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Docket No. 50-272

Public Service Electric & Gas Company  
 ATTN: Mr. F. P. Librizzi  
 General Manager - Electric  
 Production  
 Production Department  
 80 Park Place, Room 7221  
 Newark, New Jersey 07101

Gentlemen:

The Commission has issued the enclosed Amendment No. 6 to Facility Operating License No. DPR-70 for the Salem Nuclear Generating Station, Unit No. 1. The amendment consists of changes to the Technical Specifications in response to your application dated May 16, 1977.

The amendment to the Technical Specifications authorizes a one year waiver of the requirement for the facility's Maintenance Engineer to possess a minimum of one year nuclear power plant experience. The position will be occupied by an individual experienced in power plant maintenance. The amendment also corrects minor errors in previously issued amendments.

Copies of the Safety Evaluation and the FEDERAL REGISTER Notice are also enclosed.

Sincerely,

Original signed by

George Lear, Chief  
 Operating Reactors Branch #3  
 Division of Operating Reactors

Enclosures:

1. Amendment No. 6 DPR-70
2. Safety Evaluation
3. FEDERAL REGISTER Notice

*Construction*  
*B*

cc w/enclosures:  
 See next page

|         |                 |                   |              |                |  |  |
|---------|-----------------|-------------------|--------------|----------------|--|--|
| OFFICE  | ORB #3          | ORB #3 <i>Dmv</i> | OELD         | ORB #3         |  |  |
| SURNAME | <i>CParrish</i> | DVerrelli:mjf     | <i>Smith</i> | GLear <i>G</i> |  |  |
| DATE    | 6/29/77         | 6/29/77           | 7/15/77      | 7/7/77         |  |  |

cc:

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Assistant General Counsel  
Public Service Electric & Gas Company  
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Newark, New Jersey 07101

Troy B. Conner, Jr., Esquire  
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Gene Fisher  
Bureau Chief  
Bureau of Radiation Protection  
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Trenton, New Jersey 08628

Honorable Samuel Donolson  
Mayor, Lower Alloways Creek Township  
Salem County, New Jersey 08079

State House Annex  
ATTN: Deputy Attorney General  
State of New Jersey  
36 West State Street  
Trenton, New Jersey 08625

Attorney General  
Department of Law & Public Safety  
State House Annex  
Trenton, New Jersey 08625

Richard B. McGlynn, Commissioner  
Department of Public Utilities,  
State of New Jersey  
101 Commerce Street  
Newark, New Jersey 07102

Public Service Electric & Gas Company  
ATTN: Herbert J. Heller  
Manager, Salem Nuclear Generating  
Station  
Hancocks Bridge, New Jersey 08038

Chief, Energy Systems Analysis Br. (AW-459)  
Office of Radiation Programs  
U. S. Environmental Protection Agency  
Room 645, East Tower  
401 M Street, S. W.  
Washington, D. C. 20460

U. S. Environmental Protection Agency  
Region II Office  
ATTN: EIS COORDINATOR  
26 Federal Plaza  
New York, New York 10007

Salem Free Library  
112 West Broadway  
Salem, New Jersey 08079

Public Service Electric & Gas Co.  
ATTN: R. L. Mittl  
General Manager - Licensing  
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80 Park Place  
Newark, New Jersey 07101



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. 6  
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 May 16, 1977, 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.

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. 6, 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



George Lear, Chief  
Operating Reactors Branch #3  
Division of Operating Reactors

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: July 7, 1977

ATTACHMENT TO LICENSE AMENDMENT NO. 6

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Pages

3/4 2-9

3/4 10-2

6-5

6-6a (added)

POWER DISTRIBUTION LIMITS

NUCLEAR ENTHALPY HOT CHANNEL FACTOR -  $F_{\Delta H}^N$

LIMITING CONDITION FOR OPERATION

3.2.3  $F_{\Delta H}^N$  shall be limited by the following relationship:

$$F_{\Delta H}^N \leq 1.55 [1.0 + 0.2 (1-P)]$$

where  $P = \frac{\text{THERMAL POWER}}{\text{RATED THERMAL POWER}}$

APPLICABILITY: MODE 1

ACTION:

With  $F_{\Delta H}^N$  exceeding its limit:

- a. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 2 hours and reduce the Power Range Neutron Flux-High Trip Setpoints to  $\leq$  55% of RATED THERMAL POWER within the next 4 hours,
- b. Demonstrate thru in-core mapping that  $F_{\Delta H}^N$  is within its limit within 24 hours after exceeding the limit or reduce THERMAL POWER to less than 5% of RATED THERMAL POWER within the next 2 hours, and
- c. Identify and correct the cause of the out of limit condition prior to increasing THERMAL POWER above the reduced limit required by a. or b. above; subsequent POWER OPERATION may proceed provided that  $F_{\Delta H}^N$  is demonstrated through in-core mapping to be within its limit at a nominal 50% of RATED THERMAL POWER prior to exceeding this THERMAL POWER, at a nominal 75% of RATED THERMAL POWER prior to exceeding this THERMAL power and within 24 hours after attaining 95% or greater RATED THERMAL POWER.

POWER DISTRIBUTION LIMITS

SURVEILLANCE REQUIREMENTS

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4.2.3.1  $F_{\Delta H}^N$  shall be determined to be within its limit by using the movable incore  $\Delta H$  detectors to obtain a power distribution map:

- a. Prior to operation above 75% of RATED THERMAL POWER after each fuel loading, and
- b. At least once per 31 Effective Full Power Days.
- c. The provisions of Specification 4.0.4 are not applicable.

4.2.3.2 The measured  $F_{\Delta H}^N$  of 4.2.3.1 above, shall be increased by 4% for measurement uncertainty.

### 3/4.10 SPECIAL TEST EXCEPTIONS

#### SHUTDOWN MARGIN

#### LIMITING CONDITION FOR OPERATION

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3.10.1 The SHUTDOWN MARGIN requirement of Specification 3.1.1.1 may be suspended for measurement of control rod worth and shutdown margin provided:

- a. Reactivity equivalent to at least the highest estimated control rod worth is available for trip insertion from OPERABLE control rod(s), and
- b. All part length rods are withdrawn to at least the 180 step position and OPERABLE.

APPLICABILITY: MODE 2.

#### ACTION:

- a. With any full length control rod not fully inserted and with less than the above reactivity equivalent available for trip insertion or the part length rods not within their withdrawal limits, immediately initiate and continue boration at  $> 10$  gpm of 20,100 ppm boric acid solution or its equivalent until the SHUTDOWN MARGIN required by Specification 3.1.1.1 is restored.
- b. With all full length control rods inserted and the reactor sub-critical by less than the above reactivity equivalent, immediately initiate and continue boration at  $\geq 10$  gpm of 20,100 ppm boric acid solution or its equivalent until the SHUTDOWN MARGIN required by Specification 3.1.1.1 is restored.

#### SURVEILLANCE REQUIREMENTS

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4.10.1.1 The position of each full length and part length rod either partially or fully withdrawn shall be determined at least once per 2 hours.

4.10.1.2 Each full length rod not fully inserted shall be demonstrated capable of full insertion when tripped from at least the 50% withdrawn position within 24 hours prior to reducing the SHUTDOWN MARGIN to less than the limits of Specification 3.1.1.1.

4.10.1.3 The part length rods shall be demonstrated OPERABLE by moving each part length rod  $\geq 10$  steps within 4 hours prior to reducing the SHUTDOWN MARGIN to less than the limits of Specification 3.1.1.1.

## SPECIAL TEST EXCEPTIONS

### GROUP HEIGHT, INSERTION AND POWER DISTRIBUTION LIMITS

#### LIMITING CONDITION FOR OPERATION

3.10.2 The group height, insertion and power distribution limits of Specifications 3.1.3.1, 3.1.3.4, 3.1.3.5, 3.1.3.6, 3.2.1, and 3.2.4 may be suspended during the performance of PHYSICS TESTS provided:

- a. The THERMAL POWER is maintained  $\leq 85\%^{\#}$  of RATED THERMAL POWER, and
- b. The limits of Specifications 3.2.2 and 3.2.3 are maintained and determined at the frequencies specified in Specification 4.10.2.2 below.

APPLICABILITY: MODE 1

#### ACTION:

With any of the limits of Specifications 3.2.2 or 3.2.3 being exceeded while the requirements of Specifications 3.1.3.1, 3.1.3.4, 3.1.3.5, 3.1.3.6, 3.2.1 and 3.2.4 are suspended, either:

- a. Reduce THERMAL POWER sufficient to satisfy the ACTION requirements of Specifications 3.2.2 and 3.2.3, or
- b. Be in HOT STANDBY within 6 hours.

#### SURVEILLANCE REQUIREMENTS

4.10.2.1 The THERMAL POWER shall be determined to be  $< 85\%^{\#}$  of RATED THERMAL POWER at least once per hour during PHYSICS TESTS. |

4.10.2.2 The Surveillance Requirements of Specifications 4.2.2 and 4.2.3 shall be performed at the following frequencies during PHYSICS TESTS:

- a. Specification 4.2.2 - At least once per 12 hours.
- b. Specification 4.2.3 - At least once per 12 hours.

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<sup>#</sup>See page 3/4 10-2a.

## ADMINISTRATIVE CONTROLS

### 6.3 FACILITY STAFF QUALIFICATIONS

6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions, except for the Performance Supervisor - Chemistry/HP who shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975.\*

### 6.4 TRAINING

6.4.1 A retraining and replacement training program for the facility staff shall be maintained under the direction of the Chief Engineer and shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and Appendix "A" of 10 CFR Part 55.

### 6.5 REVIEW AND AUDIT

#### 6.5.1 STATION OPERATIONS REVIEW COMMITTEE (SORC)

##### FUNCTION

6.5.1.1 The Station Operations Review Committee shall function to advise the Station Manager on all matters related to nuclear safety.

##### COMPOSITION

6.5.1.2 The Station Operations Review Committee shall be composed of the:

|                |                                       |
|----------------|---------------------------------------|
| Chairman:      | Chief Engineer                        |
| Vice Chairman: | Maintenance Engineer*                 |
| Member:        | Operating Engineer                    |
| Member:        | Performance Engineer                  |
| Member:        | Reactor Engineer                      |
| Member:        | Shift Supervisor                      |
| Member:        | Performance Supervisor - I&C          |
| Member:        | Performance Supervisor - Chemistry/HP |
| Member:        | Maintenance Supervisor                |

##### ALTERNATES

6.5.1.3 All alternate members shall be appointed in writing by the SORC Chairman to serve on a temporary basis; however, no more than two alternates shall participate as voting members in SORC activities at any one time.

\*See page 6-6a.

## ADMINISTRATIVE CONTROLS

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### MEETING FREQUENCY

6.5.1.4 The SORC shall meet at least once per calendar month and as convened by the SORC Chairman or his designated alternate.

### QUORUM

6.5.1.5 A quorum of the SORC shall consist of the Chairman or his designated alternate and four members including alternates.

### RESPONSIBILITIES

6.5.1.6 The Station Operations Review Committee shall be responsible for:

- a. Review of 1) all procedures required by Specification 6.8 and changes thereto, 2) any other proposed procedures or changes thereto as determined by the Station Manager to affect nuclear safety.
- b. Review of all proposed tests and experiments that affect nuclear safety.
- c. Review of all proposed changes to Appendix "A" Technical Specifications.
- d. Review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety.
- e. Investigation of all violations of the Technical Specifications including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the General Manager - Electric Production and to the Chairman of the Nuclear Review Board.
- f. Review of events requiring 24 hour written notification to the Commission.
- g. Review of facility operations to detect potential nuclear safety hazards.
- h. Performance of special reviews, investigations or analyses and reports thereon as requested by the Chairman of the Nuclear Review Board.

## ADMINISTRATIVE CONTROLS

\*Effective with the issuance of Amendment No. 6, for a period of one year, the one year of nuclear experience requirement for the Maintenance Engineer is not required, provided that the Vice Chairman of the SORC satisfies the requirements of the Maintenance Engineer as set forth in ANSI N18.1-1971 and participates in all quorums of the SORC dealing with plant maintenance such as (a) new or changes to procedures associated with safety-related plant maintenance, (b) review of Appendix A Technical Specification changes affecting plant maintenance, (c) proposed changes or modifications to plant systems or equipment that affect nuclear safety, and (d) any other review of investigations affecting safety as determined by the Manager-Salem Generating Station.



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

SAFETY EVALUATION BY THE  
OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 6 TO  
FACILITY OPERATING LICENSE 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 May 16, 1977, Public Service Electric and Gas Company (PSE&G) requested a change in the Technical Specifications to permit a temporary waiver of the one-year nuclear experience requirement for the position of Maintenance Engineer at the Salem Nuclear Generating Station, Unit No. 1. This request to change the Technical Specifications, if approved, would permit PSE&G to replace the current Maintenance Engineer with an individual who possesses experience in power plant maintenance but lacks the one year nuclear power plant experience.

In addition to the above request for a change, other changes are needed to correct typographical errors in the Technical Specifications which have been identified by the staff. Corrections for these errors are included as part of the Technical Specifications approved herein.

EVALUATION

The Technical Specifications for the Salem Nuclear Generating Station states that "Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions." One of the qualifications requirements for the position of Maintenance Manager (comparable position of Maintenance Engineer) is a minimum of one year of nuclear power plant experience.

The following facts were considered in our evaluation of the licensee's request:

1. The current Maintenance Engineer will remain on the plant staff in the new position of Assistant to the Manager - Salem, and therefore be available for technical support. In addition, the licensee's plant staff has considerable depth in nuclear power plant maintenance experience (9 supervisory personnel in maintenance). Therefore, the total expertise of the staff in this area will not be reduced, but will be maintained at an acceptable level, and

2. The current Maintenance Engineer, in his position, will continue to serve as Vice Chairman of the Station Operations review Committee (SORC) until his proposed replacement acquires the one year of nuclear experience and, therefore, be part of the group that reviews proposed changes to maintenance procedures and other safety-related activities.

The staff has determined that the request from PSE&G could be granted provided that the current Maintenance Engineer participates in all quorums of the SORC dealing with plant maintenance such as (a) new or changes to procedures associated with safety-related plant maintenance, (b) review of Appendix A Technical Specification changes affecting plant maintenance, (c) proposed changes or modifications to plant systems or equipment that affect nuclear safety, and (d) any other review of investigations affecting safety as determined by the Manager-Salem Generating Station. This was discussed with the licensee on June 28, 1977 and he agreed.

Accordingly, the staff concludes that the change proposed by the licensee, in conjunction with the inclusion of the current Maintenance Engineer as part of the quorum of the SORC as described above, provides an acceptable alternative to the specific minimum requirements relative to nuclear power plant experience as stated in ANSI N18.1-1971 for the position of Maintenance Manager.

#### ENVIRONMENTAL CONSIDERATIONS

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR §51.5(d)(4) that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

#### CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the change does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the change does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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 or to the health and safety of the public.

Dated: July 7, 1977

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-272

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

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. 6 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 the operating license for Salem Nuclear Generating Station, Unit No. 1 (the facility) located in Salem County, New Jersey. The amendment is effective as of its date of issuance.

The amendment consisted of changes to the Technical Specifications which authorized a one year waiver of the requirement for the facility's Maintenance Engineer to possess a minimum of one year nuclear power plant experience. The position will be occupied by an individual experienced in power plant maintenance. The amendment also corrected minor errors in previously issued amendments.

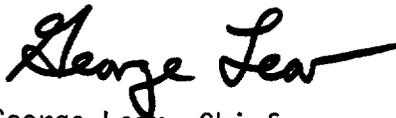
The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated May 16, 1977, (2) Amendment No. 6 to License No. DPR-70 and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the Salem Free Public Library, 112 West Broadway, Salem, New Jersey. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 7th day of July 1977.

FOR THE NUCLEAR REGULATORY COMMISSION



George Lear, Chief  
Operating Reactors Branch #3  
Division of Operating Reactors