

July 18, 1988

Docket Nos. 50-277/278

Mr. William M. Alden
Director-Licensing
Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

Dear Mr. Alden:

SUBJECT: A. PRIMARY COOLANT SAMPLE ANALYSIS (TAC NOS. 65143, 65144);
B. DIESEL GENERATOR SURVEILLANCE FREQUENCY (TAC NOS. 64638 AND 64639)

RE: PEACH BOTTOM ATOMIC POWER STATION, UNIT NOS. 2 AND 3

The Commission has issued the enclosed Amendments Nos. 133 and 136 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 20, 1987 as supplemented on February 26, 1988.

The amendment application addressed modifications of the Technical Specifications (TS) in three separate unrelated areas: (a) the surveillance requirements for primary coolant sample analysis in TS 4.6.B.1, (b) the definition of surveillance frequency for the diesel generators, and (c) to provide the technical specification requirements for an additional 13KV offsite power source. This amendment addresses items a and b. The offsite power supply item will be addressed by separate correspondence at a later time.

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/

Robert E. Martin, Project Manager
Project Directorate I-2
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. 133 to DPR-44
- 2. Amendment No. 136 to DPR-56
- 3. Safety Evaluation

cc w/enclosures:
See next page

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PDI-2/PA
MO'Brien
6/21/88

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PDI-2/RM
REMartin:mr
6/21/88

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OGC
R. Bachmann
6/28/88

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PDI-2/D
WButler
6/29/88

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

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3. Safety Evaluation

cc w/enclosures:
See next page

Mr. William M. Alden
Philadelphia Electric Company

Peach Bottom Atomic Power Station,
Units 2 and 3

cc:

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Board of Supervisors
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Delta, Pennsylvania 17314

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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. 133
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 20, 1987 as supplemented on February 26, 1988, 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. 133, 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

/s/

Walter R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 18, 1988

PDI-2/LA
MOB:ten
6/22/88

PDI-2/PM
REMartin:mr
01/13/88

OGC
R Bachmann
6/22/88

PDI-2/D
WButler
6/29/88

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 133, 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



Walter R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 18, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 133

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

8

145

Insert

8

145

1.0 DEFINITIONS (Cont'd)

Simulated Automatic Actuation - Simulated automatic actuation means applying a simulated signal to the sensor to actuate the circuit in question.

Site Boundary - That line beyond which the land is not owned, leased or otherwise controlled by licensee.

Source Check - A source check shall be the qualitative assessment of channel response when the channel sensor is exposed to a radioactive source.

Startup/Hot Standby Mode - In this mode the reactor protection scram trips, initiated by condenser low vacuum and main steam line isolation valve closure are bypassed, the reactor protection system is energized with IRM neutron monitoring system trip, the APRM 15% high flux trip, and control rod withdrawal interlocks in service. This is often referred to as just Startup Mode. This is intended to imply the Startup/Hot Standby position of the mode switch.

Surveillance Frequency - Periodic surveillance tests, checks, calibrations, and examinations shall be performed within the specified surveillance intervals. The operating cycle interval as pertaining to instrument and electrical surveillance shall not exceed 18 months. These specified time intervals may be exceeded by 25%. In cases where the elapsed interval has exceeded 100% of the specified interval, the next surveillance interval shall commence at the end of the original specified interval. Surveillance tests are not required on systems or parts of the systems that are not required to be operable or are tripped. If tests are missed on parts not required to be operable or are tripped, then they shall be performed prior to returning the system to an operable status.

A surveillance test of the 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 requirement for 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.

Transition Boiling - Transition boiling means the boiling regime between nucleate and film boiling. Transition boiling is the regime in which both nucleate and film boiling occur intermittently with neither type being completely stable.

Trip System - A trip system means an arrangement of instrument channel trip signals and auxiliary equipment required to initiate

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS3.6.B Coolant Chemistry1. Coolant Activity Limits

Whenever the reactor is critical, the limits on activity concentrations in the reactor coolant shall not exceed the equilibrium value of 0.2 uc/gm of dose equivalent *I-131.

This limit may be exceeded for a maximum of 48 hours. During this activity transient the iodine concentration shall not exceed the equilibrium value of 4.0 uc/gram of dose equivalent I-131 whenever the reactor is critical. The reactor shall not be operated under this exception from the equilibrium activity limits for more than 800 hours in any consecutive 12 month period. If the iodine concentration in the coolant exceeds 0.2 uc/gram dose equivalent I-131 for more than 48 continuous hours or is greater than 4.0 uc/gm dose equivalent I-131, the reactor shall be shutdown, and the steam line isolation valves shall be closed within 12 hours.

*That concentration I-131 which alone would produce the same thyroid dose as the quantity and isotopic mixture actually present.

**The following definition will apply to the term significant increase in offgas level.

- a) At release rates less than or equal to 75,000 uc/sec, significant increase means an increase of 10,000 uc/sec from the previous corresponding power level steady state release rate within 1 hour.
- b) At release rates greater than 75,000 uc/sec, significant increase means an increase of 15% from the previous corresponding power level steady state release rate within 1 hr.

4.6.B Coolant Chemistry

1. During the equilibrium power operation the sampling frequencies of Table I shall apply. Additional samples shall be taken whenever the reactor coolant concentration exceeds ten percent of the equilibrium value in 3.6.B.1 and one or more of the following conditions are met:

- a. During startup
- b. Following a significant power change***
- c. Following a significant increase** in the equilibrium offgas level at the steam air ejector over a 1 hour period.

Additional samples will also be obtained whenever the equilibrium iodine concentration limit of 3.6.B.1 is exceeded.

The additional coolant liquid samples shall be taken and analyzed isotopically for dose equivalent I-131 at 4-hour intervals for 48 hours, or until two successive samples indicate a decreasing trend below the limiting value of 0.2 uc/gm dose equivalent I-131. However, at least 3 consecutive samples shall be taken in all cases.

***For the purpose of this section on sampling frequency a significant power change is defined as a change exceeding 15% of rated power in less than 1 hour.



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. 136
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 20, 1987 as supplemented on February 26, 1988, 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. 136, 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

/s/

Walter R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 18, 1988

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PDI-2/DA
WButler
6/29/88

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PDI-2/PM
REMartin:mr
6/13/88

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OGG
Leuchmann
6/20/88

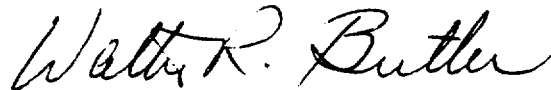
[Handwritten signature]
PDI-2/D
WButler
6/29/88

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 136, 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



Walter R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 18, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 136

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.

<u>Remove</u>	<u>Insert</u>
8	8
145	145

1.0 DEFINITIONS (Cont'd)

Simulated Automatic Actuation - Simulated automatic actuation means applying a simulated signal to the sensor to actuate the circuit in question.

Site Boundary - That line beyond which the land is not owned, leased or otherwise controlled by licensee.

Source Check - A source check shall be the qualitative assessment of channel response when the channel sensor is exposed to a radioactive source.

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Surveillance Frequency - Periodic surveillance tests, checks, calibrations, and examinations shall be performed within the specified surveillance intervals. The operating cycle interval as pertaining to instrument and electrical surveillance shall not exceed 18 months. These specified time intervals may be exceeded by 25%. In cases where the elapsed interval has exceeded 100% of the specified interval, the next surveillance interval shall commence at the end of the original specified interval. Surveillance tests are not required on systems or parts of the systems that are not required to be operable or are tripped. If tests are missed on parts not required to be operable or are tripped, then they shall be performed prior to returning the system to an operable status.

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1. During the equilibrium power operation the sampling frequencies of Table I shall apply. Additional samples shall be taken whenever the reactor coolant concentration exceeds ten percent of the equilibrium value in 3.6.B.1 and one or more of the following conditions are met:

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- b. Following a significant power change***
- c. Following a significant increase** in the equilibrium offgas level at the steam air ejector over a 1 hour period.

Additional samples will also be obtained whenever the equilibrium iodine concentration limit of 3.6.B.1 is exceeded.

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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-0800 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.

Principal Contributor: J. Minns, C. Woodard

Dated: July 18, 1988