Docket File

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

September 16, 1992

Docket Nos. 50-277
and 50-278

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

Dear Mr. Beck:

SUBJECT: PEACH BOTTOM ATOMIC POWER STATION, UNIT NOS. 2 AND 3
(TAC NOS. M82593 AND M82594)

The Commission has issued the enclosed Amendments Nos. 170 and 174 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 January 10, 1992 and to Revision 1 of your application dated July 20, 1992. Additional information was provided in a letter dated April 3, 1992.

These amendments change the Technical Specification (TS) Section 3.9.C, Allowable Out of Service Times (AOTs) for the Emergency Service Water (ESW) pumps. The changes delete Section 3.9.C.3 of the TS which addressed use of the Emergency Cooling Water (ECW) pump as an equivalent ESW pump. The changes also modify surveillance requirements for the ECW pump, ESW Booster pumps and the Emergency Cooling Water Tower fans. The amendment modifies the Bases to reflect the above changes. Finally, the amendments modify terminology and numbering in Sections 3.9.C and 4.9.C to make the TS consistent with the Updated Final Safety Analysis Report (UFSAR).

You are requested to notify the NRC staff when you have completed implementation of these amendments.

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

Sincerely,

/S/

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

Enclosures:
1. Amendment No. 170 to DPR-44
2. Amendment No. 174 to DPR-56
3. Safety Evaluation

cc w/enclosures:
See next page

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DATE	:8/10/92	:8/18/92	:8/18/92	:8/20/92	:9/15/92	:

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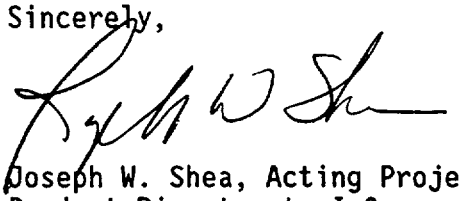
On conference change made on 1st page SER

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

Sincerely,



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

Enclosures:
1. Amendment No. 170 to DPR-44
2. Amendment No. 174 to DPR-56
3. Safety Evaluation

cc w/enclosures:
See next page

cc:

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Philadelphia, Pennsylvania 19101

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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. 170
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 January 10, 1992, as revised by letter dated July 20, 1992 and as supplemented by letter dated April 3, 1992, 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. 170 , 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

Charles L. Miller

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: September 16, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 170

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
221	221
223	223
224	224
234	234
235a	235a
236a	236a

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.9.C Emergency Service Water System	4.9.C Emergency Service Water System
1. The Emergency Service Water System (ESWS) shall be operable at all times when the reactor coolant temperature is greater than 212 F.	1. The ESWS shall be tested once every 3 months as follows: a. Pump operability - the pump shall be manually started and flow capability tested in accordance with the Section XI of the ASME Boiler Pressure Vessel Code and applicable addenda except where relief has been granted. b. Valve operability - the automatic valves shall be stroked individually from their control switches.
2. If one ESW pump becomes inoperable, the reactor may remain in operation for a period not to exceed seven (7) days. If this requirement cannot be met, an orderly shutdown shall be initiated and the reactor shall be placed in the cold shutdown condition within 24 hours.	2. The associated pump room fans shall be tested for operability every 3 months.
3. If two ESW pumps become inoperable, the reactor shall be placed in hot shutdown within six (6) hours and in cold shutdown within 36 hours.	3. Each manual valve and each electric motor operated valve that is in the system flow path and that is not locked, sealed or otherwise secured in position, shall be verified monthly to be in its correct position.
4. To consider the ESW pump operable the associated pump room fans must be available for normal operation except that a) one pump room supply and/or exhaust fan for each compartment may be out of service for one month or b) temporary fans may be used in place of permanently installed fans to provide room temperatures at less than 120° F.	4. Once per refuel outage the bottom of the 'A' ESW pump intake structure will be inspected and cleaned as necessary to remove excessive silt.

3.9 BASES (Cont'd.)

The 125-Volt battery system shall have a minimum of 105 Volts at the battery terminals to be considered operable. The 250-Volt portion of the 125/250-Volt battery system shall have a minimum of 210 Volts at the battery terminals to be considered operable.

The ESWS has two 100 percent cooling capacity pumps, each powered from a separate standby power supply. In the event one of the ESW pumps becomes inoperable the 7 day allowable out of service time is conservative given the probability of an event requiring the use of both ESW pumps occurring in that amount of time. One ESW pump is capable of supplying the entire system. If both of the ESW pumps become inoperable placing the reactor in a shutdown condition is consistent with the severity of the situation.

4.9 BASES

The monthly test of the diesel generator is conducted to check for equipment failures and deterioration. Testing is conducted up to equilibrium operating conditions to demonstrate proper operation at these conditions. The diesel generator will be manually started, synchronized and connected to the bus and load picked up. The diesel generator should be loaded to at least 75% of rated load to prevent fouling of the engine. It is expected that the diesel generator will be run for one to two hours. Diesel generator experience at other generating stations indicates that the testing frequency is adequate and provides a high reliability of operation should the system be required.

Each diesel generator has one air compressor and two air receivers for starting. It is expected that the air compressors will run only infrequently. During the monthly check of the diesel generator, one receiver in each set of receivers will be drawn down below the point at which the corresponding compressor automatically starts to check operation and the ability of the compressors to recharge the receivers.

The diesel generator fuel consumption rate at full load is approximately 200 gallons per hour. Thus, the monthly load test of the diesel generators will test the operation and the ability of the fuel oil transfer pumps to refill the day tank and will check the operation of these pumps from the emergency source.

The test of the diesel generator during the refueling outage will be more comprehensive in that it will functionally test the system; i.e., it will check diesel generator starting and closure of diesel generator breaker and sequencing of load on the diesel generator. The diesel generator will be started by simulation of a loss-of-coolant accident. In addition, an undervoltage condition will be imposed to simulate a loss of off-site power. The timing sequence will be checked to assure that the diesel generators can operate the LPCI pumps at rated speed within 18 seconds, and the core spray pumps at rated speed within twenty-four seconds.

4.9 BASES (Cont'd.)

Periodic tests between refueling outages verify the ability of the diesel generator to run at full load and the core and containment cooling pumps to deliver full flow. Periodic testing of the various components, plus a functional test one-a-cycle, is sufficient to maintain adequate reliability.

Although station batteries will deteriorate with time, utility experience indicates there is almost no possibility of precipitous failure. The type of surveillance described in this specification is that which has been demonstrated over the years to provide an indication of a cell becoming irregular or unserviceable long before it becomes a failure. In addition, the checks described also provide adequate indication that the batteries have the specified ampere hour capability.

The station batteries shall be subjected to a performance test every third refueling outage and a service test during the other refueling outages. This testing frequency complies with the testing requirements of the Institute of Electrical and Electronics Engineers (IEEE) Standard 450 (1975), "Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries," and Regulatory Guide 1.129, Revision 1 (February 1978), "Maintenance, Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants."

A performance test determines the ability of the battery to meet a specified discharge rate and duration based on the manufacturer's rating. A service test proves the capability of the battery to deliver the design requirements of the dc systems; i.e., supply and maintain in operable status all of the actual emergency loads for the design basis accident. A performance test is the most severe test because the cycling on the battery at manufacturer's rating shortens the service life of the battery. A service test is performed at design load instead of manufacturer's ratings.

The diesel fuel oil quality must be checked to ensure proper operation of the diesel generators. Water content should be minimized because water in the fuel could contribute to excessive damage to the diesel engine. Amendment No. 131 centralized commitments related to Position C.2 of Regulatory Guide 1.137, Revision 1 (October, 1979) "Fuel Oil Systems for Standby Diesel Generators".

When it is determined that some auxiliary electrical equipment is out-of-service, the increased surveillance required in Section 4.5.F is deemed adequate to provide assurance that the remaining equipment will be operable.

The test interval for the Emergency Service Water System, and pump room fans associated with the ESW pumps is deemed adequate to provide assurance that the equipment will be operable based on good engineering judgment and system redundancy, plus the additional testing accomplished when the diesel generators are tested. Pump flow tests during normal operation will be performed by measuring the head and flow in the system using suitable flow equipment and pressure instrumentation.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.11.A (Cont'd.)	4.11.A (Cont'd.)
	d. A sample of the charcoal filter shall be analyzed once per year to assure halogen removal efficiency of at least of at least 99.5 percent.
2. At least 1 of the 2 main control room intake air radiation monitors shall be operable with the inoperable channel failed safe whenever the control room emergency ventilation air supply fans and filter trains are required to be operable by 3.11.A.1 or filtration of the control room ventilation intake air must be initiated.	2. Operability of the main control room air intake radiation monitors shall be tested every 3 months.
B. Emergency Heat Sink Facility	B. Emergency Heat Sink Facility
The level in the emergency reservoir of the Emergency Heat Sink Facility shall not be less than 17'. Should the level drop below this point action shall be taken to restore the level to above the minimum, within 7 days.	1. The level in the emergency reservoir of the Emergency Heat Sink Facility shall be checked once per month.
	2. Once a year the portable fire pump which is used to provide makeup water to the emergency reservoir will be checked for operability and availability.
	3a. The Emergency Cooling Water pump and ESW booster pumps shall be tested in accordance with Section XI of the ASME Boiler Pressure Vessel Code and applicable addenda, except where relief has been granted.
	b. The Emergency Cooling Tower fans shall be tested every three months to verify operability.
C. Emergency Shutdown Control Panel	C. Emergency Shutdown Control Panel
1. At all times when not in use or being maintained, the emergency shutdown control panels shall be secured.	1. The emergency shutdown control panels shall be visually checked once per week to verify they are secured.
	2. Operability of the switches on the emergency shutdown control panels shall be tested by electrical check once per refueling outage.

3.11 BASES

Emergency Heat Sink

The emergency heat sink is provided as an alternate source of cooling water to the plants in the unlikely event of loss of the normal heat sink (Conowingo Pond) or the maximum credible flood. For the condition of loss of the normal heat sink, the contained volume of water (approximately 3.7 million gallons, which corresponds to a gauge reading of 17') provides a minimum of seven days cooling water to both plants for decay heat removal.

C. Emergency Shutdown Control Panels

The Emergency Shutdown Control Panels are provided to assure the capability of taking the plants to the hot shutdown condition external to the control room for the unlikely condition that the control room becomes uninhabitable.

D. Shock Suppressors (Snubbers) on Safety Related Systems

Snubbers are provided to ensure that the structural integrity of the reactor coolant system and all other safety-related systems are maintained during and following a seismic or other event initiating dynamic loads. Snubbers are designed to prevent unrestrained pipe motion under dynamic loads as might occur during an earthquake or severe transient while allowing normal thermal motion during startup and shutdown. The consequence of an inoperable snubber is an increase in the probability of structural damage to piping as a result of seismic or other event initiating dynamic loads. It is therefore required that all snubbers necessary to protect the primary coolant system or any other safety system or components be operable during reactor operation.

Because the snubber protection is required only during low probability events a period of 72 hours is allowed for repairs or replacements. A determined effort will be made to repair the snubber as soon as possible. This allowable repair period is consistent with the allowable repair items of other safety related components such as RHR pumps, HPCI subsystems, ADS valves and diesel generators.

An engineering analysis must be performed on supported components when a snubber is determined to be inoperable. The purpose of this analysis is to assure that the supported components have not been damaged as a result of the snubber inoperability.

4.11. BASES

B. Emergency Heat Sink Facility

The testing of the ESW Booster Pumps and the ECW pump is in accordance with existing ASME codes and applicable addenda except where relief has been granted and assures the required availability of the equipment.

C. Emergency Shutdown-Control Panels

Once per week verification of the panels being properly secured is considered adequate. The associated equipment is proven operable during surveillance testing of that equipment. An operability verification by electrical test at each refueling outage is adequate to assure that the panels are available and can perform their design function.

D. Shock Suppressors (Snubbers) on Safety Related Systems

All safety-related snubbers are visually inspected to verify, 1) proper orientation, 2) freedom of movement where possible to induce motion manually without disconnecting the snubber, 3) proper attachment to structures and equipment, and 4) proper hydraulic fluid level for hydraulic snubbers. Snubbers are categorized into two groups, "accessible" or "inaccessible", based on their accessibility for inspection during reactor operation and drywell inertment. The required inspection interval varies inversely with the observed snubber failures. The number of inoperable snubbers found during a required inspection determines the time interval for the next required inspection. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections will only be used to shorten the required interval and not to lengthen it.

When the cause of the rejection of a snubber is clearly established and remedied for that snubber and for any other snubbers that may be generically susceptible, and verified by inservice functional testing, that snubber may be exempted from being counted as inoperable. Generically susceptible snubbers are those which are of a specific make or model and have the same design features directly related to rejection of the snubber by visual inspection or are similarly located or exposed to the same environmental conditions such as temperature, radiation, and vibration. When a snubber is found inoperable an engineering evaluation is performed to determine a) snubber mode of failure and, b) if there is any adverse effect or degradation on the supported piping or equipment due to the failure.

To further increase the assurance of snubber reliability, functional tests will be performed once 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. 174
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 January 10, 1992, as revised by letter dated July 20, 1992 and as supplemented by letter dated April 3, 1992, 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. 174, 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

Charles L. Miller

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: September 16, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 174

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
221	221
223	223
224	224
234	234
235a	235a
236a	236a

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3.9.C Emergency Service Water System	4.9.C Emergency Service Water System
1. The Emergency Service Water System (ESWS) shall be operable at all times when the reactor coolant temperature is greater than 212 F.	1. The ESWS shall be tested once every 3 months as follows: a. Pump operability - the pump shall be manually started and flow capability tested in accordance with the Section XI of the ASME Boiler Pressure Vessel Code and applicable addenda except where relief has been granted. b. Valve operability - the automatic valves shall be stroked individually from their control switches.
2. If one ESW pump becomes inoperable, the reactor may remain in operation for a period not to exceed seven (7) days. If this requirement cannot be met, an orderly shutdown shall be initiated and the reactor shall be placed in the cold shutdown condition within 24 hours.	2. The associated pump room fans shall be tested for operability every 3 months.
3. If two ESW pumps become inoperable, the reactor shall be placed in hot shutdown within six (6) hours and in cold shutdown within 36 hours.	3. Each manual valve and each electric motor operated valve that is in the system flow path and that is not locked, sealed or otherwise secured in position, shall be verified monthly to be in its correct position.
4. To consider the ESW pump operable the associated pump room fans must be available for normal operation except that a) one pump room supply and/or exhaust fan for each compartment may be out of service for one month or b) temporary fans may be used in place of permanently installed fans to provide room temperatures at less than $120^{o}F$.	4. Once per refuel outage the bottom of the 'B' ESW pump intake structure will be inspected and cleaned as necessary to remove excessive silt.

3.9 BASES (Cont'd.)

The 125-Volt battery system shall have a minimum of 105 Volts at the battery terminals to be considered operable. The 250-Volt portion of the 125/250-Volt battery system shall have a minimum of 210 Volts at the battery terminals to be considered operable.

The ESWS has two 100 percent cooling capacity pumps, each powered from a separate standby power supply. In the event one of the ESW pumps becomes inoperable the 7 day allowable out of service time is conservative given the probability of an event requiring the use of both ESW pumps occurring in that amount of time. One ESW pump is capable of supplying the entire system. If both of the ESW pumps become inoperable placing the reactor in a shutdown condition is consistent with the severity of the situation.

4.9 BASES

The monthly test of the diesel generator is conducted to check for equipment failures and deterioration. Testing is conducted up to equilibrium operating conditions to demonstrate proper operation at these conditions. The diesel generator will be manually started, synchronized and connected to the bus and load picked up. The diesel generator should be loaded to at least 75% of rated load to prevent fouling of the engine. It is expected that the diesel generator will be run for one to two hours. Diesel generator experience at other generating stations indicates that the testing frequency is adequate and provides a high reliability of operation should the system be required.

Each diesel generator has one air compressor and two air receivers for starting. It is expected that the air compressors will run only infrequently. During the monthly check of the diesel generator, one receiver in each set of receivers will be drawn down below the point at which the corresponding compressor automatically starts to check operation and the ability of the compressors to recharge the receivers.

The diesel generator fuel consumption rate at full load is approximately 200 gallons per hour. Thus, the monthly load test of the diesel generators will test the operation and the ability of the fuel oil transfer pumps to refill the day tank and will check the operation of these pumps from the emergency source.

The test of the diesel generator during the refueling outage will be more comprehensive in that it will functionally test the system; i.e., it will check diesel generator starting and closure of diesel generator breaker and sequencing of load on the diesel generator. The diesel generator will be started by simulation of a loss-of-coolant accident. In addition, an undervoltage condition will be imposed to simulate a loss of off-site power. The timing sequence will be checked to assure that the diesel generators can operate the LPCI pumps at rated speed within 18 seconds, and the core spray pumps at rated speed within twenty-four seconds.

4.9 BASES (Cont'd.)

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The station batteries shall be subjected to a performance test every third refueling outage and a service test during the other refueling outages. This testing frequency complies with the testing requirements of the Institute of Electrical and Electronics Engineers (IEEE) Standard 450 (1975), "Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries," and Regulatory Guide 1.129, Revision 1 (February 1978), "Maintenance, Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants."

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The diesel fuel oil quality must be checked to ensure proper operation of the diesel generators. Water content should be minimized because water in the fuel could contribute to excessive damage to the diesel engine. Amendment No. 134 centralized commitments related to Position C.2 of Regulatory Guide 1.137, Revision 1 (October, 1979) "Fuel Oil Systems for Standby Diesel Generators".

When it is determined that some auxiliary electrical equipment is out-of-service, the increased surveillance required in Section 4.5.F is deemed adequate to provide assurance that the remaining equipment will be operable.

The test interval for the Emergency Service Water System, and pump room fans associated with the ESW pumps is deemed adequate to provide assurance that the equipment will be operable based on good engineering judgment and system redundancy, plus the additional testing accomplished when the diesel generators are tested. Pump flow tests during normal operation will be performed by measuring the head and flow in the system using suitable flow equipment and pressure instrumentation.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.11.A (Cont'd.)	4.11.A (Cont'd.)
	d. A sample of the charcoal filter shall be analyzed once per year to assure halogen removal efficiency of at least of at least 99.5 percent.
2. At least 1 of the 2 main control room intake air radiation monitors shall be operable with the inoperable channel failed safe whenever the control room emergency ventilation air supply fans and filter trains are required to be operable by 3.11.A.1 or filtration of the control room ventilation intake air must be initiated.	2. Operability of the main control room air intake radiation monitors shall be tested every 3 months.
B. Emergency Heat Sink Facility	B. Emergency Heat Sink Facility
The level in the emergency reservoir of the Emergency Heat Sink Facility shall not be less than 17'. Should the level drop below this point action shall be taken to restore the level to above the minimum, within 7 days.	1. The level in the emergency reservoir of the Emergency Heat Sink Facility shall be checked once per month.
	2. Once a year the portable fire pump which is used to provide makeup water to the emergency reservoir will be checked for operability and availability.
	3a. The Emergency Cooling Water pump and ESW booster pumps shall be tested in accordance with Section XI of the ASME Boiler Pressure Vessel Code and applicable addenda, except where relief has been granted.
	b. The Emergency Cooling Tower fans shall be tested every three months to verify operability.
C. Emergency Shutdown Control Panel	C. Emergency Shutdown Control Panel
1. At all times when not in use or being maintained, the emergency shutdown control panels shall be secured.	1. The emergency shutdown control panels shall be visually checked once per week to verify they are secured.
	2. Operability of the switches on the emergency shutdown control panels shall be tested by electrical check once per refueling outage.

3.11 BASES

Emergency Heat Sink

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The Emergency Shutdown Control Panels are provided to assure the capability of taking the plants to the hot shutdown condition external to the control room for the unlikely condition that the control room becomes uninhabitable.

D. Shock Suppressors (Snubbers) on Safety Related Systems

Snubbers are provided to ensure that the structural integrity of the reactor coolant system and all other safety-related systems are maintained during and following a seismic or other event initiating dynamic loads. Snubbers are designed to prevent unrestrained pipe motion under dynamic loads as might occur during an earthquake or severe transient while allowing normal thermal motion during startup and shutdown. The consequence of an inoperable snubber is an increase in the probability of structural damage to piping as a result of seismic or other event initiating dynamic loads. It is therefo required that all snubbers necessary to protect the primary coolant system or any other safety system or components be operable during reactor operation.

Because the snubber protection is required only during low probability events a period of 72 hours is allowed for repairs or replacements. A determined effort will be made to repair the snubber as soon as possible. This allowable repair period is consistent with the allowable repair items of other safety related components such as RHR pumps, HPCI subsystems, ADS valves and diesel generators.

An engineering analysis must be performed on supported components when a snubber is determined to be inoperable. The purpose of this analysis is to assure that the supported components have not been damaged as a result of the snubber inoperability.

4.11. BASES

B. Emergency Heat Sink Facility

The testing of the ESW Booster Pumps and the ECW pump is in accordance with existing ASME codes and applicable addenda except where relief has been granted and assures the required availability of the equipment.

C. Emergency Shutdown-Control Panels

Once per week verification of the panels being properly secured is considered adequate. The associated equipment is proven operable during surveillance testing of that equipment. An operability verification by electrical test at each refueling outage is adequate to assure that the panels are available and can perform their design function.

D. Shock Suppressors (Snubbers) on Safety Related Systems

All safety-related snubbers are visually inspected to verify, 1) proper orientation, 2) freedom of movement where possible to induce motion manually without disconnecting the snubber, 3) proper attachment to structures and equipment, and 4) proper hydraulic fluid level for hydraulic snubbers. Snubbers are categorized into two groups, "accessible" or "inaccessible", based on their accessibility for inspection during reactor operation and drywell inertment. The required inspection interval varies inversely with the observed snubber failures. The number of inoperable snubbers found during a required inspection determines the time interval for the next required inspection. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections will only be used to shorten the required interval and not to lengthen it.

When the cause of the rejection of a snubber is clearly established and remedied for that snubber and for any other snubbers that may be generically susceptible, and verified by inservice functional testing, that snubber may be exempted from being counted as inoperable. Generically susceptible snubbers are those which are of a specific make or model and have the same design features directly related to rejection of the snubber by visual inspection or are similarly located or exposed to the same environmental conditions such as temperature, radiation, and vibration. When a snubber is found inoperable an engineering evaluation is performed to determine a) snubber mode of failure and, b) if there is any adverse effect or degradation on the supported piping or equipment due to the failure.

To further increase the assurance of snubber reliability, functional tests will be performed once each operating cycle.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 170 AND 174 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 January 10, 1992, Philadelphia Electric Company (PECo), Public Service Electric and Gas Company, Delmarva Power and Light Company, and Atlantic City Electric Company (the licensees) requested an amendment to the Peach Bottom Atomic Power Station (PBAPS) Unit Nos. 2 and 3, Technical Specifications (TSs) regarding a revision to the allowable out of service time (AOT) for the emergency service water (ESW) system pumps. In addition, the licensee proposed revisions to the operability and surveillance requirements of components included in the emergency heat sink (EHS) system, additional surveillance requirements for the ESW system, and changes to the TS Bases reflecting the above additions and revisions. In response to a staff request, the licensee provided additional information with regard to the proposed TS amendment by letter dated April 3, 1992. Further clarification of the Probabilistic Risk Assessment (PRA) analysis performed by the licensee was obtained through a telephone conversation with PECo representatives on April 10, 1992. By letter dated July 20, 1992, the licensee revised the January 10, 1992 submittal. The revision corrected discrepancies between the description of the proposed changes and the marked up TS pages. The July 20, 1992 submittal did not change the substance of the January 10, 1992 submittal. The April 3, 1992 and July 20, 1992 letters provided clarifying information that was not outside the scope of the original Federal Register Notice and did not change the initial proposed no significant hazards consideration determination.

2.0 BACKGROUND

The ESW system consists of two parallel full capacity ESW pumps, and associated piping, heat exchangers, valves and controls. The EHS system consists of one full capacity emergency cooling water (ECW) pump, two parallel full capacity ESW booster pumps, an induced draft emergency cooling tower (ECT) with an integral water storage reservoir, and associated piping, valves

and controls. ESW and EHS system components are supplied with AC power from the emergency buses to allow operation during a loss of off-site power (LOOP).

The ESW system provides the only supply of cooling water to the emergency diesel generators (EDGs). Under normal operating conditions, the non-safety-related normal service water (NSW) system supplies cooling water to emergency core cooling system (ECCS) components, ECCS pump room coolers, and reactor core isolation cooling (RCIC) pump room coolers. When the NSW supply is unavailable, such as following a LOOP, and an ESW pump is operating, a check valve arrangement allows the ESW system to automatically begin supplying these heat exchangers with cooling water.

The licensee has not conclusively demonstrated that the ECW pump and the associated EHS system is equivalent to an ESW pump in performing the ESW pump safety function. However, the piping arrangement and system performance characteristics are such that the ECW pump is capable of supplying sufficient cooling water flow to the ESW system to meet design basis flow requirements to the EDGs, ECCS components, ECCS pump room coolers, and RCIC pump room coolers.

The licensee recognized the following deficiencies with regard to the current PBAPS TSs: continued operation with one ESW pump inoperable is not addressed; continued operation with two ESW pumps inoperable is allowed for a period not to exceed one month; and the ECW pump and the associated EHS system is permitted to be considered equivalent to an ESW pump. The licensee partially addressed these deficiencies through Plant On-site Review Committee (PORC) Position No. 33 by imposing administrative limits on plant operation with one or two ESW pumps inoperable, and by administratively prohibiting consideration of the operability of the ECW pump and the associated EHS system as equivalent to the operability of one ESW pump.

In order to fully address the above noted TS deficiencies, the licensee proposed revisions to the PBAPS TSs which include: an additional limiting condition for operation (LCO) requiring a reactor shutdown to the cold shutdown condition within 24 hours should one ESW pump remain inoperable for a period in excess of 7 days; a revised LCO requiring the reactor be placed in hot shutdown within 6 hours and cold shutdown within 36 hours should both ESW pumps become inoperable; and deletion of the section permitting establishment of ECW and ESW pump equivalency. The licensee's proposed changes to the PBAPS TSs also include the following: addition of a requirement to test the ECW and ESW booster pumps in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda, except where relief has been granted, effectively reducing the surveillance test interval (STI) for these pumps from once every operating cycle to once every three months; a reduction of the STI for the ECT fans from once per operating cycle to once every three months; addition of a surveillance test requirement for valve position verification consistent with the standard TSs; and addition of a surveillance test requirement to inspect and clean the ESW pump intake structure once every operating cycle. In addition, the licensee proposed revisions to the TS Bases reflecting the above changes and other changes of a purely administrative nature.

3.0 EVALUATION

Due to the differences in configuration between the PBAPS ESW system and the generic plant service water system described in the standard TSs, the staff could not directly apply the guidance of the standard TSs with regard to establishing AOTs for ESW system components at PBAPS. The staff based the review of the proposed 7-day AOT for a single inoperable ESW pump on the relative importance of ESW to other equipment required to cope with design basis events.

The licensee performed an analysis to compare the relative impact on core damage frequency of an assumed unavailability of 7 days per year for the high pressure coolant injection (HPCI) system and each EDG to that for a 7-day-per-year unavailability for each ESW pump. Operation of the ECW pump was not credited in the analysis. The licensee determined that the impact of the assumed unavailability of a single ESW pump on core damage frequency was less than that of any one EDG or the HPCI system. Since the AOT for a single inoperable EDG and the AOT for an inoperable HPCI system both equal 7 days, the licensee concluded that a 7 day AOT was appropriate for a single inoperable ESW pump.

The staff determined the accident sequences of primary concern with regard to ESW pump unavailability to be those sequences involving a total LOOP. These sequences are critical due to the importance of an ESW system cooling water supply to the EDGs following a LOOP. Without adequate cooling to the EDGs in this situation, a station blackout scenario results. Under station blackout conditions, the HPCI or RCIC systems are assumed to provide adequate core cooling for several hours. Failure of the HPCI or RCIC systems is likely to result from battery depletion or extreme environmental conditions in that period of time. Sequences involving a loss of NSW for reasons other than a LOOP are much less important due to the substantial period of time available to provide cooling to the necessary components prior to failure. The staff considered the significance of a total loss of ESW, the likelihood of a concurrent LOOP and the AOTs for equipment designed to cope with an SBO event. The staff considered that the significance of the ESW pump to the SBO event was similar to that of the HPCI, RCIC and Automatic Depressurization System (ADS) systems, each of which has a 7-day AOT for a single inoperable component. The staff also noted that the proposed 7-day AOT for a single inoperable ESW pump was significantly more conservative than the current 30-day AOT. In making the above determination, the staff considered the ECW pump to be unavailable.

Based on the above analyses, the staff finds the proposed 7 day AOT for a single inoperable ESW pump acceptable. The staff also finds the proposed LCO requiring that the reactor be placed in hot shutdown within 6 hours and cold shutdown within 36 hours should both ESW pumps become inoperable to be consistent with the severity of the situation and, therefore, acceptable. Since the licensee has not conclusively demonstrated that the ECW pump and the associated EHS system is equivalent to an ESW pump in performing the ESW pump safety function, the staff considers the proposed deletion of the TS section

permitting establishment of ECW and ESW pump equivalency appropriate and finds the proposed change acceptable.

The proposed addition of a requirement to test the ECW and ESW booster pumps in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda, except where relief has been granted, complies with the requirements of 10 CFR 50.55a with regard to inservice testing of ASME Code Class 2 and Class 3 pumps, and is acceptable. Based on licensee review of the test procedure, the proposed reduction of the STI for the ECT fans from once per operating cycle to once every three months introduces no additional unavailability for the EHS system. Since the proposed STI for the ECT fans increases the level of confidence in their proper operation without increasing unavailability and is consistent with the proposed STI for other active components in the EHS system, the staff finds the proposed change in the ECT fan STI acceptable.

The proposed addition of a surveillance test requirement for valve position verification is consistent with the guidance of the standard TSs and is, therefore, acceptable. The proposed addition of a surveillance test requirement to inspect and clean the ESW pump intake structure once every operating cycle complies, in part, with the recommendations of Generic Letter 89-13. Therefore, the staff finds the addition of this surveillance requirement acceptable.

4.0 SUMMARY

The proposed revision to the PBAPS TSs related to the ESW and EHS systems was reviewed and found to be acceptable. The acceptability of the proposed AOT for a single inoperable ESW pump was based on a staff review of the significance of a total loss of ESW, the likelihood of a concurrent LOOP and the AOT for other equipment needed to cope with an SBO event. The remaining proposed revisions to the PBAPS TSs were found to be acceptable based on various guidance documents and requirements, including the standard TSs. It should be noted that the proposed revisions, as a whole, result in TSs significantly more restrictive than the current TSs. The proposed changes to the TS Bases were found to accurately reflect the rationale for the proposed revisions to the PBAPS TSs and were, therefore, acceptable.

An editorial change was made to Technical Specifications pages 221, of Units 2 and 3, with the concurrence of the licensee, to add F to 120° to read 120°F. This change did not effect the original no significant hazards consideration.

5.0 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.

6.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes the surveillance requirements. 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 (57 FR 4492). 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.

7.0 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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