February 7, 1985

DMB 016

Dockets Nos. 50-277
and 50-278

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Mr. Edward G. Bauer, Jr.
Vice President and General Counsel
Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

Dear Mr. Bauer:

SUBJECT: TECHNICAL SPECIFICATION AMENDMENTS PERTAINING TO A LICENSE AMENDMENT APPLICATION DATED NOVEMBER 10, 1983

The Commission has issued the enclosed Amendments Nos.104 and 108 , to Facility Operating Licenses Nos. DPR-44 and DPR-56 for the Peach Bottom Atomic Power Station, Units Nos. 2 and 3. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated November 10, 1983.

The changes to the TSs permit continued operation of the Reactor Water Cleanup System (RCWU) with isolation of the filter demineralizers, and permit overriding of an isolation signal for up to 48 hours when the high temperature sensor is inoperable, provided the water temperature is verified to be less than 180°F once per hour. These changes also involve the clarification of TS language related to the scram discharge volume and the deletion of obsolete references to completed modifications.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's next monthly Federal Register notice.

Sincerely,

"ORIGINAL SIGNED BY:"
Gerald E. Gears, Project Manager
Operating Reactors Branch No. 4
Division of Licensing

Enclosures:
1. Amendment No.104 to DPR-44
2. Amendment No.108 to DPR-56
3. Safety Evaluation

8502220415 850207
PDR ADOCK 05000277
P PDR

ORB#4:DL	ORB#4:DL	ORB#4:DL	OELD w/changes	AD:OR:DL
SNorris	GGears;ef	JFStolz	L. Gilkelstein	GCLainas
10/19/84	10/30/84	10/30/84	11/1/84	2/5/85

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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. 104
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 November 10, 1983, 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 and 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:

8502220416 850207
PDR ADOCK 05000277
P PDR

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No.104 , 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

John F. Stolz, Chief
Operating Reactors Branch No. 4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 7, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 104

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 pages are identified by Amendment number and contain a vertical line indicating the area of change.

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PBAPS

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REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENTATION REQUIREMENT

Minimum No. of Operable Instrument Channels per Trip System (1)	Trip Function	Trip Level Setting	Modes in which Function Must be Operable			Number of Instrument Channels Provided by Design	Action (1)
			Refuel (7)	Startup	Run		
2	High Water Level in Scram Discharge Instrument Volume	≤50 Gallons	X(2)	X	X	4 Instrument Channels	A
2	Turbine Condenser Low Vacuum	≥23 in. Hg. Vacuum	X(3)	X(3)	X	4 Instrument Channels	A or C
2	Main Steam Line High Radiation	≤3 X Normal Full Power Background	X	X	X	4 Instrument Channels	A
4	Main Steam Line Isolation Valve Closure	≤10% Valve Closure	X(3)(6)	X(3)(6)	X(6)	8 Instrument Channels	A
2	Turbine Control Valve Fast Closure	500<P<850 psig Control Oil Pressure Between Fast Closure Solenoid and Disc Dump Valve			X(4)	4 Instrument Channels	A or D
4	Turbine Stop Valve Closure	≤10% Valve Closure			X(4)	8 Instrument Channels	A or D

NOTES FOR TABLE 3.1.1

1. There shall be two operable or tripped trip systems for each function. If the minimum number of operable sensor channels for a trip system cannot be met, the affected trip system shall be placed in the safe (tripped) condition, or the appropriate actions listed below shall be taken.

   A. Initiate insertion of operable rods and complete insertion of all operable rods within four hours.

   B. Reduce power level to IRM range and place mode switch in the start up position within 8 hours.

   C. Reduce turbine load and close main steam line isolation valves within 8 hours.

   D. Reduce power to less than 30% rated.

2. Permissible to bypass, in refuel and shutdown positions of the reactor mode switch.

3. Bypassed when reactor pressure is less than 600 psig.

4. Bypassed when turbine first stage pressure is less than 220 psig or less than 30% of rated.

5. IRM's are bypassed when APRM's are onscale and the reactor mode switch is in the run position.

6. The design permits closure of any two lines without a scram being initiated.

7. When the reactor is subcritical and the reactor water temperature is less than 212 degrees F, only the following trip functions need to be operable:

   A. Mode switch in shutdown

   B. Manual scram

   C. High flux IRM

   D. Scram discharge instrument volume high level

8. Not required to be operable when primary containment integrity is not required.

9. Not required to be operable when the reactor pressure vessel head is not bolted to the vessel.

TABLE 4.1.1 (Cont'd)

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT FUNCTIONAL TESTS
MINIMUM FUNCTIONAL TEST FREQUENCIES FOR SAFETY INSTRUMENT AND CONTROL CIRCUITS

	Group (2)	Functional Test	Minimum Frequency (3)
High Water Level in Scram Discharge Instrument Volume	A	Trip Channel and Alarm	Every 1 month.
Turbine Condenser Low Vacuum (6)	B2	Trip Channel and Alarm (4)	Every 1 month (1).
Main Steam Line High Radiation	B1	Trip Channel and Alarm (4)	Once/week.
Main Steam Line Isolation Valve Closure	A	Trip Channel and Alarm	Every 1 month (1).
Turbine Control Valve EHC Oil Pressure	A	Trip Channel and Alarm	Every 1 month.
Turbine First Stage Pressure Permissive	A	Trip Channel and Alarm	Every 3 months (1).
Turbine Stop Valve Closure	A	Trip Channel and Alarm	Every 1 month (1).
Reactor Pressure Permissive (6)	B2	Trip Channel and Alarm (4)	Every 3 months.

TABLE 4.1.2

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT CALIBRATION
MINIMUM CALIBRATION FREQUENCIES FOR REACTOR PROTECTION INSTRUMENT CHANNELS

Instrument Channel	Group (1)	Calibration (4)	Minimum Frequency (2)
IRM High Flux	C	Comparison to APRM on Controlled Shutdown	Maximum frequency once per week.
APRM High Flux			
Output Signal	B1	Heat Balance	Twice per week.
Flow Bias Signal	B1	With Standard Pressure Source	Every refueling outage.
LPRM Signal	B1	TIP System Traverse	Every 6 weeks.
High Reactor Pressure	B2	Standard Pressure Source	Once per operating cycle.
High Drywell Pressure	B2	Standard Pressure Source	Once per operating cycle.
Reactor Low Water Level	B2	Pressure Standard	Once per operating cycle.
High Water Level in Scram Discharge Instrument Volume	A	Water Column	Every refueling outage.
Turbine Condenser Low Vacuum	B2	Standard Vacuum Source	Once per operating cycle.
Main Steam Line Isolation Valve Closure	A	Note (5)	Note (5)
Main Steam Line High Radiation	B1	Standard Current Source (3)	Every 3 months.
Turbine First State Pressure Permissive	A	Standard Pressure Source	Every 6 months.

TABLE 3.2.A

INSTRUMENTATION THAT INITIATES PRIMARY CONTAINMENT ISOLATION

Minimum No. of Operable Instrument Channels per Trip System (1)	Instrument	Trip Level Setting	Number of Instrument Channels Provided By Design	Action (2)
2	Main Steam Line Leak Detection High Temperature	≤ 200 deg. F.	4 Inst. Channels	B
1	Reactor Cleanup System High Flow	≤ 300% of Rated Flow	2 Inst. Channels	C
1	Reactor Cleanup System High Temperature	≤ 200 deg. F	1 Inst. Channel	E

NOTES FOR TABLE 3.2.A

1. Whenever Primary Containment integrity is required by Section 3.7, there shall be two operable or tripped trip systems for each function.

2. If the first column cannot be met for one of the trip systems, that trip system shall be tripped or the appropriate action listed below shall be taken:

   A. Initiate an orderly shutdown and have the reactor in Cold Shutdown Condition in 24 hours.

   B. Initiate an orderly load reduction and have Main Steam Lines isolated within eight hours.

   C. Isolate Reactor Water Cleanup System.

   D. Isolate Shutdown Cooling.

   E. Isolate Reactor Water Cleanup Filter Demineralizers unless the following provision is satisfied. The RWCU Filter Demineralizer may be used (the isolation overridden) to route the reactor water to the main condenser or waste surge tank, with the high temperature trip inoperable for up to 48 hours, provided the water inlet temperature is monitored once per hour and confirmed to be below 180 degrees F.

3. Instrument setpoint corresponds to 177.7" above top of active fuel.

4. Instrument setpoint corresponds to 129.7" above top of active fuel.

5. Two required for each steam line.

6. These signals also start SBGTS and initiate secondary containment isolation.

7. Only required in Run Mode (interlocked with Mode Switch).

8. At a radiation level of 1.5 times the normal rated power background, an alarm will be tripped in the control room to alert the control room operators to an increase in the main steam line tunnel radiation level.

9. In the event of a loss of ventilation in the main steam line tunnel area, the main steam line tunnel exhaust duct high temperature setpoint may be raised up to 250 degrees F for a period not to exceed 30 minutes to permit restoration of the ventilation flow. During the 30-minute period, an operator shall observe control room indications of the duct temperature so in the event of rapid increases (indicative of a steam line break) the operator shall promptly close the main steam line isolation valves.

TABLE 3.2.C
INSTRUMENTATION THAT INITIATES CONTROL ROD BLOCKS

Minimum No. of Operable Instrument Channels Per Trip System	Instrument	Trip Level Setting	Number of Instrument Channels Provided by Design	Action
4	APRM Upscale (Flow Biased)	$\leq(0.66w+42-0.66\Delta w) \times \frac{FRP}{MFLPD}$ (2)	6 Inst. Channels	(10)
4	APRM Upscale (Startup Mode)	$\leq$12%	6 Inst. Channels	(10)
4	APRM Downscale	$\geq$2.5 indicated on scale	6 Inst. Channels	(10)
1 (7)	Rod Block Monitor (Flow Biased)	$\leq(0.66w+41-0.66\Delta w) \times \frac{FRP}{MFLPD}$ (2)	2 Inst. Channels	(1)
1 (7)	Rod Block Monitor Downscale	$\geq$2.5 indicated on scale	2 Inst. Channels	(1)
6	IRM Downscale (3)	$\geq$2.5 indicated on scale	8 Inst. Channels	(10)
6	IRM Detector not in Startup Position	(8)	8 Inst. Channels	(10)
6	IRM Upscale	$\leq$108 indicated on scale	8 Inst. Channels	(10)
2 (5)	SRM Detector not in Startup Position	(4)	4 Inst. Channels	(1)
2 (5)(6)	SRM Upscale	$\leq 10^5$ counts/sec.	4 Inst. Channels	(1)
1	Scram Discharge Instrument Volume High Level	$\leq$25 gallons	1 Inst. Channel	(9)

Amendment No. 23, 34, 36, 42, 48, 70, 78, 86, 97, 104

TABLE 4.2.C

MINIMUM TEST AND CALIBRATION FREQUENCY FOR CONTROL ROD BLOCKS ACTUATION

	Instrument Channel	Instrument Functional Test	Calibration	Instrument Check
1)	APRM - Downscale	(1) (3)	Once/3 months	Once/day
2)	APRM - Upscale	(1) (3)	Once/3 months	Once/day
3)	IRM - Upscale	(2) (3)	Startup or Control Shutdown	(2)
4)	IRM - Downscale	(2) (3)	Startup or Control Shutdown	(2)
5)	RBM - Upscale	(1) (3)	Once/6 months	Once/day
6)	RBM - Downscale	(1) (3)	Once/6 months	Once/day
7)	SRM - Upscale	(2) (3)	Startup or Control Shutdown	(2)
8)	SRM - Detector Not in Startup Position	(2) (3)	Startup or Control Shutdown	(2)
9)	IRM - Detector Not in Startup Position	(2) (3)	Startup or Control Shutdown	(2)
10)	Scram Discharge Instrument Volume - High Level	Quarterly	Once/Operating Cycle	NA

Logic System Functional Test (4) (6)	Frequency
(1) System Logic Check	Once/6 months

TABLE 4.2.D

MINIMUM TEST AND CALIBRATION FREQUENCY FOR RADIATION MONITORING SYSTEMS

Instrument Channels	Instrument Functional Test	Calibration	Instrument Check (2)
1) Refuel Area Exhaust Monitors - Upscale	(1)	Once/3 months	Once/day
2) Reactor Building Area Exhaust Monitors - Upscale	(1)	Once/3 months	Once/day
3) Off-Gas Radiation Monitors	(1)	Once/3 months	Once/day

Logic System Functional Test (4) (6)	Frequency
1) Reactor Building Isolation	Once/6 months
2) Standby Gas Treatment System Actuation	Once/6 months
3) Steam Jet Air Ejector Off-Gas Line Isolation	Once/6 months

3.2 BASES (Cont'd)

Pressure instrumentation is provided to close the main steam isolation valves in RUN Mode when the main steam line pressure drops below 850 psig. The Reactor Pressure Vessel thermal transient due to an inadvertent opening of the turbine bypass valves when not in the RUN Mode is less severe than the loss of feedwater analyzed in section 14.5 of the FSAR; therefore, closure of the Main Steam Isolation valves for thermal transient protection when not in RUN Mode is not required.

The HPCI high flow and temperature instrumentation are provided to detect a break in the HPCI steam piping. Tripping of this instrumentation results in actuation of HPCI isolation valves. Tripping logic for the high flow is 1 out of 2 logic. Temperature is monitored at four (4) locations with four (4) temperature sensors at each location. Two (2) sensors at each location are powered by "A" DC control bus and two (2) by "B" DC control bus. Each pair of sensors, e.g., "A" or "B" at each location are physically separated and the tripping of either "A" or "B" bus sensor will actuate HPCI isolation valves. The trip settings of $\leq$ 300% of design flow for high flow and 200 degrees F for high temperature are such that core uncovery is prevented and fission product release is within limits.

The RCIC high flow and temperature instrumentation are arranged the same as that for the HPCI. The trip setting of $\leq$ 300% for high flow and 200 degrees F for temperature are based on the same criteria as the HPCI.

The Reactor Water Cleanup System high flow instrumentation is arranged similar to that for the HPCI System. The trip settings are such that core uncovery is prevented and fission product release is maintained within limits. The high temperature instrumentation downstream of the non-regenerative heat exchanger is provided to protect the ion exchange resin in the demineralizer from damage due to high temperature. Such damage could impair the resins' ability to remove impurities from the primary coolant and possibly result in the release of previously captured impurities back into the coolant in large concentrations.

The instrumentation which initiates CSCS action is arranged in a dual bus system. As for other vital instrumentation arranged in this fashion, the Specification preserves the effectiveness of the system even during periods when maintenance or testing is being performed. An exception to this is when logic functional testing is being performed.

The control rod block functions are provided to prevent excessive control rod withdrawal so that MCPR does not decrease to the fuel cladding integrity safety limit. The trip logic for this function is 1 out of n: e.g., any trip on one of 6 APRM's, 8 IRM's, or 4 SRM's will result in a rod block.

The minimun instrument channel requirements assure sufficient instrumentation to assure the single failure criteria is met. The minimum instrument channel requirements for the RBM may be reduced by one for maintenance, testing or calibration. This time period is only 3% of the operating time in a month and does not significantly increase the risk of preventing an inadvertent control rod withdrawal.

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. 108
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 November 10, 1983, 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 and 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:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No.108 , 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

John F. Stolz, Chief
Operating Reactors Branch No. 4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 7, 1985

ATTACHMENT TO LICENSE AMENDMENT NO.108

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 pages are identified by Amendment number and contain a vertical line indicating the area of change.

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Table 3.1.1 (Cont'd)

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENTATION REQUIREMENT

Minimum No. of Operable Instrument Channels per Trip System (1)	Trip Function	Trip Level Setting	Modes in which Function Must be Operable			Number of Instrument Channels Provided by Desgin	Action (1)
			Refuel (7)	Startup	Run		
2	High Water Level in Scram Discharge Instrument Volume	≤50 Gallons	X(2)	X	X	4 Instrument Channels	A
2	Turbine Condenser Low Vacuum	≥23 in. Hg. Vacuum	X(3)	X(3)	X	4 Instrument Channels	A or C
2	Main Steam Line High Radiation	≤3 X Normal Full Power Background	X	X	X(14)	4 Instrument Channels	A
4	Main Steam Line Isolation Valve Closure	≤10% Valve Closure	X(3)(6)	X(3)(6)	X(6)	8 Instrument Channels	A
2	Turbine Control Valve Fast Closure	500<P<850 psig Control Oil Pressure Between Fast Closure Solenoid and Disc Dump Valve			X(4)	4 Instrument Channels	A or D
4	Turbine Stop Valve Closure	≤10% Valve Closure			X(4)	8 Instrument Channels	A or D

NOTES FOR TABLE 3.1.1

1. There shall be two operable or tripped trip systems for each function. If the minimum number of operable sensor channels for a trip system cannot be met, the affected trip system shall be placed in the safe (tripped) condition, or the appropriate actions listed below shall be taken.

   A. Initiate insertion of operable rods and complete insertion of all operable rods within four hours.

   B. Reduce power level to IRM range and place mode switch in the start up position within 8 hours.

   C. Reduce turbine load and close main steam line isolation valves within 8 hours.

   D. Reduce power to less than 30% rated.

2. Permissible to bypass, in refuel and shutdown positions of the reactor mode switch.

3. Bypassed when reactor pressure is less than 600 psig.

4. Bypassed when turbine first stage pressure is less than 220 psig or less than 30% of rated.

5. IRM's are bypassed when APRM's are onscale and the reactor mode switch is in the run position.

6. The design permits closure of any two lines without a scram being initiated.

7. When the reactor is subcritical and the reactor water temperature is less than 212 degrees F, only the following trip functions need to be operable:

   A. Mode switch in shutdown

   B. Manual scram

   C. High flux IRM

   D. Scram discharge instrument volume high level

8. Not required to be operable when primary containment integrity is not required.

9. Not required to be operable when the reactor pressure vessel head is not bolted to the vessel.

TABLE 4.1.1 (Cont'd)

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT FUNCTIONAL TESTS
MINIMUM FUNCTIONAL TEST FREQUENCIES FOR SAFETY INSTRUMENT AND CONTROL CIRCUITS

	Group (2)	Functional Test	Minimum Frequency (3)
High Water Level in Scram Discharge Instrument Volume	A	Trip Channel and Alarm	Every 1 month.
Turbine Condenser Low Vacuum (6)	B2	Trip Channel and Alarm (4)	Every 1 month (1).
Main Steam Line High Radiation	B1	Trip Channel and Alarm (4)	Once/week.
Main Steam Line Isolation Valve Closure	A	Trip Channel and Alarm	Every 1 month (1).
Turbine Control Valve EHC Oil Pressure	A	Trip Channel and Alarm	Every 1 month.
Turbine First Stage Pressure Permissive	A	Trip Channel and Alarm	Every 3 months (1).
Turbine Stop Valve Closure	A	Trip Channel and Alarm	Every 1 month (1).
Reactor Pressure Permissive (6)	B2	Trip Channel and Alarm (4)	Every 3 months.

TABLE 4.1.2

REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT CALIBRATION
MINIMUM CALIBRATION FREQUENCIES FOR REACTOR PROTECTION INSTRUMENT CHANNELS

Instrument Channel	Group (1)	Calibration (4)	Minimum Frequency (2)
IRM High Flux	C	Comparison to APRM on Controlled Shutdown	Maximum frequency once per week.
APRM High Flux			
Output Signal	B1	Heat Balance	Twice per week.
Flow Bias Signal	B1	With Standard Pressure Source	Every refueling outage.
LPRM Signal	B1	TIP System Traverse	Every 6 weeks.
High Reactor Pressure	B2	Standard Pressure Source	Once per operating cycle.
High Drywell Pressure	B2	Standard Pressure Source	Once per operating cycle.
Reactor Low Water Level	B2	Pressure Standard	Once per operating cycle.
High Water Level in Scram Discharge Instrument Volume	A	Water Column	Every refueling outage.
Turbine Condenser Low Vacuum	B2	Standard Vacuum Source	Once per operating cycle.
Main Steam Line Isolation Valve Closure	A	Note (5)	Note (5)
Main Steam Line High Radiation	B1	Standard Current Source (3)	Every 3 months.
Turbine First State Pressure Permissive	A	Standard Pressure Source	Every 6 months.

TABLE 3.2.A

INSTRUMENTATION THAT INITIATES PRIMARY CONTAINMENT ISOLATION

Minimum No. of Operable Instrument Channels per Trip System (1)	Instrument	Trip Level Setting	Number of Instrument Channels Provided By Design	Action (2)
2	Main Steam Line Leak Detection High Temperature	≤ 200 deg. F.	4 Inst. Channels	B
1	Reactor Cleanup System High Flow	≤ 300% of Rated Flow	2 Inst. Channels	C
1	Reactor Cleanup System High Temperature	≤ 200 deg. F	1 Inst. Channel	E

NOTES FOR TABLE 3.2.A

1. Whenever Primary Containment integrity is required by Section 3.7, there shall be two operable or tripped trip systems for each function.

2. If the first column cannot be met for one of the trip systems, that trip system shall be tripped or the appropriate action listed below shall be taken:

   A. Initiate an orderly shutdown and have the reactor in Cold Shutdown Condition in 24 hours.

   B. Initiate an orderly load reduction and have Main Steam Lines isolated within eight hours.

   C. Isolate Reactor Water Cleanup System.

   D. Isolate Shutdown Cooling.

   E. Isolate Reactor Water Cleanup Filter Demineralizers unless the following provision is satisfied. The RWCU Filter Demineralizer may be used (the isolation overridden) to route the reactor water to the main condenser or waste surge tank, with the high temperature trip inoperable for up to 48 hours, provided the water inlet temperature is monitored once per hour and confirmed to be below 180 degrees F.

3. Instrument setpoint corresponds to 177.7" above top of active fuel.

4. Instrument setpoint corresponds to 129.7" above top of active fuel.

5. Two required for each steam line.

6. These signals also start SBGTS and initiate secondary containment isolation.

7. Only required in Run Mode (interlocked with Mode Switch).

8. At a radiation level of 1.5 times the normal rated power background, an alarm will be tripped in the control room to alert the control room operators to an increase in the main steam line tunnel radiation level.

9. In the event of a loss of ventilation in the main steam line tunnel area, the main steam line tunnel exhaust duct high temperature setpoint may be raised up to 250 degrees F for a period not to exceed 30 minutes to permit restoration of the ventilation flow. During the 30-minute period, an operator shall observe control room indications of the duct temperature so in the event of rapid increases (indicative of a steam line break) the operator shall promptly close the main steam line isolation valves.

NOTES FOR TABLE 3. 2. A (Cont.)

10. Within 24 hours prior to the planned start of the hydrogen injection test with the reactor power at greater than 20% rated power, the normal full power radiation background level and associated trip setpoints may be changed based on a calculated value of the radiation level expected during the test. The background radiation level and associated trip setpoints may be adjusted during the test program based on either calculations or measurements of actual radiation levels resulting from hydrogen injection. The background radiation level shall be determined and associated trip setpoints shall be set within 24 hours of re-establishing normal radiation levels after completion of the test program, and within 12 hours of establishing reactor power levels below 20% rated power.

TABLE 3.2.C
INSTRUMENTATION THAT INITIATES CONTROL ROD BLOCKS

Minimum No. of Operable Instrument Channels Per Trip System	Instrument	Trip Level Setting	Number of Instrument Channels Provided by Design	Action
4	APRM Upscale (Flow Biased)	$\leq(0.66w+42-0.66\Delta w) \times \frac{FRP}{MFLPD}$ (2)	6 Inst. Channels	(10)
4	APRM Upscale (Startup Mode)	$\leq$12%	6 Inst. Channels	(10)
4	APRM Downscale	$\geq$2.5 indicated on scale	6 Inst. Channels	(10)
1 (7)	Rod Block Monitor (Flow Biased)	$\leq(0.66w+41-0.66\Delta w) \times \frac{FRP}{MFLPD}$ (2)	2 Inst. Channels	(1)
1 (7)	Rod Block Monitor Downscale	$\geq$2.5 indicated on scale	2 Inst. Channels	(1)
6	IRM Downscale (3)	$\geq$2.5 indicated on scale	8 Inst. Channels	(10)
6	IRM Detector not in Startup Position	(8)	8 Inst. Channels	(10)
6	IRM Upscale	$\leq$108 indicated on scale	8 Inst. Channels	(10)
2 (5)	SRM Detector not in Startup Position	(4)	4 Inst. Channels	(1)
2 (5)(6)	SRM Upscale	$\leq 10^5$ counts/sec.	4 Inst. Channels	(1)
1	Scram Discharge Instrument Volume High Level	$\leq$25 gallons	1 Inst. Channel	(9)

TABLE 4.2.C

MINIMUM TEST AND CALIBRATION FREQUENCY FOR CONTROL ROD BLOCKS ACTUATION

	Instrument Channel	Instrument Functional Test	Calibration	Instrument Check
1)	APRM - Downscale	(1) (3)	Once/3 months	Once/day
2)	APRM - Upscale	(1) (3)	Once/3 months	Once/day
3)	IRM - Upscale	(2) (3)	Startup or Control Shutdown	(2)
4)	IRM - Downscale	(2) (3)	Startup or Control Shutdown	(2)
5)	RBM - Upscale	(1) (3)	Once/6 months	Once/day
6)	RBM - Downscale	(1) (3)	Once/6 months	Once/day
7)	SRM - Upscale	(2) (3)	Startup or Control Shutdown	(2)
8)	SRM - Detector Not in Startup Position	(2) (3)	Startup or Control Shutdown	(2)
9)	IRM - Detector Not in Startup Position	(2) (3)	Startup or Control Shutdown	(2)
10)	Scram Discharge Instrument Volume - High Level	Quarterly	Once/Operating Cycle	NA

Logic System Functional Test (4) (6)	Frequency
(1) System Logic Check	Once/6 months

TABLE 4.2.D

MINIMUM TEST AND CALIBRATION FREQUENCY FOR RADIATION MONITORING SYSTEMS

Instrument Channels	Instrument Functional Test	Calibration	Instrument Check (2)
1) Refuel Area Exhaust Monitors - Upscale	(1)	Once/3 months	Once/day
2) Reactor Building Area Exhaust Monitors - Upscale	(1)	Once/3 months	Once/day
3) Off-Gas Radiation Monitors	(1)	Once/3 months	Once/day

Logic System Functional Test (4) (6)	Frequency
1) Reactor Building Isolation	Once/6 months
2) Standby Gas Treatment System Actuation	Once/6 months
3) Steam Jet Air Ejector Off-Gas Line Isolation	Once/6 months

3.2 BASES (Cont'd)

Pressure instrumentation is provided to close the main steam isolation valves in RUN Mode when the main steam line pressure drops below 850 psig. The Reactor Pressure Vessel thermal transient due to an inadvertent opening of the turbine bypass valves when not in the RUN Mode is less severe than the loss of feedwater analyzed in section 14.5 of the FSAR; therefore, closure of the Main Steam Isolation valves for thermal transient protection when not in RUN Mode is not required.

The HPCI high flow and temperature instrumentation are provided to detect a break in the HPCI steam piping. Tripping of this instrumentation results in actuation of HPCI isolation valves. Tripping logic for the high flow is 1 out of 2 logic. Temperature is monitored at four (4) locations with four (4) temperature sensors at each location. Two (2) sensors at each location are powered by "A" DC control bus and two (2) by "B" DC control bus. Each pair of sensors, e.g., "A" or "B" at each location are physically separated and the tripping of either "A" or "B" bus sensor will actuate HPCI isolation valves. The trip settings of ≤ 300% of design flow for high flow and 200 degrees F for high temperature are such that core uncovery is prevented and fission product release is within limits.

The RCIC high flow and temperature instrumentation are arranged the same as that for the HPCI. The trip setting of ≤ 300% for high flow and 200 degrees F for temperature are based on the same criteria as the HPCI.

The Reactor Water Cleanup System high flow instrumentation is arranged similar to that for the HPCI System. The trip settings are such that core uncovery is prevented and fission product release is maintained within limits. The high temperature instrumentation downstream of the non-regenerative heat exchanger is provided to protect the ion exchange resin in the demineralizer from damage due to high temperature. Such damage could impair the resins' ability to remove impurities from the primary coolant and possibly result in the release of previously captured impurities back into the coolant in large concentrations.

The instrumentation which initiates CSCS action is arranged in a dual bus system. As for other vital instrumentation arranged in this fashion, the Specification preserves the effectiveness of the system even during periods when maintenance or testing is being performed. An exception to this is when logic functional testing is being performed.

The control rod block functions are provided to prevent excessive control rod withdrawal so that MCPR does not decrease to the fuel cladding integrity safety limit. The trip logic for this function is 1 out of n: e.g., any trip on one of 6 APRM's, 8 IRM's, or 4 SRM's will result in a rod block.

The minimun instrument channel requirements assure sufficient instrumentation to assure the single failure criteria is met. The minimum instrument channel requirements for the RBM may be reduced by one for maintenance, testing or calibration. This time period is only 3% of the operating time in a month and does not significantly increase the risk of preventing an inadvertent control rod withdrawal.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION SUPPORTING

AMENDMENTS NOS.104 AND 108TO FACILITY OPERATING LICENSES 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, UNITS NOS. 2 AND 3

DOCKETS NOS. 50-277 AND 50-278

Introduction and Summary

Philadelphia Electric Company, et al. (the licensee) made application by letter dated November 10, 1983, to modify the Technical Specifications (TSs) set forth in Appendix A to the licenses by changing the words "scram discharge volume" to "scram discharge instrument volume" and to delete obsolete notes referencing completed modifications and testing. No physical changes to the facility or equipment will be made as a result of these changes.

The licensee also proposed TS changes concerning the Reactor Water Cleanup System (RWCU) which consist of the following:

1. Upon receipt of a high temperature signal (≥200°F) in the RWCU system downstream of the non-regenerative heat exchangers, only the filter-demineralizer units would be isolated. Currently, the Peach Bottom TSs require that the entire RWCU system be isolated on the high temperature signal.

2. Additionally, the isolation of the filter-demineralizer could be overridden for up to 48 hours with the high temperature trip inoperable, provided the water inlet temperature (to the filter-demineralizers) is monitored once per hour and confirmed to be below 180°F.

Evaluation and Discussion

A. Scram Discharge Volume

The licensee's current Technical Specifications for Peach Bottom Units Nos. 2 and 3 specify for the control rod drive system a scram setpoint of ≤50 gallons and a control rod withdrawal block of ≤25 gallons of water in the "scram discharge volume". These setpoints were established in the original licensing process to ensure adequate capacity for the water displaced by the motion of the control rod drive pistons during a reactor scram.

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The licensee has modified the scram discharge volume per the recommendations of Bulletin 80-17, "Failure of 76 of 185 Control Rods to Fully Insert During a Scram at a BWR". This modification included increasing the size of the scram discharge pipe between the scram valves and the scram discharge instrument volume. As a result of this piping change, the scram discharge volume was increased by approximately 170 gallons for Unit 2 and the Unit 3 volume by approximately 325 gallons. Less than 5 gallons of this additional volume is at an elevation below the scram setpoint of 50 gallons.

The licensee now requests revisions to pages 38, 39, 42, 44, 73 and 83 for the purpose of clarifying the high water level scram and control rod withdrawal block setpoint values as the quantity of water required to be present in the scram discharge instrument volume to initiate the trips. The clarification will change "scram discharge volume" to "scram discharge instrument volume" and refer the $\leq$ 50 gallon scram setpoint and the $\leq$ 25 gallon control rod withdrawal block setpoint to the "scram discharge instrument volume." This clarification is necessary because of the above addition of approximately 5 gallons in the "scram discharge volume" at an elevation below the scram setpoint.

In evaluating the proposed revision, the staff has reviewed (among other documents), the Standard Technical Specifications for BWR's. This document states that the scram discharge volume must contain sufficient volume above the high level scram setpoint to contain the water displaced by the motion of the control rod drive pistons during a reactor scram. Since the licensee's design prior to the Bulletin 80-17 modifications contained sufficient volume and since the 80-17 modifications increased the volume by much more than 5 gallons, the Standard Technical Specification basis is not violated.

Based on the above evaluation, the staff finds that the proposed change to clarify the scram discharge instrument volume, high level scram and control rod block withdrawal setpoints is acceptable.

B. Reactor Water Cleanup System (RWCU)

The licensee's position in support of the proposed TS changes involving the RWCU system is that the purpose of the temperature limit in the RWCU system is to protect the ion exchange resin in the filter-demineralizers from damage due to high temperature, and that this function will still be performed if the proposed changes are implemented. Also, these changes would permit limited use of the RWCU system for routing of reactor water to the main condenser or waste surge tank with the high temperature trip inoperable. This would allow more effective water level control during startup and shutdown operations. In the past, this operational flexibility has been limited due to the inoperability of the temperature sensor, which required the entire RWCU system to be isolated.

In an earlier Safety Evaluation, dated February 24, 1977, the staff agreed with the licensee that the purpose of the high temperature trip in the RWCU system was to protect the ion exchange resins in the filter-

demineralizers from damage due to overheating. The current design of the high temperature trip feature uses only a single, non-safety grade temperature sensor. Upon receipt of a high temperature signal, only the outboard containment isolation valve for the RWCU system is closed. Consequently, the high temperature signal on the RWCU system does not meet, nor is it required to meet, the requirements of redundancy and reliability specified by General Design Criteria 54 and 55 in Appendix A of 10 CFR 50 for containment isolation. Therefore, it is not considered to be a containment isolation signal by the staff. Containment isolation for the RWCU system is initiated due to low reactor water level or high flow in the system pump suction lines. These isolation signals would be unaffected by the licensee's proposed changes. Therefore, the staff finds that the containment isolation function would not be compromised by the proposed changes to the RWCU system at Peach Bottom, Units 2 and 3.

We have also evaluated the impact of the licensee's proposed changes from the perspective of filter-demineralizer resin integrity. We have determined that the proposed change in the limiting condition of operation action statement for the Reactor Water Cleanup system high temperature trip would provide equivalent protection for the resins and meets the acceptance criteria of Section 5.4.8 of the Standard Review Plan (NUREG-0800, July 1981). In addition, the TSs governing reactor coolant chemistry established an effective limit on the use of the RWCU system with the filter-demineralizers isolated.

Adequate compensatory measures are proposed by the licensee to permit temporary use of the demineralizers with the trip feature out of service. These measures involve frequent monitoring of temperature and a conservative temperature limit. The proposed changes would enhance reactor water level control during the startup and shutdown modes of operation with the trip feature inoperable.

On the basis of the above evaluation, the staff concludes that the proposed Technical Specification changes to the high temperature isolation of the Reactor Water Cleanup system at Peach Bottom Units 2 and 3 are acceptable.

C. Deletion of Obsolete Notes

The current Technical Specifications include obsolete notes on the bottom of pages 38, 42 and 44. These notes reference plant modifications and testing associated with Amendments Nos. 34 and 67. Since the modifications and testing authorized by these amendments have been completed, the notes are no longer applicable.

In addition, the licensee proposed to revise the Table of Contents to reflect previously approved license amendments as well as correcting certain typographical errors.

The staff finds that these proposed changes to delete the obsolete notes and revise the Table of Contents are acceptable.

Environmental Consideration

These amendments involve a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. We have 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 these amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, these 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 or environmental assessment need be prepared in connection with the issuance of these amendments.

Conclusion

We have 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Dated: February 7, 1985

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