

Docket No. 50-272

February 2, 1981

Mr. F. W. Schneider
Vice President Production
Public Service Electric & Gas Company
80 Part Plaza, 15A
Newark, New Jersey 07101

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Dear Mr. Schneider:

The Commission has issued the enclosed Amendment No. ³³ to Facility Operating License No. DPR-70 for the Salem Nuclear Generating Station, Unit No. 1. This amendment consists of changes to the Technical Specifications in response to your request dated November 18, 1977, as revised on February 14, 1978, and supplemented by letters dated December 13, 1977, May 17, July 31, August 22, October 13 and 31, November 20 and December 22, 1978, January 4 and December 10, 1979, and December 31, 1980.

The amendment authorizes modification of the spent fuel pool of Unit No. 1 to provide additional capacity of fuel assemblies and revises the Radiological Technical Specifications to reflect this modification.

Copies of supplement No. 1 to the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

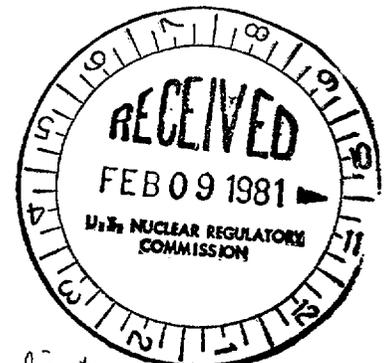
Original signed by:
S. A. Varga

Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Enclosures:

1. Amendment No. ³³ to DPR-70
2. Safety Evaluation
3. Notice of Issuance

cc w/encl:
See next page



8102270245

P

retype
1/23/81

WDR 2/1/81
*SEE PREVIOUS YELLOW FOR CONCURRENCES

*concern subject
to changes
discussed with Wross*

OFFICE	DL:ORB#1*	DL:ORB#1*	DL:ORB#1*	DL:OR*	OELD		
SURNAME	CParrish	WRoss <i>WDR</i>	SVarga	TNovak	JMOORE		
DATE	1/12/81	1/14/81	1/12/81	1/15/81	1/29/81		

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 CMiles

JWetmore
 BJones-4
 BScharf-10

Mr. F. W. Schneider
 Vice President, Production
 Public Service Electric and Gas Company
 80 Park Plaza, 15A
 Newark, New Jersey 07101

Dear Mr. Schneider:

The Commission has issued the enclosed Amendment No. to Facility Operating License No. DPR-70 for the Salem Nuclear Generating Station, Unit No. 1. This amendment consists of changes to the Technical Specifications in response to your request dated November 18, 1977 as revised on February 14, 1978 and supplemented by letters dated December 13, 1977, May 17, July 31, August 22, October 13 and 31, November 20 and December 22, 1978, January 4 and December 10, 1979 and December 31, 1980.

The amendment authorizes modification of the spent fuel pool of Unit No. 1 to provide additional capacity of fuel assemblies and revises the Radiological Technical Specifications to reflect this modification.

Supplement No. 1 to
 Copies of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

Steven A. Varga, Chief
 Operating Reactors Branch #1
 Division of Licensing

Enclosures:

1. Amendment No. to DPR-70
2. Safety Evaluation
3. Notice of Issuance

cc: w/enclosures
 See next page

Sent back for rewrite JM 1/22/81

OFFICE	ORB#1:DL	ORB#1:DL	C-ORB#1:DL	AD-OR:DL	OELD		
SURNAME	CParrish	WRoss/ct	SVarga	TNovak			
DATE	1/12/81	1/12/81	1/12/81	1/15/81	1/ /81		

Pocket



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

February 2, 1981

Docket No. 50-272

Mr. F. W. Schneider
Vice President Production
Public Service Electric & Gas Company
80 Part Plaza, 15A
Newark, New Jersey 07101

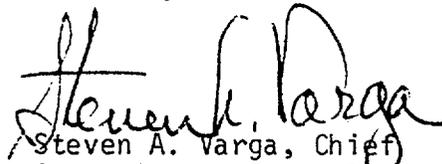
Dear Mr. Schneider:

The Commission has issued the enclosed Amendment No. 33 to Facility Operating License No. DPR-70 for the Salem Nuclear Generating Station, Unit No. 1. This amendment consists of changes to the Technical Specifications in response to your request dated November 18, 1977, as revised on February 14, 1978, and supplemented by letters dated December 13, 1977, May 17, July 31, August 22, October 13 and 31, November 20 and December 22, 1978, January 4 and December 10, 1979, and December 31, 1980.

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Sincerely,


Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

- Enclosures:
1. Amendment No. 33 to DPR-70
 2. Safety Evaluation
 3. Notice of Issuance

cc w/encl:
See next page

Mr. F. W. Schneider
Public Service Electric and Gas Company

-2-

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-3-

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

PUBLIC SERVICE ELECTRIC AND 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. 33
License No. DPR-70

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Public Service Electric and Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) dated November 18, 1977 as revised on February 14, 1978 and supplemented by letters dated December 13, 1977, May 17, July 31, August 22, October 13 and 31, November 20 and December 22, 1978, January 4 and December 10, 1979 and December 31, 1980, 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 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.

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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:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 33, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 2, 1981

ATTACHMENT TO LICENSE AMENDMENT NO. 33

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Revise Appendix A as follows:

Remove Page

5-5

Insert Page

5-5

DESIGN FEATURES

- a. In accordance with the code requirements specified in Section 4.1 of the FSAR, with allowance for normal degradation pursuant to the applicable Surveillance Requirements,
- b. For a pressure of 2485 psig, and
- c. For a temperature of 650°F, except for the pressurizer which is 680°F.

VOLUME

5.4.2 The total water and steam volume of the reactor coolant system is 12,811 \pm 100 cubic feet at a nominal T_{avg} of 576.7°F.

5.5 METEOROLOGICAL TOWER LOCATION

5.5.1 The meteorological tower shall be located as shown on Figure 5.1-1.

5.6 FUEL STORAGE

CRITICALITY

5.6.1 The new and spent fuel storage racks are designed and shall be maintained with a nominal 21 inch center-to-center distance between new fuel assemblies and a nominal 10.5 inch center-to-center distance between spent fuel assemblies placed in the storage racks to ensure a k_{eff} equivalent to ≤ 0.95 with the storage pool filled with unborated water. The k_{eff} of ≤ 0.95 includes a conservative allowance of 3.3% $\Delta k/k$ for uncertainties.

DRAINAGE

5.6.2 The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 124'8".

CAPACITY

5.6.3 The spent fuel storage pool is designed and shall be maintained with a storage capacity limited to no more than 1170 fuel assemblies. Each assembly is limited to 44.7 grams or less of U-235 per axial centimeter.



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

SUPPLEMENT NO. 1

TO THE

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 33 TO FACILITY OPERATING LICENSE NO. DPR-70

PUBLIC SERVICE ELECTRIC AND GAS COMPANY,
PHILADELPHIA ELECTRIC COMPANY,
DELMARVA POWER AND LIGHT COMPANY, AND
ATLANTIC CITY ELECTRIC COMPANY

SALEM NUCLEAR GENERATING STATION, UNIT NO. 1

DOCKET NO. 50-272

Introduction

By letter dated November 18, 1977, as revised on February 14, 1978, the licensee (Public Service Electric and Gas Company) applied for an amendment to Facility Operating License No. DPR-70 for Salem Nuclear Generating Station, Unit No. 1 (Saler-1) to permit substitution of high density spent fuel storage racks to increase the fuel storage capacity from 264 to 1170 fuel assemblies in the spent fuel pool. Subsequent information was provided by letters dated December 13, 1977, May 17, July 31, August 22, October 13 and 31, November 20 and December 22, 1978 and January 4, 1979 and December 31, 1980.

At the conclusion of the staff's review of the licensee's submittals through January 4, 1979 we published, by letter dated January 15, 1979, a Safety Evaluation Report (SER) and an Environmental Impact Appraisal (EIA) that documented our approval of the proposed modifications.

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On February 8, 1978, the NRC published in the Federal Register (43 Fed. Reg. 5443) a notice of "Proposed Issuance of Amendment" related to the proposed modification. As the result of this notification several petitions for leave to intervene and requests for hearing were filed, and two of these petitions were granted by the Atomic Safety and Licensing Board (ASLB) constituted to preside over this proceeding. Subsequently, hearings were held before the ASLB in May and July 1979 and April 1980. The ASLB rendered a positive Initial Decision on the licensee's proposed modification on October 27, 1980. The ASLB authorized the Director of the Office of Nuclear Reactor Regulation to make appropriate findings in accordance with the Commission's regulations and to issue the appropriate license amendment authorizing the requested replacement of spent fuel storage racks at Salem Station Unit 1. Amendment No. 33, amends the license in accordance with the Board's Order.

Our Safety Evaluation dated January 15, 1979 discussed the proposed modification in light of the conditions then existing--a dry spent fuel pool containing no spent fuel. The Safety Evaluation stated that in the event that the modifications were not performed until after the first refueling outage for either Unit 1 or 2, Licensee would be required to provide the Staff with its intended procedures and safety precautions that would be used to ensure an accident involving irradiated fuel would not occur. In addition the Staff in § 2.5 of its Safety Evaluation discussed the estimated exposures resulting from making these modifications to the Salem spent fuel pools after the first refueling. The first reload occurred during the evidentiary hearings, and some 40 spent fuel assemblies were placed in the spent fuel pool. At the evidentiary hearing which took place on July 11, 1979 the Staff also discussed briefly the impacts of modifying a contaminated spent fuel pool. By the time the Board issued its Initial Decision the second refueling had occurred at Salem Unit 1, placing 64 more spent fuel assemblies in the pool.

We are hereby supplementing the SER by updating two sections to reflect the fact that the modification will be performed with spent fuel assemblies in the spent fuel pool. The current inventory consists of 104 spent fuel assemblies that were removed from the core in April 1979 and October 1980 during the first and second reloads.

Evaluation

2.3 Installation of Racks and Fuel Handling

In our letter of January 15, 1979, transmitting the SER and EIA to the licensee, we stated that the licensee must provide us with the procedures and safety precautions that would be followed if the modification occurred after the first reloading of the core. The licensee complied by letter dated December 10, 1979. The Licensing Board and parties in the spent fuel pool expansion proceeding were notified of the availability of these procedures

upon request by licensee letter of December 13, 1979. Following the ASLB Initial Decision the licensee reconfirmed, by letter of December 31, 1980, and subsequent telephone discussions with the staff, the procedures to be followed. The major steps are as follows:

1. All irradiated fuel assemblies and other material will be transferred to low density racks in the north-last section of the spent fuel pool.
2. Six low density racks will be removed from the southwest corner of the spent fuel pool, using divers if necessary. Each rack will be rinsed with water as it is lifted from the pool, although contamination is expected to be minimal. The racks will be transported to the transfer pool, on the south side of the spent fuel pool, in a manner so that they will not pass above the spent fuel assemblies. The racks will be cut up and packaged for disposal either underwater in the transfer pool or in a screened off area after the transfer pool has been drained.
3. Two high density racks will be installed in the south-west corner of the spent fuel pool in the space vacated by the six low density racks.
4. The spent fuel elements will be transferred to the installed high density racks.
5. The remaining low density racks will be removed, using remotely operated equipment, where needed, to minimize radiation exposure.
6. Four bolts on the north wall of the spent fuel pool will be ground off.
7. Debris from the floor of the spent fuel pool will be removed.
8. Shims will be placed over bolts and liner seams.
9. The remainder of the high density racks will be installed, working from north to south in the spent fuel pool. (Divers will be used whenever possible and remote handling tools will be used in close proximity of spent fuel. The new racks will not be transported over spent fuel.)

We have reviewed this procedure and conclude that the movement of the spent fuel and of the old and new racks will be performed in a manner that will prevent damage to the spent fuel assemblies and to the spent fuel pool liner. We have previously approved the licensee's analysis that ensures that the new, high density racks will have adequate structural strength and integrity to prevent damage to the spent fuel assemblies during storage. On the basis of these reviews, we approve the licensee's procedures.

2.5 Occupational Radiation Exposure

In his letter of December 31, 1980, the licensee estimated that the total occupational radiation exposure associated with the modification procedure will be 6.7 man-rem. This magnitude of exposure is approximately 1.5% of the 420 man-rem incurred at the Salem plant during 1980 and has been determined to meet the criteria of ALARA and to be acceptable.

Conclusion

We have determined that the information contained in this Supplement does not affect the conclusions reached in the pertinent sections 2.5 and 4.0 of the Safety Evaluation Report issued on January 15, 1979 and that the minor effect of the second reload does not require changes to the proposed modification.

Dated: February 2, 1981

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-272
PUBLIC SERVICE ELECTRIC AND GAS COMPANY,
PHILADELPHIA ELECTRIC COMPANY,
DELMARVA POWER AND LIGHT COMPANY, AND
ATLANTIC CITY ELECTRIC COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 33 to Facility Operating License No. DPR-70, issued to Public Service Electric and Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees), which revised Technical Specifications for operation of the Salem Nuclear Generating Station, Unit No. 1 (the facility) located in Salem County, New Jersey. The amendment is effective as of the date of issuance.

The amendment authorizes modification of the spent fuel pool of Unit No. 1 to provide additional capacity of fuel assemblies and revises the Radiological Technical Specifications to reflect this modification.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

- 2 -

The Commission has prepared an Environmental Impact Appraisal dated January 15, 1979, and has concluded that an environmental impact statement for this particular action is not warranted because the actions authorized by this license amendment will not significantly affect the quality of the human environment.

Notice of Proposed Issuance of the Amendment 33 was published in the Federal Register on February 8, 1978 (43 FR 5443). A hearing was requested by several individuals. The States of New Jersey and Delaware also requested to participate as interested states. The hearing was held May 2-4, 1979, July 10-11, 1979, and April 28-30, 1980. Subsequently an Initial Decision was issued on October 27, 1980 that authorized the Director of Nuclear Reactor Regulation to make appropriate findings and to issue the appropriate license amendment authorizing the requested replacement of spent fuel storage racks at Salem Station Unit No. 1.

The Initial Decision is subject to review by an Atomic Safety and Licensing Appeal Board prior to its becoming final. Any decision or action taken by an Atomic Safety and Licensing Appeal Board in connection with the Initial Decision may be reviewed by the Commission.

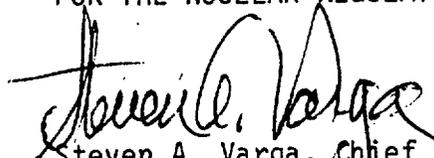
For further details with respect to this action, see (1) the application for amendment dated November 18, 1977, as revised on February 14, 1978, and supplemented by letters dated December 13, 1977, May 17, July 31, August 22, October 13 and 31, November 20 and December 22, 1978, January 4 and December 10 1979, and December 31, 1980, (2) Amendment No. 33 to License No. DPR-70, (3) the Commission's related Safety Evaluation, and (4) Supplement No. 1 to the

- 3 -

Commission's Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, NW., Washington, D.C. and at the Salem Free Public Library, 112 West Broadway, Salem, New Jersey. A copy of items (2), (3) and (4) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 2nd day of February, 1981

FOR THE NUCLEAR REGULATORY COMMISSION



Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing