

1997  
August 21, 1997

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: PUBLIC NOTICE OF APPLICATION FOR AMENDMENT TO OPERATING LICENSE FOR  
SALEM NUCLEAR GENERATING STATION, UNIT 2 (TAC NO. M99414)

Dear Mr. Eliason:

The enclosed announcement has been forwarded to the Wilmington News Journal and Today's Sunbeam. This announcement relates to your application dated August 19, 1997, as supplemented by letter dated August 20, 1997, for an amendment to Facility Operating License No. DPR-75, to increase the allowable band for control and shutdown rod demanded position versus indicated position to ± 18 steps.

A separate notice will be published later in the Federal Register concerning the change to the Technical Specifications.

Sincerely,

/s/

Leonard N. Olshan, Project Manager  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket No. 50-311

Enclosure: As stated

cc w/encl: See next page

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

August 21, 1997

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Nuclear Business Unit  
Public Service Electric & Gas  
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Sincerely,

A handwritten signature in cursive script, appearing to read "L. N. Olshan".

Leonard N. Olshan, Project Manager  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket No. 50-311

Enclosure: As stated

cc w/encl: See next page

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Salem Nuclear Generating Station,  
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## PUBLIC NOTICE

### NRC STAFF PROPOSES TO AMEND OPERATING LICENSE AT THE SALEM NUCLEAR GENERATING STATION, UNIT 2

The Nuclear Regulatory Commission staff has received an application dated August 19, 1997, as supplemented by letter dated August 20, 1997, from the Public Service Electric and Gas Company (PSE&G, the licensee), for an exigent amendment to the operating license for Salem Nuclear Generating Station, Unit 2, located in Salem County, New Jersey.

The proposed amendment, which was requested to be processed on an exigent basis, would change Technical Specification 3/4.1.3.1, "Movable Control Assemblies," and 3/4.1.3.2.1, "Position Indication Systems." These changes involve increasing the allowable band for control and shutdown rod demanded position versus indicated position from plus or minus 12 steps to plus or minus 18 steps when the reactor thermal power is equal to or less than 85% and plus or minus 12 steps when the reactor power is greater than 85%.

In the August 19, 1997, submittal, the licensee requested that the amendment be reviewed on an exigent basis to provide additional operational flexibility, to allow the orderly resumption of startup and preclude unwarranted power transients at Salem Unit 2. As a result of the rod position indication being at minus 13 steps from demanded position for two rods, Salem Unit 2 completed a Technical Specification required shutdown on August 19, 1997.

In the August 20, 1997, letter, the licensee stated that, in early August 1997, the licensee, in conjunction with vendor recommendations and participation, revised the calibration procedures to more closely reflect the original Westinghouse calibration procedures. The RPI system was successfully calibrated and Unit 2 went critical on August 17, 1997. On August 18, during

performance of reactor physics testing (rod swap), two control rods deviated from their group demand counter by 13 steps or one step over the limit. Salem Unit 2 entered Technical Specification Limiting Condition for Operation

3.1.3.2.1. As a result of the rod position indication being greater than plus or minus 12 steps, Salem Unit 2 completed a Technical Specification 3.1.3.2.1 required shutdown on August 19, 1997. However, Salem Unit 2 is expected to restart and similar problems could arise that would necessitate a shutdown.

Investigation into this apparent misalignment did not indicate any deficiencies with the calibration or circuitry. Therefore, prior to August 19, 1997, the licensee could not have foreseen the need to expedite this change, and requests exigent approval of these changes to provide for an orderly startup and preclude unwarranted power transients associated with a Technical Specification required shutdown at Salem Unit 2.

The NRC has found that the licensee has provided adequate justification for the staff to process this amendment in an exigent manner, as provided in 10 CFR 50.91(a)(6).

The licensee and the NRC staff evaluated this proposed change with regard to the determination of whether or not a significant hazards consideration is involved.

As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

1. The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change to the rod misalignment criteria of [plus or minus] 18 steps for core powers equal to or below 85% of RATED THERMAL POWER (RTP) does not increase the probability of previously evaluated accidents. Increasing the magnitude of the allowed

control rod misalignment is not a contributor to the mechanistic cause of an accident evaluated in any accident analysis. The magnitude of control rod indicated misalignment is a parameter used to establish the initial conditions for accident evaluation.

The proposed increase in the allowable rod misalignment from the current [plus or minus] 12 steps for reactor powers equal to or less than 85% RTP does not involve a significant increase in the consequence of any previously evaluated accident. Rod misalignment affects power distribution, shutdown margin and the ejected rod accident. An extension of the allowable rod misalignment above and below 85% RTP has been analyzed in Westinghouse WCAP-14672. As provided in WCAP-14672, above 85% the allowable misalignment is governed by the available peaking factor margins as determined by flux maps. PSE&G is simplifying the proposed change by keeping the currently allowed [plus or minus] 12 step misalignment in Technical Specifications 3.1.3.1 and 3.1.3.2.1 for reactor power greater than 85% RTP.

The PSE&G proposed change is to allow [plus or minus] 18 steps misalignments in Technical Specifications 3.1.3.1 and 3.1.3.2.1 for reactor power less than or equal to 85% RTP. As demonstrated in WCAP-14672, for reactor powers less than 85% RTP, the available peaking factor margin increases faster than any penalty associated with a [plus or minus] 18 step misalignment.

As described in Section 4.0 of the Westinghouse WCAP, a conservative penalty factor has been applied to the rod insertion allowance (RIA) of the shutdown margin calculation to account for rods misaligned an additional [plus or minus] 6 steps (for a total of [plus or minus] 18 steps). This conservative penalty factor is applied as part of the reload analysis in order to satisfy Technical Specification 3.1.1.1.

In addition to the normal, or Condition I, operational transients, the impacts of increased rod misalignment on Condition II, III and IV accident analysis have also been evaluated. The proposed increase in rod misalignment does not have a significant effect on any moderator or Doppler reactivity coefficients or defects, boron worth or reactor kinetics parameters.

To account for the potential increase in ejected rod parameters, conservative penalty factors have been applied to the reload safety evaluation to cover the additional [plus or minus] 6 step misalignment. Margin is available in the reload safety analysis to accommodate this impact.

Therefore, the proposed amendment does not increase the probability or consequences of any accident previously evaluated.

2. The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

No new accident scenarios, failure mechanisms or limiting single failures are introduced as a result of the proposed change to the rod misalignment criteria of [plus or minus] 18 steps below 85% RTP. The implementation of the proposed rod misalignment criteria will have no adverse effect on the performance of any other safety related system. Therefore, the proposed amendment does not create the possibility of a new or different kind of accident from any previously evaluated.

3. The proposed change does not involve a significant reduction in a margin of safety.

Operation of the facility in accordance with the proposed amendment would not involve a significant reduction in the margin of safety. The Technical Specifications allowed increase in peaking factors as power is reduced accommodates the peaking factor penalty associated with the additional [plus or minus] 6 step misalignment for core powers equal to or less than 85% RTP. Therefore, there is no change to the peaking factors assumed in the safety analysis. In addition to peaking factors, there is no change in any other current limit input into the safety analysis. As the input, or initial conditions, of the safety analysis have not changed, there is no reduction in the margin to safety.

Following an initial review of this application, the requested amendments have been evaluated against the standards in 10 CFR 50.92 and the NRC staff has made a proposed (preliminary) determination that the requested amendments involve no significant hazards considerations. The changes do not significantly increase the probability or consequences of any accident previously considered, nor create the possibility of an accident of a different kind, nor significantly decrease any margin of safety.

If the proposed determination that the requested license amendment involves no significant hazards consideration becomes final, the staff will issue the amendments without first offering an opportunity for a public hearing. An opportunity for a hearing will be published in the Federal Register at a later date and any hearing request will not delay the effective date of the amendment.

If the staff decides in its final determination that the amendment does involve a significant hazards consideration, a notice of opportunity for a prior hearing will be published in the Federal Register and, if a hearing is granted, it will be held before the amendment is issued.

Comments on the proposed determination of no significant hazards consideration may be telephoned to John F. Stolz, Director, Project Directorate I-2, by collect call to (301) 415-1430. All comments received by close of business on September 3, 1997, from 7:30 a.m. to 4:14 p.m. Federal workdays, will be considered in reaching a final determination.

Normally, the Commission will not issue the amendment until the expiration of the notice period. However, should circumstances change during the notice period, such that failure to act in a timely way would result, for example, in derating or shutdown of the facility, the Commission may issue the license amendment before the expiration of the notice period, provided that its final determination is that the amendment involves no significant hazards consideration. For example, prior to reaching 85% of thermal rated power, if any control rod deviates from its group demand counter by more than 12 steps, but not more than 18 steps, the Commission may issue the license amendment so that the plant would not have to shut down. The final determination will consider all public and State comments received. Should the Commission take this action, it will publish in the FEDERAL REGISTER a notice of issuance. The Commission expects that the need to take this action will occur very infrequently.



A copy of the application may be examined at the NRC's Local Public Document Room located at the Salem Free Public Library, 112 West Broadway, Salem, NJ 08079, and at the Commission's Public Document Room, 2010 L Street, Gelman Building, NW, Washington, D.C. 20555.