

May 8, 2001

Mr. Harold W. Keiser
Chief Nuclear Officer & President
PSEG Nuclear LLC - X04
Post Office Box 236
Hancocks Bridge, NJ 08038

SUBJECT: SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2 -
ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT
IMPACT FOR INCREASE IN LICENSED THERMAL POWER LEVEL
(TAC NOS. MB0521 AND MB0522)

Dear Mr. Keiser:

Enclosed is a copy of the "Environmental Assessment and Finding of No Significant Impact" related to your application dated November 10, 2000, as supplemented by letters dated December 5, 2000, March 28 and April 2, 2001, and three letters dated April 20, 2001 (LRN-01-0099, LRN-01-0115, and LRN-01-0123), for an increase in allowable thermal power level. The proposed license amendment would allow an increase in the licensed core power level from 3411 megawatts thermal (MWt) to 3459 MWt for the Salem Nuclear Generating Station, Unit Nos. 1 and 2.

The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

Robert J. Fretz, Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-272 and 50-311

Enclosure: Environmental Assessment

cc w/encl: See next page

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PSEG Nuclear LLC

Salem Nuclear Generating Station,
Unit Nos. 1 and 2

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UNITED STATES NUCLEAR REGULATORY COMMISSION
PSEG NUCLEAR LLC
DOCKET NOS. 50-272 and 50-311
SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2
ENVIRONMENTAL ASSESSMENT AND FINDING OF
NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an amendment to the Facility Operating License (FOL) Nos. DPR-70 and DPR-75 issued to PSEG Nuclear LLC (the licensee) for operation of Salem Nuclear Generating Station (Salem), Unit Nos. 1 and 2. The facility is located at the licensee's site on the southern end of Artificial Island in Lower Alloways Creek Township, Salem County, New Jersey. Salem, New Jersey is located approximately 7.5 miles northeast of the site.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The proposed license amendment would revise the FOL and Technical Specifications (TS) of Salem, Unit Nos. 1 and 2, to allow the licensee to increase the licensed core power level of each unit from 3,411 megawatts thermal (MWt) to 3,459 MWt, which represents a 1.4 percent increase in the allowable thermal power. Salem Unit No. 1 was granted conditional authorization for power production by its FOL issued on August 13, 1976. The conditions provided a sequential approach to full power with NRC approval at various stages. Full power operation of Unit No. 1 at 3,338 MWt core power was authorized by letter dated April 6, 1977. Amendment No. 71 to the original FOL was issued on February 6, 1986, which authorized a power uprate for Unit No. 1 to 3,411 MWt. Salem Unit No. 2 was authorized for power

production at 3,411 MWt with issuance of the FOL on May 20, 1981. In addition to the power uprate, the proposed license amendment would allow the licensee to remove Attachment 1 from the Unit No. 1 FOL, and to make editorial changes to the TS Bases.

The proposed action is in accordance with the licensee's application for license amendment dated November 10, 2000, as supplemented by letters dated December 5, 2000, March 28 and April 2, 2001, and April 20, 2001 (LRN-01-0099, LRN-01-0115, and LRN-01-0123).

The Need for the Proposed Action:

The proposed action will allow an increase in power generation at Salem, Unit Nos. 1 and 2 to provide additional electrical power for distribution to the grid. In certain circumstances power uprate has been recognized as a safe and cost-effective method to increase generating capacity.

The proposed action also will allow the removal of Attachment 1 from the Salem Unit No. 1 FOL and editorial changes to the TS Bases. Attachment 1 to the Salem Unit No. 1 FOL identifies incomplete preoperational tests, startup tests and other items which were required to be completed before proceeding to certain specified Operational Modes during the initial full power startup of Salem Unit No. 1. The NRC authorized full power operation of Salem Unit No. 1 by letter dated April 6, 1977; therefore, the requirements identified in the attachment are no longer applicable. Editorial changes will provide corrections to references and typographical errors.

Environmental Impacts of the Proposed Action:

The environmental impact associated with operation of Salem, Unit Nos. 1 and 2, has been previously evaluated by the U.S. Atomic Energy Commission in the "Final Environmental Statement Related to Operation of Salem Nuclear Generating Station, Units 1 and 2," dated April 1973. In this evaluation, the staff considered the potential doses due to postulated

accidents for the site, at the site boundary, and to the population within 50 miles of the site. With regard to the consequences of postulated accidents, the licensee has reevaluated the current licensing basis analyses in its application for license amendment and determined the doses estimated in existing evaluations to remain bounding for the proposed 1.4% power uprate. No increase in the probability of these accidents is expected to occur. The removal of Attachment 1 from the Salem Unit No. 1 FOL and editorial changes to the TS Bases will not impact the probability or consequences of any postulated accidents.

With regard to normal releases, the current licensing basis analyses estimates the dose received inside and outside containment during normal operation based on 3,558 MWt core power. Therefore, the proposed 1.4% power uprate to 3,459 MWt core power is bounded by the current analyses and the offsite doses from normal effluent releases remain significantly below the bounding limits of Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix I. Normal annual average gaseous releases remain limited to a small fraction of 10 CFR Part 20 limits for identified mixtures. In addition, the solid and liquid waste production may increase slightly; however, the waste production assumed in the analyses for normal operations at 3,558 MWt core power will bound the waste production expected for the power uprate. Solid and liquid waste processing systems are expected to operate within their design requirements. The removal of Attachment 1 from the Salem Unit No. 1 FOL and editorial changes to the TS Bases will not cause an increase in the on site and off site radiation exposure or in the amount of waste produced and released during normal operations.

The staff has completed its evaluation of the proposed action and concludes that the proposed action will not increase the probability or consequences of accidents, no changes are being made in the types of effluents that may be released off site, and there is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological impacts, the proposed action does not involve any historic sites. With regard to thermal discharges to the Delaware River estuary, Appendix B to FOL Nos. DPR-70 and DPR-75, "Environmental Protection Plan," states that "[e]nvironmental concerns identified in the FES-OL [Final Environmental Statement - Operating License Stage (dated April 1973)] which relate to water quality matters are regulated by way of the licensee's NJPDES [New Jersey Pollution Discharge Elimination System] permit." The current NJPDES Permit imposes limits on Circulating Water System (CWS) flow to a 30-day average of 3,024 million gallons per day. In addition, the NJPDES limits the temperature of the discharged water to 115 °F between June 1 and September 30, and 110 °F for the remainder of the year. Also, the maximum permissible differential temperature of the water discharged from Salem, Unit Nos. 1 and 2, is 27.5 °F. The licensee stated that normal discharge water differential temperature is approximately 15 °F, and that the increase in temperature of the water discharged to the Delaware River resulting from the power uprate to 3,459 MWt core power will be approximately 0.3 °F. Existing administrative controls will ensure the conduct of adequate monitoring such that appropriate actions can be taken to preclude exceeding the limits imposed by the NJPDES.

The removal of Attachment 1 from the Salem Unit No. 1 FOL and editorial changes to the TS Bases will not impact thermal discharges to the Delaware River. No additional requirements or other changes are required as a result of the power uprate and the associated FOL and TS changes.

No other nonradiological impacts are associated with the proposed action.

Based upon the above, the staff concludes that the proposed action does not significantly affect nonradiological plant effluents and has no other environmental impact. Therefore, there are no significant nonradiological environmental impacts associated with the proposed action.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action.

Alternatives to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the “no-action” alternative). Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources:

This action does not involve the use of any resources not previously considered in the Final Environmental Statement for the Salem Nuclear Generating Station.

Agencies and Persons Consulted:

In accordance with its stated policy, on May 1, 2001, the staff consulted with the New Jersey State official, Mr. R. Pinney of the New Jersey Department of Environmental Protection, regarding the environmental impact of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's application dated November 10, 2000, as supplemented by letters dated December 5, 2000, March 28 and April 2, 2001, and three letters dated April 20, 2001 (LRN-01-0099, LRN-01-0115, and LRN-01-0123). Documents may be examined, and/or copied for a fee, at the NRC's Public

Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the ADAMS Public Library component on the NRC Web site, <http://www.nrc.gov> (the Electronic Reading Room).

Dated at Rockville, Maryland, this 8th day of May 2001.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Robert J. Fretz, Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation