

BEFORE THE

UNITED STATES NUCLEAR REGULATORY COMMISSION

In the Matter of :
PHILADELPHIA ELECTRIC COMPANY : Docket Nos. 50-277
: 50-278

APPLICATION FOR AMENDMENT
OF
FACILITY OPERATING LICENSES

DPR-44
DPR-56

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Philadelphia Electric Company, Licensee under Facility Operating Licenses DPR-44 and DPR-56 for the Peach Bottom Atomic Power Station Unit No. 2 and Unit No. 3, respectively, hereby requests an amendment to the Technical Specifications contained in Appendix A to the Operating Licenses as indicated by a bar in the margin of the attached pages 221, 223 and 224.

Licensee proposes to (1) revise the Limiting Conditions for Operation (LCOs) in Section 3.9.C, (2) revise the BASES of Section 3.9, (3) revise the Surveillance Requirements (SRs) in

Section 4.9.C and (4) revise the BASES of Section 4.9. The proposed changes concern the Emergency Service Water (ESW) and Emergency Cooling Water (ECW) Technical Specifications, and are grouped in this Application into two categories. Category A changes address allowable out-of-service times (AOT) and surveillance test intervals (STI). The purpose of the Category A changes is to provide more restrictive limits on the ESW and ECW systems to assure a level of reliability commensurate with their importance to plant safety. The need for more restrictive limits for these systems was addressed in NRC Inspection Report 50-277/86-25 Section 5.2.4. Category B changes are administrative in nature, and involve renumbering the LCOs in Technical Specification Section 3.9.C.

System Description

The Emergency Service Water system is one of the cooling water systems at Peach Bottom which provides cooling water to plant equipment from the ultimate heat sink, the Susquehanna River (Conowingo Pond). The system is designed to provide cooling water to both units during a loss of offsite power. The ESW system consists of two redundant loops each provided with a 100% capacity pump. Normal water supply is from the Conowingo Pond. Each ESW pump discharges into a separate header which feeds emergency safeguards coolers and heat exchangers. With the exception of the diesel generator heat exchangers, all ESW heat loads are normally cooled by the Service Water system. The ESW

system is a standby system not normally in operation. Both ESW pumps are actuated automatically upon the start of one or more standby diesel generators. One ESW pump is manually stopped if both pumps start and successfully run.

The Emergency Cooling Water system allows the ESW system to operate independently of its normal offsite water source by utilizing an onsite water storage reservoir. The ECW system and the storage reservoir are a part of the emergency heat sink system which provides onsite heat removal capability so that the reactors of Units 2 and 3 can be shut down in the event of the unavailability of the normal heat sink. The 3.7 million gallon capacity of the storage reservoir is adequate for 1 week of cooling tower operation without makeup from offsite sources. Water is taken from the onsite reservoir by a single ECW pump and fed to the ESW piping network to provide cooling to ESW loads. Water can also be supplied from the reservoir to the ESW pumps through one of the full capacity gravity letdown lines. Water exiting the room coolers and heat exchangers is routed to a common header which connects to two parallel booster pumps. Each 100% capacity booster pump provides additional head to the cooling water and discharges to one of three onsite cooling tower cells. The coolant passing through the cooling tower collects in the onsite reservoir and is available for recirculation. A simplified drawing of the ESW and ECW systems is attached.

The emergency heat sink can operate during a loss of offsite power and can withstand a seismic event. The ECW system is utilized in instances where: 1) the normal heat sink is unavailable coincident with a loss of off-site power event, 2) the ESW pumps are unavailable coincident with a loss of offsite power event, or 3) a loss-of-coolant accident (LOCA) coincident with a loss of the emergency service water system and loss of offsite power. The ECW pump is started automatically after a time delay upon the start of any diesel generator. If either ESW pump starts and runs successfully, as indicated by adequate discharge pressure, then the ECW pump is automatically tripped.

Description of Changes - Category A

The following Category A changes and additions are being proposed.

- (1) Licensee proposes the addition of an LCO to Section 3.9.C which shall read "If one ESW or ECW pump becomes inoperable, the reactor may remain in operation for a period not to exceed 2 months."
- (2) Licensee proposes to reduce the existing AOT from 1 month to 7 days for any combination of two pumps. The LCO shall read "If any combination of two ESW or ECW pumps becomes inoperable, the reactor may remain in operation for a period not to exceed 7 days."

- (3) License proposes to revise the wording of Surveillance Requirement 4.9.C.1.a to read "Pump operability - the pump shall be manually started and pump capability checked (via discharge pressure \geq 54.0 psig at shut off head)." This revision replaces "flow capability" with "pump capability".
- (4) Licensee proposes to reduce the existing STI for the ECW pump and ESW booster pumps from once per operating cycle to every 3 months. Surveillance Requirement 4.9.C.3.a shall read "The Emergency Cooling Water pump and ESW booster pumps shall be tested every 3 months to verify operability."
- (5) Licensee proposes to reduce the existing STI for the Emergency Cooling Tower fans from once per operating cycle to every three months. Surveillance Requirement 4.9.C.3.b shall read "The Emergency Cooling Tower fans shall be tested every 3 months to verify operability."
- (6) Licensee proposes to revise the BASES of Section 3.9 to correctly define the relation between the ECW pump and the ESW pumps. The second sentence in the last paragraph shall be revised to read "A third pump equivalent to an ESW pump, the Emergency Cooling Water pump, is located at the Emergency Cooling Tower." The ECW pump is equivalent to one ESW pump, not to two ESW pumps as stated in the existing BASES. This relation is

already correctly defined in existing LCO 3.9.C.3. This equivalency may be made provided at least one ESW booster pump and two Emergency Cooling Tower fans are operable.

(7) Licensee proposes to further revise the BASES of Section 3.9 by replacing the existing final statement in the last paragraph which reads "In the event 2 pumps are inoperable, the allowable repair period is conservative in view of the 3-month test interval for the system." with the following statements "In the event that one ESW or ECW pump is inoperable, the two month allowable out-of-service time is conservative based on the fact that two 100% capacity pumps are available. In the event that two ESW or ECW pumps are inoperable, the significant reduction in redundancy is properly reflected in the seven day allowable out-of-service time."

(8) Licensee proposes to revise the BASES of Section 4.9. The first two sentences in the final paragraph shall read "The test interval for the Emergency Service Water System, the ESW booster pumps, Emergency Cooling Water pump, Emergency Cooling Tower fans, and pump room fans associated with the ESW pumps is deemed adequate to provide assurance that the equipment will be operable. This test interval is based on good engineering judgement and system redundancy, plus the additional

testing accomplished when the diesel generators are tested." The ECW pump should be included in the discussion of the STI for the ESW and ECW systems because of its role in connecting the ESW system to the emergency heat sink.

- (9) Licensee proposes to further revise the BASES of Section 4.9 by replacing the existing final statement in the last paragraph with the following statement "Pump operability tests during normal operation will be performed by measuring the shut-off head." Pump operability tests, not pump flow tests as stated in the existing statement, are performed by measuring the shut-off head. This revision is proposed to correct an inaccuracy in the existing BASES.

Safety Discussion - Category A

Change Request (1) concerns an additional LCO to assign a two month AOT for either one ESW pump or the ECW pump. In the event that one ESW pump or the ECW pump is inoperable, the two-month repair period is considered conservative based on the fact that two 100% capacity pumps remain available. Current Technical Specifications do not address this scenario and allow the plant to operate indefinitely with one of the three pumps inoperable. The proposed change provides more restrictive limits on the ESW and ECW systems and therefore will enhance plant safety.

Change Request (2) concerns reducing the existing AOT from 1 month to 7 days for any combination of two out of the following: the ESW pumps and the ECW pump. A failure of the one remaining pump during this allowed interval would disable all four standby diesel generators. Any combination of two ECW or ESW pumps declared inoperable indicates a significant reduction in redundancy, and is reflected in the proposed LCO. Actual operating experience indicates that a simultaneous failure of both ESW pumps has never occurred. However, this more restrictive limit is proposed to enhance plant safety.

Change Request (3) concerns removing the word "flow" from the description of the pump operability tests. Operability tests are performed by measuring shut-off head. The existing SR inaccurately implies that operability is determined by measuring flow. The proposed revision will enhance safety by adding clarification to avoid any future confusion.

Change Requests (4) and (5) concern decreasing the STI for the ECW pump, ESW booster pumps and the Emergency Cooling Tower fans from once per operating cycle to every three months. The proposed test interval is based on good engineering judgement and system redundancy, and is deemed adequate to assure that the equipment will be operable. A review of surveillance tests indicates that the testing does not disable pumps or valves in any manner which would preclude operation of the system in the event of an actual demand. Therefore, there is no presumed test unavailability for the ESW and ECW systems.

Change Requests (6), (7), (8) and (9) concern revising the BASES to accurately reflect changes proposed to Sections 3.9 and 4.9. Consistency between the BASES and their corresponding LCOs and SRs is necessary to avoid misinterpretations and to enhance the understanding of the intent of the requirements.

It has been concluded that these changes will impact the LCOs in Section 3.9.C and the SRs in Section 4.9.C in a positive manner by increasing the reliability of the ESW and ECW systems, and will not adversely impact plant safety.

No Significant Hazards Consideration - Category A

The Commission has provided guidance concerning the application of the standards for determining whether license amendments involve no significant hazards considerations by providing certain examples (51 FR 7751). One of the examples of actions involving no significant hazards considerations is Example ii, "a change that constitutes an additional limitation, restriction or control not presently included in the Technical Specification, e.g. a more stringent surveillance requirement." The proposed Category A changes to reduce the AOT and STI of the ESW and ECW systems are similar to the example in that they impose additional restrictions upon operations and more stringent surveillance requirements.

The proposed Category A changes to the Peach Bottom Operating Licenses do not constitute a significant hazards consideration in that they would not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

The four design basis accidents described in Section 14 of the Updated Final Safety Analysis Report (UFSAR) are: Control Rod Drop Accident, Loss of Coolant Accident, Refueling Accident and Main Steam Line Break. Revising the LCOs in Section 3.9.C and the SRs in Section 4.9.C will not affect the accident precursors, initial conditions, assumptions or sequences of events of these accidents as described in the UFSAR. It is concluded that the probability or consequences of an accident previously evaluated will not be increased by the implementation of the proposed Category A changes.

OR

2. Create the possibility of a new or different kind of accident from any previously evaluated.

The proposed Category A changes concern reducing the allowable out-of-service times and increasing the surveillance test frequency of the ESW and ECW systems.

Implementing these changes will not involve any unanalyzed plant conditions, piping configurations or valve line-ups and therefore will not create the possibility of a new or different kind of accident from any previously evaluated.

OR

- 3) Involve a significant reduction in a margin of safety.

The proposed changes will not affect the discharge temperature, pressure or flowrate from the pumps. The proposed Category A changes will increase the reliability of the ESW and ECW systems by decreasing allowable out-of-service times and increasing surveillance test frequency, and therefore will enhance the margin of safety.

Description of Changes - Category B

The proposed Category B changes are administrative in nature, and are listed below.

- (10) Licensee proposes the additional LCO for one ESW or ECW pump being inoperable to be inserted between the existing first two LCOs. Licensee proposes the additional LCO to be numbered 3.9.C.2.

- (11) Licensee proposes existing LCOs 3.9.C.2 through 3.9.C.4 to be renumbered as 3.9.C.3 through 3.9.C.5, respectively.

These proposed changes are indicated by a bar in the margin on the attached page 221 of the Technical Specifications.

Safety Discussion - Category B

Change Requests (10) and (11) are administrative changes which reflect the proposed additional LCO for having one ESW or ECW pump inoperable. It is logical and good human factors practice to insert the LCO for one inoperable pump after the LCO for zero inoperable pumps and before the LCO for two inoperable pumps.

The administrative nature of these change requests do not affect the content of Technical Specification Section 3.9.C, and therefore have no impact on plant safety.

No Significant Hazards Considerations Category B

A second example (Example i) provided by the Commission of a change involving no significant hazards consideration, as stated in 51 FR 7751 is "purely administrative change to the Technical Specifications". The Change Requests contained in Category B conform to this example since they are only changes to the numbering of the LCOs.

The proposed Category B changes to the Peach Bottom Operating Licenses do not constitute a significant hazards consideration in that they would not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed Category B changes do not involve modifications to the plant or operation of the plant. The administrative nature of this category of change requests does not impact the precursors, initial conditions, assumptions or sequences of events of any of the four design basis accidents. It is concluded that the probability or consequences of any accident previously evaluated will not be increased by the implementation of these changes.

OR

2. Create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed Category B changes do not affect the plant or its operation because they are purely administrative. Renumbering the LCOs will not create the possibility of a new or different kind of accident from any accident previously evaluated.

OR

3. Involve a significant reduction in a margin of safety.

Renumbering the LCOs has no impact on any parameters used in assessing the safety margin. The administrative nature of the Category B change requests will not reduce the margin of safety.

Environmental Considerations

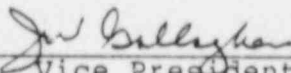
This proposed amendment revises the Limiting Conditions for Operation and the Surveillance Requirements for the Emergency Service Water and the Emergency Cooling Water Systems. Licensee has determined that this amendment to the Technical Specifications involves no increase in the amounts and no change in the types of any effluents that may be released offsite, and has also determined that there is no increase in the individual or cumulative occupational radiation exposure. Therefore, there is no environmental consideration involved and consequently an environmental report is not submitted.

Conclusion

The Plant Operations Review Committee and the Nuclear Review Board have reviewed these proposed changes to the Technical Specifications and have concluded that they do not involve unreviewed safety issues, Significant Hazards

Considerations nor environmental considerations, and will not
endanger the health and safety of the public.

Respectfully submitted,
PHILADELPHIA ELECTRIC COMPANY

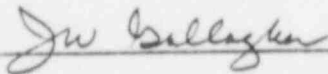


Vice President

COMMONWEALTH OF PENNSYLVANIA :
: ss.
COUNTY OF PHILADELPHIA :

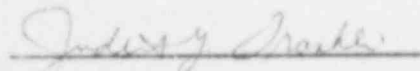
J. W. Gallagher, being first duly sworn, deposes and says:

That he is Vice President of Philadelphia Electric Company, the Applicant herein; that he has read the foregoing Application for Amendment of Facility Operating Licenses and knows the contents thereof; and that the statements and matters set forth therein are true and correct to the best of his knowledge, information and belief.



Vice President

Subscribed and sworn to
before me this 2nd day
of JAN 1988


Notary Public

JUDITH Y. FRANKLIN
Notary Public, Phila., Phila. Co.
My Commission Expires July 28, 1991

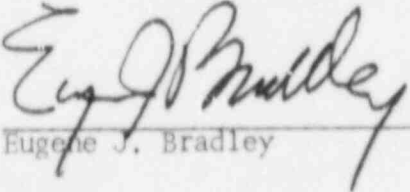
CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Application were served on the following by deposit in the United States mail, first-class postage prepaid, on the 26th day of January, 1988.

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