
11	MO-23-15; MO-23-16; A0-5807*		"
12	MO-10-17; MO-10-18		"
13A	MO-10-25B; MO-10-154B; SV-5222		"
13B	MO-10-25A; MO-10-154A; SV-5221		"
14	MO-12-15; MO-12-18		"
16A	MO-14-12B; MO-14-11B; SV-5224		"
16B	MO-14-12A; MO-14-11A; SV-5225		"
18	A0-20-82; A0-20-83		"
19	A0-20-94; A0-20-95		"

\* Effective upon completion of the modification authorized by Amendment No. 46.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION SUPPORTING  
AMENDMENT NOS. 138 AND 140 TO FACILITY OPERATING  
LICENSE NOS. DPR-44 and DPR-56  
PHILADELPHIA ELECTRIC COMPANY  
PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
DELMARVA POWER AND LIGHT COMPANY  
ATLANTIC CITY ELECTRIC COMPANY  
PEACH BOTTOM ATOMIC POWER STATION, UNIT NOS. 2 AND 3  
DOCKET NOS. 50-277 AND 50-278

1.0 INTRODUCTION

By letter dated March 21, 1988 as supplemented on September 23, 1988, Philadelphia Electric Company requested an amendment to Facility Operating License Nos. DPR-44 and DPR-56 for Peach Bottom Atomic Power Station, Unit Nos. 2 and 3. The supplemental letter did not make substantive changes to the original application. The amendments would make changes to (1) the Units 2 and 3 Technical Specifications (TS) Section 1.2 BASES which revise the description of the values and codes utilized in obtaining the pressure safety limit of the reactor recirculation system, and TS changes which revise the design pressure of the suction piping resulting from the design and analysis of the recirculation system piping to an updated code, (2) the Unit 3 TS to reflect the removal of the containment isolation valves associated with the reactor vessel head spray piping removal and (3) the Units 2 and 3 TS to reflect the elimination of the cross-tie piping and equalizer valves between recirculation loop A and loop B. The licensee discusses these changes as Category A, B and C changes respectively.

2.0 EVALUATION

A. Changes to BASES

The licensee has replaced recirculation system piping in Units 2 and 3 in response to the concerns of intergranular stress corrosion cracking. As a result, it is necessary to revise the BASES of the TS to reflect the values and codes utilized in establishing the pressure safety limit of the reactor recirculation system and to revise the design pressure of the suction piping resulting from installation of piping which has been analyzed to a later version of the ASME Code.

The existing section 1.2 BASES states:

The pressure safety limit of 1325 psig as measured by the vessel steam space pressure indicator assures not exceeding 1375 psig at the lowest elevation of the reactor coolant system. The 1375 psig value is derived from the design pressures of the reactor pressure vessel (1250 psig at 575 degrees F) and coolant system piping (suction piping: 1148 psig at 562 degrees F; discharge piping: 1326 psig at 562 degrees F). The pressure safety limit was chosen as the lower of the pressure transients permitted by the applicable design codes: ASME Boiler and Pressure Vessel Code, Section III for the pressure vessel and ANSI B31.1.0 for the reactor coolant system piping. The ASME Boiler and Pressure Vessel Code permits pressure transients up to 10% over design pressure ( $110\% \times 1250 = 1375$  psig), and the ANSI Code permits pressure transients up to 20% over the design pressure ( $120\% \times 1148 = 1378$  psig;  $120\% \times 1326 = 1591$  psig).

The changes proposed include the following:

- (a) Several clarifications in the second sentence consisting of adding the adjective "limiting" to "design pressure" and substitution of the adjective "recirculation" for "coolant".
- (b) Replacing the suction piping design pressure and temperature from "1148 psig at 562 degrees F" to "1250 psig at 575 degrees F" to reflect the increase in the limiting design pressure of the suction piping which resulted from the later version of the ASME Code.
- (c) The reference to the ANSI B31.1.0 Code would be eliminated in the sentences addressing both the choice of the pressure safety limit and the permissible pressure transients. A reference to the ANSI B31.1.0 Code is no longer appropriate because the recirculation system piping analyzed to that code has been removed and the replacement piping analysis and pressure limits are in accordance with the designated version of the ASME Code.
- (d) The reference to the discharge piping values in the sentences addressing both the choice of the pressure safety limit and the permissible pressure transients is deleted because the pressure safety limit is now, as it also was before, based on the suction piping and not the discharge piping of the recirculation system.

The licensee states that these revisions do not alter the previously established value of the plant pressure safety limit of 1325 psig and therefore do not affect the safety of the plant. The licensee also notes that the revised design pressure of the recirculation system suction piping, from 1148 psig to 1250 psig, is in the conservative direction and that the use of the Type-316NG stainless

steel suction piping results in a greater margin of safety in design pressure above normal operating pressure.

The staff requested additional information regarding whether the use of later versions of the ASME Code also applied to all related requirements for fabrication, inspection, testing and interfaces. In response the licensee provided supplementary information in a letter dated September 23, 1988 which indicates that for the five related activities the applicable code used is as follows:

- ° Design
  - Piping: ASME Section III, 1980 Edition and Winter 1981 Addendum
  - New Supports: ASME Section III, Subsection NF, 1980 Edition and Winter 1981 Addenda
  - Existing Supports: USAS B31.1, 1967 Edition (Original Design Code)
- ° Fabrication and Installation-ASME Section III, 1980 Edition, Winter 1981 Addenda (except for code stamping)
- ° Inspection and Testing
  - NDE: ASME Section V, 1980 Edition, Winter 1981 Addenda
  - ISI: ASME Section XI, 1980 Edition, Winter 1981 Addenda
  - Hydro: ASME Section XI, 1980 Edition, Winter 1981 Addenda
  - ILRT: Technical Specifications
- ° Interfaces-USAS B31.1, 1967 Edition (for welds to reused original piping and components).

The licensee responded to this item by stating that the original Unit 3 recirculation and RHR system piping was installed in accordance with the 1967 Code and that, in accordance with ASME Section XI, the replacement piping can meet the requirements of the original construction Code or later editions of the code. The results of the staff's review of the adequacy of one such interfacing weld may be found in NRC Inspection Report 50-277/88-29; 50-278/88-29. This recirculation pump to pipe weld, which was completed in accordance with the original construction code, was found to be acceptable on the detailed basis provided in the report.

Thus the licensee has shown that these activities have been performed in accordance with consistent versions of the applicable Codes. The staff conclude that these clarifications, and revisions to reflect the Codes used for the replacement of the recirculation system piping are consistent with the staffs' requirements and are acceptable.

### B. Head Spray Line Removal

As part of the piping modifications for Unit 3, the reactor vessel head spray piping of the residual heat removal system and the associated containment isolation valves are proposed to be removed to eliminate a portion of the primary coolant system that is susceptible to IGSCC. Accordingly, the Technical Specifications in Tables 4.2.A, 3.7.1 and 3.7.4 require modification to reflect deletion of the containment isolation valve testing and operability provisions. The containment penetration associated with the head spray line and these valves will be capped on the inboard and outboard sides and will henceforth be tested as part of the containment integrated leak test.

The vessel head spray line is a subsystem of the residual heat removal (RHR) system. The original intent of its design was to use this mode of the RHR system during a normal shutdown and cooldown. In this mode, when the reactor is cooling down, part of the flow from the RHR system would be diverted to a spray nozzle in the reactor head. This spray would maintain saturation conditions in the reactor vessel head volume by condensing steam. This operational option mode has never been used at Peach Bottom Unit 3. The head spray line has no safety function and is not used in any accident analysis. No credit is given for using the head spray to safely shutdown the plant during an accident.

These changes reflect deactivation of the primary containment isolation valves and the testable penetration originally provided for the reactor vessel head spray piping. The penetration will continue to be tested in accordance with 10 CFR 50, Appendix J requirements; however, because the penetration piping will be sealed ("capped off") the valves no longer need be operable or leak-tight. The licensee's proposal is, therefore, acceptable.

### C. Recirculation Loop Cross-Tie Piping and Valves

As part of the piping modifications, the recirculation loop cross-tie piping and the associated equalizer valves (MO-65A, MO-65B, MO-66B) are being removed to eliminate a portion of the primary coolant system that is susceptible to IGSCC degradation.

The original plant design provided a cross connect line with two normally closed valves, between the two recirculation loops (A & B) (Final Safety Analysis Report Section 1.6.1.3.3). The design intent of this cross-tie line was to provide, when in single loop operation (SLO), a means of having the capability to promote equal flow distribution through loops A and B headers. However, the Peach Bottom Units 2 and 3 safety analyses for SLO were performed assuming the cross-tie valves (equalizer) valves to be closed, and not used. SLO as analyzed does not permit the use of the cross-tie line. The licensee further states that the equalizer valves have never been used during reactor power operations and that the cross-tie line has no safety function and no credit for its use has ever

been taken in any accident or transient analysis or the emergency operating procedures. Removal of the cross-tie line would neither increase or decrease recirculation reliability since it has no impact on the recirculation system. Removal of the cross-tie line is beneficial in that it removes a potential location for a primary system pipe break and consequently maintains or enhances the margin of safety.

The current Units 2 and 3 TS Surveillance Requirements, Section 4.6.E.2 ("Jet pumps") reflect the non-use of the cross-tie line and equalizer valves when operating with one recirculation pump. The existing Surveillance Requirement 4.6.E.2 states "Additionally when operating with one recirculation pump with the equalizer valves closed, the diffuser to lower plenum differential pressure ...". The revised Technical Specification eliminates the words "with the equalizer valves closed" since removal of the equalizer valves and cross-tie piping eliminates the need for this restriction.

This change reflects the removal of the recirculation loop cross-tie piping and equalizer valves on the basis that they have no safety function, have not been used in normal operations and constitute a portion of the primary coolant system that is susceptible to IGSCC degradation. The purpose of the Surveillance Requirement 4.6.E.2 will continue to be met since the removal of the piping and valves is equivalent to the equalizer valves being maintained in the closed position. The licensee's proposal is, therefore, acceptable.

### 3.0 ENVIRONMENTAL CONSIDERATIONS

These amendments involve a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes to the surveillance requirements. The staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement nor environmental assessment need be prepared in connection with the issuance of the amendments.

### 4.0 CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (53 FR 22404) on June 15, 1988 and consulted with the State of Pennsylvania. No public comments were received and the State of Pennsylvania did not have any comments.

The staff has concluded, based on the considerations discussed above, that:  
(1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and  
(2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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