January 8, 1

Mr. Leon R. Eliason
Chief Nuclear Officer & President-
Nuclear Business Unit
Public Service Electric & Gas
Company
Post Office Box 236
Hancocks Bridge, NJ 08038

SUBJECT: SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENTS REGARDING EMERGENCY DIESEL GENERATOR MAINTENANCE (TAC NOS. MA0072 AND MA0073)

Dear Mr. Eliason:

The Commission has issued the enclosed Amendment Nos. 203 and 185 to Facility Operating License Nos. DPR-70 and DPR-75 for the Salem Nuclear Generating Station, Unit Nos. 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated November 4, 1997.

These amendments revise TS 3/4.8.1 on the emergency diesel generators to (1) delete the 18-month surveillance requirements 4.8.1.1.2.d.1, and (2) eliminate the accelerated testing requirement of Table 4.8-1.

A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,
/S/
Patrick D. Milano, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-272/311

Enclosures:
1. Amendment No. 203 to License No. DPR-70
2. Amendment No. 185 to License No. DPR-75
3. Safety Evaluation

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

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3. Safety Evaluation

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Mr. Leon R. Eliason
Public Service Electric & Gas
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Salem Nuclear Generating Station,
Units 1 and 2

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

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-272

SALEM NUCLEAR GENERATING STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 203
License No. DPR-70

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:

   A. The application for amendment filed by the Public Service Electric & Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) dated November 4, 1997, 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 set forth in 10 CFR Chapter I;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and 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-70 is hereby amended to read as follows:

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(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 203 , are hereby incorporated in the license. The licensee 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

John F. Stolz, 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: January 8, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 203

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Revise Appendix A as follows:

Remove Pages	Insert Pages
3/4 8-3	3/4 8-3
3/4 8-4	3/4 8-4
3/4 8-5a	3/4 8-5a
3/4 8-5b	3/4 8-5b
B 3/4 8-1	B 3/4 8-1

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Two physically independent A.C. circuits between the offsite transmission network and the onsite Class 1E distribution system (vital bus system) shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments, power availability, and

b. Demonstrated OPERABLE at least once per 18 months during shutdown by transferring (manually and automatically) vital bus supply from one 13/4 kv transformer to the other 13/4 kv transformer.

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by:

1. Verifying the fuel level in its day tank.

2. Verifying the diesel starts and accelerates to 900 rpm in less than or equal to 10 seconds*. The generator voltage and frequency shall be ≥ 3950 and ≤ 4580 volts and 60 ± 1.2 Hz within 13 seconds after the start signal.

   Subsequently, verifying the generator is synchronized, gradually loaded to 2500-2600 kw**, and operates at a load of 2500-2600 kw for greater than or equal to 60 minutes.

3. Verifying the diesel generator is aligned to provide standby power to the associated vital bus.

b. At least once per 31 days and after each operation of the diesel where the period of operation was greater than or equal to one hour by checking for and removing accumulated water from the day tanks.

c. At least once per 6 months the diesel generator shall be started from ambient conditions and accelerated to at least 900 rpm in less than or equal to 10 seconds*. The generator voltage and frequency shall be ≥ 3950 and ≤ 4580 volts and 60 ± 1.2 Hz within 13 seconds after the start signal.

   The generator shall be synchronized to its emergency bus, loaded to 2500-2600** kw in less than or equal to 60 seconds, and operate at a load of 2500-2600 kw for at least 60 minutes.

   This test, if it is performed so it coincides with the testing required by Surveillance Requirement 4.8.1.1.2.a.2, may also serve to concurrently meet those requirements.

SURVEILLANCE REQUIREMENTS (Continued)

d. At least once per 18 months during shutdown by:

1. DELETED

2. Verifying that, on rejection of a load greater than or equal to 820 kw, the voltage and frequency are restored to ≥ 3950 and ≤ 4580 volts and 60 ± 1.2 Hz within 4 seconds.

3. Simulating a loss of offsite power by itself, and:

   a) Verifying de-energization of the vital bus and load shedding from the vital bus.

   b) Verifying the diesel starts on the auto-start signal*, energizes the vital bus with permanently connected loads within 13 seconds, energizes the auto-connected shutdown loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. The steady state voltage and frequency of the vital bus shall be maintained at ≥ 3950 and ≤ 4580 volts and 60 ± 1.2 Hz during this test.

4. Verifying that on an ESF actuation test signal without loss of offsite power the diesel generator starts on the auto-start signal and operates on standby for greater than or equal to 5 minutes*. The generator voltage and frequency shall be ≥ 3950 and ≤ 4580 volts and 60 ± 1.2 Hz within 13 seconds after the auto-start signal and shall be maintained within these limits during this test.

5. Not Used.

6. Simulating a loss of offsite power in conjunction with an ESF actuation test signal, and:

   a) Verifying de-energization of the vital bus and load shedding from the vital bus.

   b) Verifying the diesel starts on the auto-start signal*, energizes the vital bus with permanently connected loads within 13 seconds, energizes the auto-connected emergency (accident) loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. The steady state voltage and frequency of the vital bus shall be maintained at ≥ 3950 and ≤ 4580 volts and 60 ± 1.2 Hz during this test.

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 92 days by verifying that a sample of diesel fuel from each of the above required fuel storage tanks is within the acceptable limits specified in Table 1 of ASTM D975-77 when checked for viscosity, water and sediment.

4.8.1.1.4 Reports - NOT USED

* Surveillance testing shall be conducted in accordance with the manufacturer's recommendations regarding engine prelube, warm-up and loading (unless loading times are specified in the individual Surveillance Requirements).

** This band is meant as guidance to preclude routine exceedances of the diesel generator manufacturer's design ratings. Loads in excess of this band for special testing or momentary variations due to changing bus loads shall not invalidate the test.

TABLE 4.8-1

DIESEL GENERATOR TEST SCHEDULE

NOT USED

3/4.8.1 and 3/4.8.2 A.C. SOURCES AND ONSITE POWER DISTRIBUTION SYSTEMS

The OPERABILITY of the A.C. and D.C power sources and associated distribution systems during operation ensures that sufficient power will be available to supply the safety related equipment required for 1) the safe shutdown of the facility, and 2) the mitigation and control of accident conditions within the facility. The minimum specified independent and redundant A.C. and D.C. power sources and distribution systems satisfy the requirements of General Design Criterion 17 of Appendix "A" to 10 CFR Part 50.

The ACTION requirements specified for the levels of degradation of the power sources provide restriction upon continued facility operation commensurate with the level of degradation. The OPERABILITY of the power sources are consistent with the initial condition assumptions of the accident analyses and are based upon maintaining at least two independent sets of onsite A.C. and D.C. power sources and associated distribution systems OPERABLE during accident conditions coincident with an assumed loss of offsite power and single failure of one onsite A.C. source.

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during shutdown and refueling ensures that 1) the facility can be maintained in the shutdown or refueling condition for extended time periods and 2) sufficient instrumentation and control capability is available for monitoring and maintaining the unit status.

The Surveillance Requirements for demonstrating the OPERABILITY of the diesel generators are based upon the recommendations of Regulatory Guide 1.9, "Selection of Diesel Generator Set Capacity for Standby Power Supplies," March 10, 1971, and Regulatory Guide 1.108, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," Revision 1, August 1977. Regulatory Guide 1.108 criteria for determining and reporting valid tests and failures, and accelerated diesel generator testing, have been superseded by implementation of the Maintenance Rule for the diesel generators per 10CFR50.65. In addition to the Surveillance Requirements of 4.8.1.1.2, diesel preventative maintenance is performed in accordance with procedures based on manufacturer's recommendations with consideration given to operating experience.

For the purposes of establishing initial conditions for surveillance testing, "ambient conditions" mean that the diesel lube oil temperature is 120 ± 20 degrees F. The minimum lube oil temperature for an OPERABLE diesel is 100 degrees F. Lube oil heaters are designed to maintain the oil temperature at approximately 120 degrees F.

3/4.8.3 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

Containment electrical penetrations and penetration conductors are protected by either deenergizing circuits not required during reactor operation or by demonstrating the OPERABILITY of primary and backup overcurrent protection circuit breakers during periodic surveillance.

The surveillance frequency applicable to molded case circuit breakers and lower voltage circuit breakers provides assurance of breaker reliability by testing at least one representative sample of each manufacturer's brand of molded case and lower voltage circuit breakers. Each manufacturer's molded

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

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-311

SALEM NUCLEAR GENERATING STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 185
License No. DPR-75

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:

   A. The application for amendment filed by the Public Service Electric & Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) dated November 4, 1997, 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 set forth in 10 CFR Chapter I;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and 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-75 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 185 , are hereby incorporated in the license. The licensee 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

John F. Stolz, 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: January 8, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 185

FACILITY OPERATING LICENSE NO. DPR-75

DOCKET NO. 50-311

Revise Appendix A as follows:

Remove Pages	Insert Pages
3/4 8-3	3/4 8-3
3/4 8-4	3/4 8-4
3/4 8-5a	3/4 8-5a
3/4 8-5b	3/4 8-5b
B 3/4 8-1	B 3/4 8-1

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SURVEILLANCE REQUIREMENTS (Continued)

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1. DELETED

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 203 AND 185 TO FACILITY OPERATING

LICENSE NOS. DPR-70 AND DPR-75

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2

DOCKET NOS. 50-272 AND 50-311

1.0 INTRODUCTION

By letter dated November 4, 1997, the Public Service Electric & Gas Company (the licensee) submitted a request for changes to the Salem Nuclear Generating Station, Unit Nos. 1 and 2, Technical Specifications (TSs). The requested changes would revise TS 3/4.8.1 on the emergency diesel generators (EDGs) to (1) delete the 18-month surveillance requirements in TS 4.8.1.1.2.d.1 and (2) eliminate the accelerated testing requirement of Table 4.8-1. Specifically, TS Surveillance Requirement 4.8.1.1.2.d.1 would be changed to allow each diesel generator to be inspected in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service. The manufacturer endorses the performance of major preventive maintenance actions on a refueling outage basis rather than on the prescribed 18-month frequency. Additionally, the recommendations of the Nuclear Regulatory Commission's (NRC) Generic Letter (GL) 94-01, "Removal of Accelerated Testing and Special Reporting Requirements for Emergency Diesel Generators," would be incorporated.

2.0 EVALUATION

The licensee's application to amend the TSs notes that NUREG-1431, "Standard Technical Specification, Westinghouse Plants," allows for relocating the EDG inspection requirements from the TSs to the plant-controlled preventive maintenance program. The Salem Nuclear Generating Station preventive maintenance program currently includes EDG performance history, engineering analyses, and manufacturer's recommendations as appropriate for determining inspection requirements. The licensee states that this change will provide increased flexibility for performing preventive maintenance based on manufacture's recommendations, and eliminate any potential conflict between

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the manufacturer supported maintenance intervals and the 18-month interval currently prescribed by the TSs. The licensee states that the EDG manufacturer endorses the performance of major preventive maintenance actions on a refueling outage basis rather than on the prescribed 18-month frequency. The proposed change is consistent with NUREG-1431.

On May 31, 1994, the NRC issued GL 94-01 to advise licensees that they may request amendments to remove the accelerated testing and special reporting requirements for EDGs from the TSs. When requesting this amendment, licensees must commit to implement within 90 days of the issuance of the amendment a maintenance program for monitoring and maintaining EDG performance consistent with the provisions of Section 50.65 of Title 10 of the Code of Federal Regulations (10 CFR 50.65), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," and the guidance of Regulatory Guide 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." Additionally, GL 94-01 stated that EDG Special Reporting Requirements could be deleted from the TSs since 10 CFR 50.72 and 50.73 address regulatory requirements for licensees to notify NRC and report individual EDG failures.

2.1 Removal of 18-Month EDG Inspection

Inspection of EDGs in accordance with the manufacturers' recommendations is common industry practice. In the past, the NRC staff has typically included this common industry practice as a requirement in the TSs. However, with the issuance of NUREG-1431, the NRC staff has allowed licensees to relocate EDG inspection requirements from the TSs to plant-controlled preventive maintenance (PM) programs. The licensee has proposed to (a) relocate its EDG inspection requirements from the TSs to the Salem plant-controlled PM program and (b) modify the TSs bases to indicate its intent to continue to perform EDG preventive maintenance under its PM program in accordance with the manufacturer's recommendations. All other surveillance requirements, which demonstrate that the AC electrical power system functions as required, will remain unchanged. Any changes to the Salem preventive maintenance program, as part of the maintenance and inspection activities described in the Updated Final Safety Analysis Report, will be controlled by the requirements of 10 CFR 50.59. Sufficient surveillance requirements are retained in the TSs to demonstrate the functional capability of the EDGs.

The licensee stated that the original guidance provided by the EDG manufacturer quoted a frequency of 2920 operating-hours between performance of major preventive maintenance activities. The Salem EDGs currently have experienced an average lifetime operating history of about 1326 operating-hours between preventive maintenance performance. Therefore, allowing the preventive maintenance inspections to be conducted on a refueling outage basis rather than on the 18-calendar months basis should not significantly increase the number of operating-hours between major maintenance inspections nor exceed manufacturer's guidance. Further, the recent operating history of the EDGs supports this change.

The NRC staff concludes that the change to the inspection provisions can be controlled by the maintenance program because sufficient surveillance requirements are retained in the TSs. The change is consistent with the Improved Standard Technical Specifications. The staff finds this change to be acceptable.

2.2 Deletion of Accelerated Testing of EDGs and Special Reporting Requirements

The licensee has proposed to eliminate the accelerated testing of the EDGs from the TSs based on implementation of the Maintenance Rule for the EDGs. The current requirement stated in TS Table 4.8-1 accelerates the EDG test schedule from monthly to weekly when 2 or more failures are encountered in the last 20 valid tests. This test frequency is maintained until 7 consecutive failure-free demands have been performed and the number of failures in the last 20 valid demands has been reduced to 0 or 1. The licensee has stated that it conforms to the guidance of NRC Regulatory Guide 1.160, Revision 1, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," for the EDGs, including the key elements in GL 94-01:

- performance criteria for EDG reliability and unavailability, under paragraph (a)(2) of 10 CFR 50.65;
- appropriate root cause determination and corrective action following a single maintenance-preventable failure; and
- goals and EDG performance monitoring under paragraph (a)(1) of 10 CFR 50.65 if any performance criterion is not met, or if a second maintenance-preventable failure occurs.

As stated in GL 94-01, the NRC staff has found that it is not necessary to relocate accelerated testing requirements to the maintenance program. The staff finds that the proposed TS change is consistent with Enclosure 2, "Revisions to TS 4.8.1.1.2," of GL 94-01. The proposed change ensures that the EDGs will perform their intended functions by prevention of EDG failures through maintenance and periodic surveillance testing. The proposed changes are consistent with the guidance provided in Enclosures 1 and 2 of GL 94-01. The NRC staff finds the deletion of the surveillance requirements to be acceptable since they are not essential for determining operability or whether the TSs Limiting Conditions for Operation have been met. The TS requirements that remain are consistent with current licensing practices, operating experience and plant accident and transient analyses, and provide reasonable assurance that the public health and safety will be protected.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a 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 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 (62 FR 63982). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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