

September 23, 1987

Docket No. 50-272

Mr. Corbin A. McNeill, Jr.
Senior Vice President - Nuclear
Public Service Electric & Gas Company
P.O. Box 236
Hancocks Bridge, New Jersey 08038

Dear Mr. McNeill:

SUBJECT: CHANGE TO TECHNICAL SPECIFICATIONS REGARDING REPLACEMENT OF FXY LIMITS
(TAC NO. 65200)

Re: SALEM NUCLEAR GENERATING STATION, UNIT NO. 1

The Commission has issued the enclosed Amendment No. 82 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 (TSs) in response to your application dated October 3, 1986.

This amendment replaces the Fxy limits in the Technical Specifications with statements referring to the Radial Peaking Factor Limit Report.

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/

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

Enclosures:

- 1. Amendment No. 82 to License No. DPR-70
- 2. Safety Evaluation

cc w/enclosures:
See next page

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

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A handwritten signature in cursive script that reads "Donald C. Fischer".

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

Enclosures:

1. Amendment No. 82 to License No. DPR-70
2. Safety Evaluation

cc w/enclosures:
See next page

Mr. C. A. McNeill
Public Service Electric & Gas Company

Salem Nuclear Generating Station

cc:

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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. 50-272

SALEM NUCLEAR GENERATING STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 82
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 October 3, 1986, 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. 82, 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

/s/

Walter R. Butler, 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: September 23, 1987

PDI-2/D
M. Britten
8/13/87

PDI-2/D
DFischer:ca
8/13/87

DGC
M. Karman
8/18/87

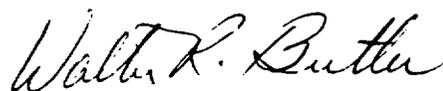

PDI-2/D
WButler
9/22/87


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FOR THE NUCLEAR REGULATORY COMMISSION



Walter R. Butler, 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: **September 23, 1987**

ATTACHMENT TO LICENSE AMENDMENT NO. 82

FACILITY OPERATING LICENSE NO. DPR-70

DOCKET NO. 50-272

Revise Appendix A as follows:

Remove Pages

3/4 2-7
3/4 2-7a*

B 3/4 2-5
B 3/4 2-6*

Insert Pages

3/4 2-7
3/4 2-7a*

B 3/4 2-5
B 3/4 2-6*

POWER DISTRIBUTION LIMITS

SURVEILLANCE REQUIREMENTS (Continued)

- b) At least once per 31 EFPD, whichever occurs first.
2. When the F_{xy}^C is less than or equal to the F_{xy}^{RTP} limit for the appropriate measured core plane, additional power distribution maps shall be taken and F_{xy}^C compared to F_{xy}^{RTP} and F_{xy}^L at least once per 31 EFPD.
- e. The F_{xy} limit for Rated Thermal Power (F_{xy}^{RTP}) shall be provided for all core planes containing bank "D" control rods and all unrodded core planes in a Radial Peaking Factor Limit Report per specification 6.9.1.9.
- f. The F_{xy} limits of e, above, are not applicable in the following core plane regions as measured in percent of core height from the bottom of the fuel:
1. Lower core region from 0 to 15% inclusive.
 2. Upper core region from 85 to 100% inclusive.
 3. Grid plane regions at $17.8 \pm 2\%$, $32.1 \pm 2\%$, $46.4 \pm 2\%$, $60.6 \pm 2\%$ and $74.9 \pm 2\%$ inclusive.
 4. Core plane regions within $\pm 2\%$ of core height (± 2.88 inches) about the bank demand position of the bank "D" control rods.
- g. Evaluating the effects of F_{xy} on $FQ(Z)$ to determine if $FQ(Z)$ is within its limit whenever F_{xy}^C exceeds F_{xy}^L .

POWER DISTRIBUTION LIMITS

SURVEILLANCE REQUIREMENTS (Continued)

4.2.2.3 When $F_Q(Z)$ is measured pursuant to specification 4.10.2.2, an overall measured $F_Q(Z)$ shall be obtained from a power distribution map and increased by 3% to account for manufacturing tolerances and further increased by 5% to account for measurement uncertainty.

POWER DISTRIBUTION LIMITS

BASES

- a. abnormal perturbations in the radial power shape, such as from rod misalignment, effect $F_{\Delta H}^N$ more directly than F_Q ,
- b. although rod movement has a direct influence upon limiting F_Q to within its limit, such control is not readily available to limit $F_{\Delta H}^N$, and
- c. errors in prediction for control power shape detected during startup physics test can be compensated for in F_Q by restricting axial flux distributions. This compensation for $F_{\Delta H}^N$ is less readily available.

The radial peaking factor $F_{xy}(z)$ is measured periodically to provide assurance that the hot channel factor, $F_Q(z)$, remains within its limit. The F_{xy} limit for Rated Thermal Power (F_{xy}^{RTP}), as provided in the Radial Peaking Factor Limit Report per specification 6.9.1.9, was determined from expected power control maneuvers over the full range of burnup conditions in the core.

3/4 2.4 QUADRANT POWER TILT RATIO

The quadrant power tilt ratio limit assures that the radial power distribution satisfies the design values used in the power capability analysis. Radial power distribution measurements are made during startup testing and periodically during power operation.

The limit of 1.02 at which corrective action is required provides DNB and linear heat generation rate protection with x-y plane power tilts. A limiting tilt of 1.025 can be tolerated before the margin for uncertainty in F_Q is depleted. The limit of 1.02 was selected to provide an allowance for the uncertainty associated with the indicated power tilt.

The two hour time allowance for operation with a tilt condition greater than 1.02 but less than 1.09 is provided to allow identification and correction of a dropped or misaligned rod. In the event such action does not correct the tilt, the margin for uncertainty on F_Q is reinstated by reducing the power by 3 percent from RATED THERMAL POWER for each percent of tilt in excess of 1.0.

POWER DISTRIBUTION LIMITS

BASES

3/4.2.5 DNB PARAMETERS

The limits on the DNB related parameters assure that each of the parameters are maintained within the normal steady state envelope of operation assumed in the transient and accident analyses. The limits are consistent with the initial FSAR assumptions and have been analytically demonstrated adequate to maintain a minimum DNBR of 1.30 throughout each analyzed transient.

The 12 hour periodic surveillance of these parameters thru instrument readout is sufficient to ensure that the parameters are restored within their limits following load changes and other expected transient operation. The 18 month periodic measurement of the RCS total flow rate is adequate to detect flow degradation and ensure correlation of the flow indication channels with measured flow such that the indicated percent flow will provide sufficient verification of flow rate on a 12 hour basis.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO.82 TO FACILITY OPERATING LICENSE NO. DPR-70

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

SALEM NUCLEAR GENERATING STATION, UNIT NO. 1

DOCKET NO. 50-272

1.0 INTRODUCTION

By letter dated October 3, 1986, Public Service Electric & Gas Company requested an amendment to Facility Operating License No. DPR-70 for the Salem Nuclear Generating Station, Unit No. 1. The proposed amendment would replace the numerical Fxy limits in TS 4.2.2.2.e with statements referring to the Radial Peaking Factor Limit Report in which the Fxy limits are provided as needed at the beginning of or during each operating cycle.

2.0 EVALUATION

The purpose of Fxy limits in the Technical Specifications is to ensure that this initial condition assumed for the LOCA analysis is not exceeded in normal operation (including load following maneuvers) of the power plant. Calculation of the Fxy limits is performed by approved methods contained in WCAP-8385-P-A, "Power Distribution Control and Load Following Procedures" and WCAP-9272-P-A "Westinghouse Reload Safety Evaluation Methodology".

The Radial Peaking Factor Limit Report is the subject of a separate Technical Specification change involving the whole of Section 6. However, the language of the section (6.9.1.9) was reviewed for the present change and is acceptable. Technical Specification 6.9.1.9 and the changes to Fxy proposed for this action were previously approved for Unit 2 in Amendment 19, dated May 5, 1983. Because the proposed change involves a quantity which is calculated by approved methods, makes the Unit 1 Specification identical to that of Unit 2, and brings it into conformance with the Westinghouse Standard Technical Specification (NUREG-0452, Revision 4), we find it acceptable.

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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. 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 (52 FR 24558) on July 1, 1987 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: M. Dunenfeld

Dated: ~~September~~ 23, 1987