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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION SUPPORTING

AMENDMENT NOS. 133 AND 136 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 20, 1987 as supplemented on February 26, 1988, Philadelphia Electric Company requested an amendment to Facility Operating License Nos. DPR-44 and DPR-56 for Peach Bottom Atomic Power Station, Unit Nos. 2 and 3. The amendment application addressed modifications of the Technical Specifications (TS) in three separate unrelated areas. This safety evaluation addresses two items: (a) primary coolant sample analysis, and (b) diesel generator surveillance frequency. The February 26, 1988 supplemental information submittal applies to the diesel generator surveillance frequency; it did not change the substance of the amendment request for this item. A third item relating to the offsite power sources will be addressed by separate correspondence at a later time.

The licensee proposed that Technical Specification 4.6.B.1 relating to primary coolant sampling analysis be revised to require the performance of an isotopic analysis on all additional primary coolant samples required by Specification 4.6.B.1, thereby eliminating the less accurate gross measurements as presently required. The licensee also proposed that the requirement to perform an isotopic analysis to determine dose equivalent Iodine-131 if the gross measurement exceeds 0.2 uCi/gm be deleted because an isotopic analysis will be performed on every sample in accordance with this proposed revision. Gross measurements which are presently required by Specification 4.6.B.1 are less accurate than isotopic analyses.

The Peach Bottom Unit 2 and 3 Technical Specifications provide the definitions of "Operating Cycle" and "Surveillance Frequency" for the surveillance and testing of emergency diesel generators. "Operating Cycle" is defined in Section 1.0, Definitions of the Technical Specifications, as the "interval between the end of one refueling outage

for a particular unit and the end of the next subsequent refueling outage for the same unit." "Surveillance Frequency" is defined in Section 1.0, Definitions of the Technical Specifications, as "periodic surveillance test----shall be performed within the specified surveillance intervals. The operating cycle interval as pertaining to instrument and electrical surveillance shall not exceed 18 months."

Peach Bottom Units 2 and 3 have a total of four emergency diesel generators that are common to both units i.e., each diesel can power an auxiliary emergency 4KV switchgear bus in either Unit 2 or Unit 3. Technical Specification Section 4.9.A, Paragraph 1b currently requires that "Once per operating cycle the conditions under which the diesel generator is required will be simulated and a test conducted to demonstrate that it will start and accept the emergency load within the specified time sequence." By definition the operating cycle is unique to each unit; however, the diesels are common to both units. Therefore, implementation of the surveillance and test provisions of the Technical Specifications now requires testing all four diesel generators as required by Section 4.9.A during the once per operating cycle for both units. The technical specification now requires shutdown of a unit to test the diesels if that unit's operating cycle exceeds 18 months between outages (in spite of the fact that the diesels may just have been tested when the other unit was shutdown).

In order to eliminate the technical specifications' requirement which now makes it mandatory to test the diesels for a unit at an interval not to exceed 18 months and which can require shutdown of a unit "just to test the diesels", the licensee proposed to amend the technical specification surveillance frequency definition in Section 1.0 by adding the following paragraph to the definition:

"A surveillance test of diesel generators, that requires a plant outage, may be deferred beyond the calculated due date until the next refueling outage, provided the equipment has been similarly tested and meets the surveillance requirements of the other unit. When a test is deferred under this provision, the next surveillance interval shall commence at the end of the original specified interval."

The following Review Criteria/Requirements documents were used to review the licensee's proposed changes to the Technical Specifications.

-10 CFR Part 50, Appendix A, Criterion 18 - Inspection and Testing of Electric Power Systems.

-Standard Technical Specifications for General Electric Boiling Water Reactors (GE-STS) BWR/4, Section 3/4.8, Paragraph 4.8.1.1.2 - Electrical Power Systems Surveillance Requirements.

-NUREG-C JO USNRC Standard Review Plan, Section 8.3.1 - A-C Power Systems (Onsite).

-USNRC Regulatory Guide 1.108 - Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants.

-USNRC Regulatory Guide 1.118 - Periodic Testing of Electric Power and Protection Systems.

2.0 EVALUATION

A. Primary Coolant Sample Analysis

The NRR staff has reviewed the material submitted by the licensee in support of the license amendment with particular attention to the isotopic analysis required on all additional primary coolant samples, as required by Technical Specification 4.6.B.1. The licensee's isotope analysis is intended to provide a more quantitative and accurate analysis through the use of a computerized Germanium counting system. The current Technical Specification calls for an isotopic analysis, as well as a gross measurement on each sample. The disadvantages of the gross measurement are: (1) no identification on the types of radionuclides analyzed; and (2) less accurate than isotopic analysis. The proposed revision would also enhance the Peach Bottom primary coolant chemistry surveillance program. The staff finds that the licensee's proposed Technical Specifications change, incorporating an improved isotopic analysis for dose equivalent Iodine-131 in the primary coolant system required by Specification 4.6.B.1, is more conservative than the current Technical Specifications and is consistent with the Standard Technical Specifications for General Electric Boiling Water Reactors, NUREG-0123, Revision 3, and therefore acceptable.

B. Diesel Generator Surveillance Frequency

The proposed change would permit deferral of an 18-month surveillance test of the diesel generators for a unit until outage of that unit, provided that they had been similarly tested in accordance with the technical specification requirements for the other unit during a preceding period not exceeding 18 months. This change would permit only a deferral of a surveillance test for a unit and would not reduce the total number of tests performed for that unit because the next 18-month surveillance interval for the diesels will commence at the end of the original specified interval (i.e, if the surveillance is delayed until 20 months, the next surveillance for that unit will be due in 16 months).

The maximum testing interval for any one diesel would never exceed 18 months. Deferral of testing would avoid the potential for an outage for the sole purpose of performing a test provided that the 18-months criterion is met. This testing frequency with the technical specification change proposed would be equal to or greater

than the testing required for similar diesels at a single unit plant. In fact with both plants (units) operating on an ongoing basis the testing interval would average 9 months and provide double the diesel testing required for a single unit plant.

An area of staff concern during this safety evaluation was for the surveillance interval for the automatic load shedding and load sequencing devices associated with a particular unit's loads when the surveillance interval for diesel generator testing for that unit exceeds 18 months. These devices have a maximum surveillance interval of 18 months and this testing is normally performed along with the diesel generator testing associated with LOOP and LOCA testing. However, evaluation shows that all of these devices will be tested during the conduct of other technical specification surveillance tests with test intervals not exceeding 18 months. Surveillance testing of these devices for each unit will continue when diesel generator testing is conducted with that unit.

The proposed revision of the technical specifications would permit the licensee to exceed the cycle test requirement of the technical specification and Paragraph 2a(2) of Regulatory Guide 1.108 which requires the demonstration of the design basis accident loading sequence on the diesel generator system every 18 months. However, along with an extended outage cycle for a unit there follows a shortened outage cycle such that the average cycle test time interval remains 18 months. Further, the diesel generators are tested with the other unit with the same cyclic test criteria which for this two-unit site potentially reduces this cyclic test interval to 9 months for the diesel generators. The design basis accident loading sequence devices associated with each unit are not only tested along with that unit's technical specification diesel generator tests, but also with other technical specification surveillance tests which ensure this testing at intervals which do not exceed the technical specification requirement of 18 months.

For the reasons cited herein, the staff finds the proposed revision to the Surveillance Frequency definition to be acceptable.

3.0 ENVIRONMENTAL CONSIDERATIONS

These amendments involve a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes to the surveillance requirements. The staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration

and there has been no public comment on such finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement nor environmental assessment need be prepared in connection with the issuance of the amendments.

4.0 CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (52 FR 9579) on March 25, 1987 and consulted with the State of Pennsylvania. No public comments were received and the State of Pennsylvania did not have any comments.

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

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Dated: July 18, 1988