

January 30, 1990

Docket No. 50-311

Mr. Steven E. Miltenberger
Vice President and Chief Nuclear
Officer
Public Service Electric & Gas Company
Post Office Box 236
Hancocks Bridge, New Jersey 08038

Dear Mr. Miltenberger:

SUBJECT: CLARIFICATION OF ACCEPTANCE CRITERIA FOR VENTILATION SYSTEM TEST
(TAC NO. 75128)

RE: SALEM GENERATING STATION, UNIT NO. 2

The Commission has issued the enclosed Amendment No. 88 to Facility Operating License No. DPR-75 for the Salem Generating Station, Unit No. 2. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated September 25, 1989.

This amendment clarifies the acceptance criteria for in-place testing of charcoal adsorbers and HEPA filter banks.

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/
James C. Stone, Project Manager
Project Directorate I-2
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 88 to License No. DPR-75
2. Safety Evaluation

cc w/enclosures:
See next page

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Docket File	MO'Brien (2)	Wanda Jones	JDyer
NRC PDR	OGC	JCalvo	JLinville
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GPA/PA	JStone	MThadani	GHill (4)
Rita Jaques, ARM/LFMB		CMcCracken	

[75128]

PDI-2/PA
MO'Brien
1/28/89

PDI-2/PM
JStone:mj
12/28/89

PDI-2/D
WButler
1/29/89

SPLB
CMcCracken
1/10/89

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PDR ADDOCK 05000311
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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Sincerely,

A handwritten signature in cursive script that reads "James C. Stone".

James C. Stone, Project Manager
Project Directorate I-2
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

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See next page

Mr. Steven E. Miltenberger
Public Service Electric & Gas Company

Salem Nuclear Generating Station

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

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-311

SALEM GENERATING STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 88
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 September 25, 1989 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. 88 , 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 and shall be implemented within 60 days of the 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: January 30, 1990

PDI-2/A
MD/Brien
1/8/89

PDI-2/PM
JStone:mj
12/22/89

GC/B
R Bachmann
11/2/90


PDI-2/D
WButler
1/29/89

(2) Technical Specifications and Environmental Protection Plan

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3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days of the 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: January 30, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 88

FACILITY OPERATING LICENSE NO. DPR-75

DOCKET NO. 50-311

Revise Appendix A as follows:

Remove Pages

3/4 7-16

3/4 7-19

3/4 9-14

B 3/4 7-5

B 3/4 9-3

Insert Pages

3/4 7-16

3/4 7-19

3/4 9-14

B 3/4 7-5

B 3/4 9-3

SURVEILLANCE REQUIREMENTS (Continued)

- a. At least once per 31 days by initiating flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least one hour and maintains the control room air temperature less than or equal to 120°F with each fan operating for at least 15 minutes.
- b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system, by:
 - 1. Verifying that the charcoal adsorbers remove $\geq 99\%$ of a halogenated hydrocarbon refrigerant test gas and that the HEPA filter banks remove $\geq 99\%$ of the DOP when they are tested in-place using the test procedure guidance of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978 (except for the provisions of ANSI N510 Sections 8 and 9), and the system flow rate is $7410 \text{ cfm} \pm 10\%$.
 - 2. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.
 - 3. Verifying a system flow rate of $7410 \text{ cfm} \pm 10\%$ during system operation.
- c. After every 720 hours of charcoal adsorber operation by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.

SURVEILLANCE REQUIREMENTS (Continued)

1. Verifying that with the system operating at a flow rate of 21,400 cfm \pm 10 % and exhausting through the HEPA filters and charcoal adsorbers, the total bypass flow of the ventilation system to the facility vent, including leakage through the ventilation system diverting valves, is less than or equal to 1% when the system is tested by admitting cold DOP at the system intake.
 2. Verifying that the charcoal adsorbers remove \geq 99% of a halogenated hydrocarbon refrigerant test gas and that the HEPA filter banks remove \geq 99% of the DOP when they are tested in-place using the test procedure guidance of Regulatory Positions C.5.a., C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978 (except for the provisions of ANSI N510 Sections 8 and 9), and the system flow rate is 21,400 cfm \pm 10%.
 3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.
 4. Verifying a system flow rate of 21,400 cfm \pm 10% during system operation.
- c. After every 720 hours of charcoal adsorber operation by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.
- d. At least once per 18 months by:
1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks of less than 4 inches Water Gauge while operating the system at a flow rate of 21,400 cfm \pm 10%.
 2. Verifying that the system starts on a Safety Injection Test Signal.

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that the charcoal adsorbers remove $\geq 99\%$ of a halogenated hydrocarbon refrigerant test gas and that the HEPA filter banks remove $\geq 99\%$ of the DOP when they are tested in-place using the test procedure guidance of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978 (except for the provisions of ANSI N510 Sections 8 and 9), and the system flow rate is $19,490 \text{ cfm} \pm 10\%$.
 3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.
 4. Verifying a system flow rate of $19,490 \text{ cfm} \pm 10\%$ during system operation.
- c. After every 720 hours of charcoal adsorber operation by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978.
- d. At least once per 18 months by:
1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than or equal to 4 inches Water Gauge while operating the system at a flow rate of $19,490 \text{ cfm} \pm 10\%$.
 2. Verifying that on a high radiation test signal, the system automatically starts (unless already operating) and directs its exhaust flow through the HEPA filters and charcoal adsorber banks.
 3. Verifying that the system maintains the spent fuel storage pool area at a negative pressure of greater than or equal to $1/8$ inches Water Gauge relative to the outside atmosphere during system operation.

PLANT SYSTEMS

BASES

3/4.7.5 FLOOD PROTECTION

The limitation on flood protection ensures that facility protective actions will be taken and operation will be terminated in the event of flood conditions. The limit of elevation 10.5' Mean Sea Level is based on the elevation above which facility flood control measures are required to provide protection to safety-related equipment.

3/4.7.6 CONTROL ROOM EMERGENCY AIR CONDITIONING SYSTEM

The OPERABILITY of the control room emergency air conditioning system ensures that 1) the ambient air temperature does not exceed the allowable temperature for continuous duty rating for the equipment and instrumentation cooled by this system and 2) the control room will remain habitable for operations personnel during and following all credible accident conditions. The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rem or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criterion 19 of Appendix "A", 10 CFR Part 50. ANSI N510-1975 and Generic Letter 83-13 should be used as procedural guidelines for surveillance testing.

3/4.7.7 AUXILIARY BUILDING EXHAUST AIR FILTRATION SYSTEM

The OPERABILITY of the auxiliary building exhaust air filtration system ensures that radioactive materials leaking from the ECCS equipment following a LOCA are filtered prior to reaching the environment. The operation of this system and the resultant effect on offsite dosage calculations was assumed in the accident analyses. ANSI N510-1975 and Generic Letter 83-13 should be used as procedural guidelines for surveillance testing.

3/4.7.8 SEALED SOURCE CONTAMINATION

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(c) limits for plutonium. This limitation will ensure that leakage from byproduct, source, and special nuclear material sources will not exceed allowable intake values. Sealed sources are classified into three groups according to their use, with surveillance requirements commensurate with the probability of damage to a source in that group. Those sources which are frequently handled are required to be tested more often than those which are not. Sealed sources which are continuously enclosed within a shielded mechanism (i.e., sealed sources within radiation monitoring or boron measuring devices) are considered to be stored and need not be tested unless they are removed from the shielded mechanism.

REFUELING OPERATIONS

BASES

3/4.9.9 CONTAINMENT PURGE AND PRESSURE-VACUUM RELIEF ISOLATION SYSTEM

The OPERABILITY of this system ensures that the containment vent and purge penetrations will be automatically isolated upon detection of high radiation levels within the containment. The OPERABILITY of this system is required to restrict the release of radioactive material from the containment atmosphere to the environment.

3/4.9.10 and 3/4/9/11 WATER LEVEL - REACTOR VESSEL AND STORAGE POOL

The restrictions on minimum water level ensure that sufficient water depth is available to remove 99% of the assumed 10% iodine gas activity released from the rupture of an irradiated fuel assembly. The minimum water depth is consistent with the assumptions of the accident analysis.

3/4.9.12 FUEL HANDLING AREA VENTILATION SYSTEM

The limitations on the fuel handling area ventilation system ensure that all radioactive material released from an irradiated fuel assembly will be filtered through the HEPA filters and charcoal adsorber prior to discharge to the atmosphere. The OPERABILITY of this system and the resulting iodine removal capacity are consistent with the assumptions of the accident analyses. ANSI N510-1975 and Generic Letter 83-13 should be used as procedural guidelines for surveillance testing.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 88 TO FACILITY OPERATING LICENSE NO. DRP-75

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

SALEM GENERATING STATION, UNIT NO. 2

DOCKET NO. 50-311

1.0 INTRODUCTION

By letter dated September 25, 1989, Public Service Electric & Gas Company requested an amendment to Facility Operating License No. DPR-75 for the Salem Generating Station, Unit No. 2. The proposed amendment would clarify the acceptance criteria for in-place testing of charcoal adsorbers and HEPA filter banks installed in the Control Room Emergency Air Conditioning System, Auxiliary Building Exhaust Air filtration System and Fuel Handling Area Ventilation System.

2.0 EVALUATION

Current Salem, Unit 2, technical specifications (TS), Sections 4.7.6.1.b.1, 4.7.7.b.2, and 4.9.12.b.2, do not directly contain the acceptance criteria for charcoal adsorber and HEPA filter bank surveillance tests. The current wording of the surveillance sections indicate that the test procedures addressed in Section C.5.a, C.5.c, and C.5.d of Regulatory Guide (RG) 1.52, Rev. 2, are to be used to conduct the in-place testing. RG 1.52, Sections C.5.c and C.5.d specify an acceptance criteria of: penetration less than 0.05% for HEPA filter banks and bypass leakage through charcoal adsorber sections less than 0.05%. Generic Letter 83-13, Clarification of Surveillance Requirements for HEPA Filters and Charcoal Adsorber Units in Standard Technical Specifications on ESF Cleanup Systems, dated March 2, 1983 provides clarification of the relationship between the guidance provided in RG 1.52; the testing requirements of the HEPA filters and charcoal adsorber units; and the NRC staff assumptions used in its safety evaluations for the ESF atmospheric cleanup systems. Generic Letter 83-13 states that a "0.05% value is applicable when a HEPA filter or charcoal adsorber efficiency of 99% is assumed, or 1% when a HEPA filter or charcoal adsorber efficiency of 95% or less is assumed in the NRC staff's safety evaluation. (Use the value assumed for the charcoal adsorber efficiency if the value for the HEPA filter is different from the charcoal adsorber efficiency in the NRC staff's safety evaluation)."

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PDR ADOCK 05000311
PDC

The NRC staff's safety evaluation assumes a charcoal adsorber efficiency of at least 90% for elemental and methyl iodines at rated flow. The assumption for HEPA filters is at least 99% removal. These values are reflected in the updated Final Safety Analysis Report for Salem 1 and 2.

Based on the above, the appropriate acceptance criteria for charcoal adsorber units and HEPA filters should be 1%. The licensee has proposed to incorporate these acceptance criteria into the Salem Unit 2 TS. This will also bring Salem Unit 2 TS into agreement with the Salem Unit 1 TS.

The staff finds the proposed change to be acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves 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 amendment involves 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets 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 this amendment.

4.0 CONCLUSION

The Commission made a proposed determination that the amendment involves no significant hazards consideration which was published in the Federal Register (54 FR 51261) on December 13, 1989 and consulted with the State of New Jersey. No public comments were received and the State of New Jersey 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 this amendment will not be inimical to the common defense and security nor to the health and safety of the public.

Principal Contributor: James Stone

Dated: January 30, 1990