UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 15, 1993

Docket Nos. 50-277
and 50-278

Mr. George A. Hunger, Jr.
Director-Licensing, MC 52A-5
Philadelphia Electric Company
Nuclear Group Headquarters
Correspondence Control Desk
P.O. Box No. 195
Wayne, Pennsylvania 19087-0195

Dear Mr. Hunger:

SUBJECT: REVISED SURVEILLANCE INTERVALS FOR LOGIC SYSTEM FUNCTIONAL TESTS, PEACH BOTTOM ATOMIC POWER STATION, UNIT NOS. 2 AND 3 (TAC NOS. M85948 AND M85949)

The Commission has issued the enclosed Amendments Nos. 178 and 181 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 February 26, 1993.

These amendments change the surveillance testing interval for the Logic System Functional Tests (LSFTs) for the 1) Primary Containment Isolation System (PCIS), 2) Core Standby Cooling System (CSCS), 3) Control Rod Block Actuation System and 4) Radiation Monitoring System actuations. The revised surveillance tests will require the performance of the LSFTs once per operating cycle rather than once per 6 months as was previously required. Currently, an operating cycle is defined in the Technical Specifications as at least once per 550 days, with an additional 25% grace period allowed.

In your application dated February 26, 1993, you specifically requested to revise the frequency of various LSFTs from "once-per-six-months" to "once-per-operating-cycle." You also provided information to justify performing LSFTs once-per-operating-cycle for an operating cycle of 24 months, which the staff finds acceptable. In a separate amendment application dated October 19, 1992, you applied to change the TS definition of "operating cycle" from 550 days (approximately 18 months) to 732 days (approximately 24 months). The October 19, 1992 application is still under staff review. Therefore, until the staff completes its review of the October 19, 1992, application, LSFTs performed on a "once-per-operating-cycle" frequency must conform to the existing TS definition of operating cycle, which is 550 days, with a 25% grace period.

You are requested to inform the staff when you have implemented the provisions of these TS amendments.

220048

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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/

Joseph W. Shea, Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 178 to DPR-44
2. Amendment No. 181 to DPR-56
3. Safety Evaluation

cc w/enclosures:
See next page

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SVarga	DHagan, 3206	CSchulten	
JCalvo	GHill(4), P1-22	ACRS(10)	
CMiller	Wanda Jones, P-370	OPA	

*Previous Concurrence

OFC	:PDI-2/LA	:PDI-2/PM	:*HICB/BC	:OTSB/BC	:OGC	:PDI-2/D:	:
NAME	:MO'Brien	:JShea:rb	:JWermiel	:CGrimes	:RBachmann	:CMiller:	:
DATE	:6/28/93	:6/24/93	:06/01/93	:6/16/93	:7/1/93	:7/15/93:	:

CSS # 93-96

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,

Joseph W. Shea, Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 178 to DPR-44
2. Amendment No. 181 to DPR-56
3. Safety Evaluation

cc w/enclosures:
See next page

cc:

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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. 178
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 February 26, 1993, 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:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 178, 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

for Charles L. Miller, Director
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 15, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 178

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	Insert
4	4
80	80
82	82
83	83
84	84

1.0 DEFINITIONS (Cont'd)

(a) Initiating - A logic that receives signals from channels and produces decision outputs to the actuation logic.

(b) Actuation - A logic that receives signals (either from initiation logic or channels) and produces decision outputs to accomplish a protective action.

Logic System Functional Test - A Logic System Functional Test shall be a test of all logic components, i.e., all relays and contacts, all trip units, solid state logic elements etc., of a logic circuit, from sensor through and including the actuated device, to verify Operability. The Logic System Functional Test may be performed by any series of sequential, overlapping or total system steps such that the entire logic system is tested.

Maximum Fraction of Limiting Power Density (MFLPD) - The Maximum Fraction of Limiting Power Density (MFLPD) is the highest value existing in the core of the Fraction of Limiting Power Density (FLPD).

MEMBERS OF THE PUBLIC - Members of the public shall include all persons who are not occupationally associated with the plant. This category does not include employees of the utility, its contractors, or vendors. Also excluded from this category are persons who enter the site to service equipment or to make deliveries. This category does include persons who use portions of the site for recreational, occupational, or other purposes not associated with the plant.

Minimum Critical Power Ratio (MCPR) - The minimum in-core critical power ratio corresponding to the most limiting fuel assembly in the core.

Mode of Operation - A reactor mode switch selects the proper interlocks for the operational status of the unit. The following are the modes and interlocks provided: Refuel Mode, Run Mode, Shutdown Mode, Startup/Hot Standby Mode.

TABLE 4.2.A

MINIMUM TEST AND CALIBRATION FREQUENCY FOR PCIS

	Instrument Channel (5)	Instrument Functional Test	Calibration Frequency	Instrument Check
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

	Logic System Functional Test (4) (6)	Frequency
1)	Main Steam Line Isolation Vvs. Main Steam Line Drain Vvs. Reactor Water Sample Vvs.	Once/Operating Cycle
2)	RHR - Isolation Vv. Control Shutdown Cooling Vvs. Head Spray	Once/Operating Cycle
3)	Reactor Water Cleanup Isolation	Once/Operating Cycle
4)	Drywell Isolation Vvs. TIP Withdrawal Atmospheric Control Vvs. Sump Drain Valves	Once/Operating Cycle
5)	Standby Gas Treatment System Reactor Building Isolation	Once/Operating Cycle

Amendment No. 30, 111, 117, 178

TABLE 4.2.B

MINIMUM TEST AND CALIBRATION FREQUENCY FOR CSCS

Logic System Function Test (4) (6)		Frequency
1)	Core Spray Subsystem	Once/Operating Cycle
2)	Low Pressure Coolant Injection Subsystem	Once/Operating Cycle
3)	Containment Cooling Subsystems	Once/Operating Cycle
4)	HPCI Subsystem	Once/Operating Cycle
5)	HPCI Subsystem Auto Isolation	Once/Operating Cycle
6)	ADS Subsystem	Once/Operating Cycle
7)	RCIC Subsystem Auto Isolation	Once/Operating Cycle
8)	Area Cooling for Safeguard System	Once/Operating Cycle

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)	N/A	(2)
9)	IRM - Detector Not in Startup Position	(2)(3)	N/A	(2)
10)	Scram Discharge Instrument Volume - High Level	Quarterly	Once/Operating Cycle	N/A

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

Amendment No. 88, 104, 149, 178

TABLE 4.2.D

MINIMUM TEST & 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	(1)	Once/3 months	Once/day
3) Main Stack Monitor	Once/3 months	Once/12 months as described in 4.8.C.4.a	Once/day

Logic System Functional Test (4) (6)	Frequency
1) Reactor Building Isolation	Once/Operating Cycle
2) Standby Gas Treatment System Actuation	Once/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. 181
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 February 26, 1993, 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. 181 , 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

for Charles L. Miller, Director
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 15, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 181

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.

Remove	Insert
4	4
80	80
82	82
83	83
84	84

1.0 DEFINITIONS (Cont'd)

(a) Initiating - A logic that receives signals from channels and produces decision outputs to the actuation logic.

(b) Actuation - A logic that receives signals (either from initiation logic or channels) and produces decision outputs to accomplish a protective action.

Logic System Functional Test - A Logic System Functional Test shall be a test of all logic components, i.e., all relays and contacts, all trip units, solid state logic elements etc., of a logic circuit, from sensor through and including the actuated device, to verify Operability. The Logic System Functional Test may be performed by any series of sequential, overlapping or total system steps such that the entire logic system is tested.

Maximum Fraction of Limiting Power Density (MFLPD) - The Maximum Fraction of Limiting Power Density (MFLPD) is the highest value existing in the core of the Fraction of Limiting Power Density (FLPD).

MEMBERS OF THE PUBLIC - Members of the public shall include all persons who are not occupationally associated with the plant. This category does not include employees of the utility, its contractors, or vendors. Also excluded from this category are persons who enter the site to service equipment or to make deliveries. This category does include persons who use portions of the site for recreational, occupational, or other purposes not associated with the plant.

Minimum Critical Power Ratio (MCPR) - The minimum in-core critical power ratio corresponding to the most limiting fuel assembly in the core.

Mode of Operation - A reactor mode switch selects the proper interlocks for the operational status of the unit. The following are the modes and interlocks provided: Refuel Mode, Run Mode, Shutdown Mode, Startup/Hot Standby Mode.

TABLE 4.2.A

MINIMUM TEST AND CALIBRATION FREQUENCY FOR PCIS

	Instrument Channel (5)	Instrument Functional Test	Calibration Frequency	Instrument Check
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

	Logic System Functional Test (4) (6)	Frequency	
1)	Main Steam Line Isolation Vvs. Main Steam Line Drain Vvs. Reactor Water Sample Vvs.	Once/Operating Cycle	I
2)	RHR - Isolation Vv. Control Shutdown Cooling Vvs.	Once/Operating Cycle	I
3)	Reactor Water Cleanup Isolation	Once/Operating Cycle	I
4)	Drywell Isolation Vvs. TIP Withdrawal Atmospheric Control Vvs. Sump Drain Valves	Once/Operating Cycle	I
5)	Standby Gas Treatment System Reactor Building Isolation	Once/Operating Cycle	I

Amendment No. 29, 115, 121, 140, 181

TABLE 4.2.B

MINIMUM TEST AND CALIBRATION FREQUENCY FOR CSCS

Logic System Function Test (4) (6)		Frequency
1)	Core Spray Subsystem	Once/Operating Cycle
2)	Low Pressure Coolant Injection Subsystem	Once/Operating Cycle
3)	Containment Cooling Subsystems	Once/Operating Cycle
4)	HPCI Subsystem	Once/Operating Cycle
5)	HPCI Subsystem Auto Isolation	Once/Operating Cycle
6)	ADS Subsystem	Once/Operating Cycle
7)	RCIC Subsystem Auto Isolation	Once/Operating Cycle
8)	Area Cooling for Safeguard System	Once/Operating Cycle

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)	N/A	(2)
9)	IRM - Detector Not in Startup Position	(2)(3)	N/A	(2)
10)	Scram Discharge Instrument Volume - High Level	Quarterly	Once/Operating Cycle	N/A

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

Amendment No. 88, 108, 147, 181

TABLE 4.2.D

MINIMUM TEST & 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	(1)	Once/3 months	Once/day
3) Main Stack Monitor	Once/3 months	Once/12 months as described in 4.8.C.4.a	Once/day

Logic System Functional Test (4) (6)	Frequency
1) Reactor Building Isolation	Once/Operating Cycle
2) Standby Gas Treatment System Actuation	Once/Operating Cycle

Amendment No. 104, 138, 181

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 178 AND 181 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 February 26, 1993, the Philadelphia Electric Company (the licensee) submitted a request for changes to the Peach Bottom Atomic Power Station, Unit Nos. 2 and 3, Technical Specifications (TS). The requested changes would revise the surveillance testing interval for the Logic System Functional Tests (LSFTs) for the 1) Primary Containment Isolation System (PCIS), 2) Core Standby Cooling System (CSCS), 3) Control Rod Block Actuation System and 4) Radiation Monitoring System actuations. The revised surveillance tests will require the performance of the LSFTs once-per-operating-cycle (which is currently defined as 550 days with 25% grace period) rather than every 6 months as is currently required.

2.0 EVALUATION

2.1 Definition

The licensee proposed to change the TS Section 1.0 definition of Logic System Functional Test. The proposed change clarifies the definition so that the requirement to test all relays and contacts from sensor through actuated device is clearly called out. In addition, the definition is expanded to state that the test may be performed as a series of sequential, overlapping or total system steps such that the entire logic system is tested.

The licensee did not propose any changes to the way in which LSFTs are currently performed at Peach Bottom. The proposed change adopts most of the wording of the definition of Logic System Functional Test provided in the improved Standard Technical Specifications (NUREG-1433) for BWR-4 reactors. The licensee chose to maintain the requirement to test the actuated device as part of the LSFT.

The staff concludes that the change to the TS definition of Logic System Functional Test clarifies the existing definition and, therefore, is acceptable.

2.2 Surveillance Interval

2.2.1 Primary Containment Isolation System

Technical Specification Table 4.2.A specifies the requirement to perform LSFT on primary containment isolation systems (PCIS). The affected systems are: 1) main steam isolation valves, main steam line drain valves and reactor water sample valves, 2) residual heat removal (RHR) isolation valves, shutdown cooling valves and head spray valves, 3) reactor water cleanup (RWCU) isolation valves, 4) drywell isolation valves, traversing incore probe (TIP) withdrawal valves, atmospheric control valves and sump drain valves and 5) standby gas treatment and reactor building isolation valves. The current frequency for these LSFTs is once-per-six-months.

2.2.2 Core and Containment Cooling Systems

Technical Specification Table 4.2.B specifies the requirement to perform LSFTs on core and containment cooling systems (CSCS). The affected systems are: 1) Core Spray, 2) low pressure coolant injection (LPCI), 3) containment cooling, 4) high pressure coolant injection (HPCI), 5) HPCI system isolation, 6) reactor core isolation cooling (RCIC) isolation, 7) automatic depressurization (ADS) and 8) area cooling for safeguards systems. The current frequency for these LSFTs is once-per-six-months.

2.2.3 Control Rod Block

Technical Specification Table 4.2.C specifies the requirement to perform an LSFT on the control rod block function. The control rod blocks prevent excessive control rod withdrawal so that the minimum critical power ratio (MCPR) does not decrease to the fuel cladding safety limit. The trip logic for the control rod block is such that any one trip out of six average power range monitors (APRM), eight intermediate range monitors (IRM) or four source range monitors (SRM) will cause a rod block. The current frequency for this LSFT is once-per-six-months.

2.2.4 Secondary Containment

Technical Specification Table 4.2.D specifies the requirement to perform LSFTs on certain systems related to secondary containment. The affected systems are 1) reactor building isolation and 2) standby gas treatment (SBGT) as actuated by the radiation monitoring system. Reactor building isolation and SBGT initiation are triggered by the radiation monitoring system for the refueling floor or the reactor building below the refuel floor. The current frequency for these LSFTs is once-per-six-months.

2.2.5 Evaluation of Extended Interval

The licensee proposed to extend the interval for these tests to once per operating cycle. The current TS definition of an operating cycle is once-per 550 days with a 25% grace period. By letter dated October 19, 1992, the licensee applied for a TS amendment that would, among other things, revise the definition of "Once Per Cycle" to "at least once per 732 days," with a 25% grace period. That application is currently under staff review.

In the February 26, 1993 application, the licensee provided a justification to extend LSFT frequencies to once-per-operating cycle for an interval of 24 months with a 25% grace period. The licensee conducted a review of LSFT surveillance test history and found no evidence of excessive random equipment failure rates. In addition, the licensee cited the redundant design of the systems involved as additional assurance that impact on system availability would be small.

Logic systems are comprised of detection devices activated by a certain physical condition (e.g., pressure switches, temperature switches, etc.) and decision making relay networks that will cause a safety system component or device (e.g., pump, valve, etc.) to operate when needed. Each relay in a decision making logic network has one or more contact pairs associated with it. A logic system functional test is a test of all relays and contacts in these decision making networks to assure that the system will operate as designed upon demand.

Industry reliability studies for boiling water reactors (BWRs), prepared by the BWR Owners Group (NEDC-30936P) show that the overall safety systems reliabilities are not dominated by the reliabilities of the logic systems, but by that of the mechanical components, (e.g., pumps and valves), which are consequently tested on a more frequent basis.

Changing the frequency of various LSFTs form once-per-six-months to once-per-operating-cycle increases the surveillance interval. However, the reliability of the mechanical components of a safety system remain unchanged because these components are functionally tested or calibrated at unchanged intervals. Since the probability of a relay or contact failure is small relative to the probability of a mechanical component failure, increasing the logic system functional test interval represents no significant change in the overall safety system unavailability.

The existing LSFT procedure requires installing jumpers or lifting leads to accomplish the verification of the relays and contacts operability. By changing the LSFT surveillance to be performed during plant shutdown, it will reduce the potential for inadvertent transients or safety system actuations induced by human errors during testing.

The staff recognizes that logic system functional tests are complex surveillance tasks which require numerous temporary alterations and complicated administrative controls. The complexity of the surveillance tests has a significant potential for undesired actuations and operator error which can induce undesirable plant transients. In addition, system redundancy is reduced during the performance of the test. LSFTs are best performed during conditions that apply during a plant outage, which reduces the potential for unplanned transients at power. Performing the LSFTs at intervals of up to 24 months with an additional 25% grace period, is consistent with the interval that the NRC has determined to be adequate to achieve the goal of high safety system availability, considering uncertainties in component failure rates, uncertainties in common mode failure rates, and reduced redundancy during testing and component wear caused by testing. The staff therefore, finds the proposed increase in the surveillance interval for the affected LSFTs to 24 months with a 25% grace period, acceptable.

The staff finds the licensee's justification for performing the subject LSFTs on a 24-month interval acceptable for the reasons described above. However, in the February 26, 1993, application, the licensee specifically requested to change the frequency of the subject LSFTs to "once-per-operating-cycle." The existing TS definition of "operating cycle" is "550 days" (approximately 18 months). The licensee's October 19, 1992, proposal to change the definition of operating cycle to "732" days (approximately 24 months) is still under staff review due to the number of other surveillance requirements which are based on the operating cycle. Therefore, since the interval for the LSFTs of 24 months was acceptable, the lesser interval of 18 months is also acceptable, the staff finds acceptable and approves the licensee's specific proposal to revise the surveillance frequency of the subject LSFTs to "once-per-operating-cycle" and notes that until further action on the October 19, 1992, application, the definition of "operating cycle" remains "550" days.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a surveillance requirement. The NRC 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 (58 FR 16868). 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 or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

The Commission 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) 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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