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**2004 ANNUAL ENVIRONMENTAL OPERATING REPORT
SALEM GENERATING STATION, UNIT NOS. 1 AND 2
FACILITY OPERATING LICENSE NOS. DPR-70 AND DPR-75
DOCKET NOS. 50-272 AND 50-311**

The attached 2004 Annual Environmental Operating Report is hereby submitted pursuant to Subsection 5.4.1 of the Environmental Protection Plan (Non-radiological) for Salem Generating Station, Unit Nos. 1 and 2. The Environmental Protection Plan is Appendix B to Facility Operation License DPR-70 and DPR-75 (Docket Nos. 50-272 and 50-311).

Sincerely,

A handwritten signature in cursive script, appearing to read "Christina L. Perino".

Christina L. Perino
Director – Regulatory Assurance

/dkh
Attachment (1)

Handwritten initials "JEZS" in a stylized, blocky font.

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2004 ANNUAL ENVIRONMENTAL OPERATING REPORT
(NON-RADIOLOGICAL)
January 1 through December 31, 2004

SALEM GENERATION STATION
UNIT NOS. 1 AND 2
DOCKET NOS. 50-272 AND 50-311
OPERATING LICENSE NOS. DPR-70 AND DPR-75

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APRIL 2005

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1.0 INTRODUCTION

This 2004 Annual Environmental Operating Report (AEOR) is submitted in accordance with Section 5.4.1 of the Salem Generating Station, Unit Nos. 1 and 2, Environmental Protection Plan (EPP), Non-radiological (Appendix B to Unit Nos. 1 and 2, Facility Operating License Nos. DPR-70 and DPR-75, Docket Nos. 50-272 and 50-311, respectively).

This is the 15th AEOR submitted under the EPP and covers Salem Unit No. 1 and Salem Unit No. 2 for the period from January 1 through December 31, 2004. During 2004, Salem Unit No. 1 and 2 generated a combined total of 16,252,471 megawatt-hours of net electrical energy.

As required by Subsection 5.4.1 of the EPP, we have included summaries and analyses of the results of all required environmental protection activities. This information is described in Section 2.0. Section 3.0 addresses the issues of EPP compliance. Changes to station design or operation and the review for potentially significant unreviewed environmental questions are addressed in Section 4.0. Unusual and/or important environmental events are discussed in Section 5.0.

2.0 ENVIRONMENTAL PROTECTION ACTIVITIES

2.1 AQUATIC MONITORING ISSUES

Subsection 4.2.1 of the EPP references the Clean Water Act as a mechanism for protecting aquatic biota through water quality monitoring. The United States Nuclear Regulatory Commission (USNRC) relies on the State of New Jersey, acting under the authority of the Clean Water Act, to insure applicable requirements for aquatic monitoring are implemented. The New Jersey Department of Environmental Protection (NJDEP) is the State's regulatory agency.

The NJDEP requires as part of the New Jersey Pollutant Discharge Elimination System (NJPDES) permit program that effluent monitoring be performed, with the results summarized and submitted monthly on Discharge Monitoring Report (DMR) forms. The monitoring is intended to determine compliance with the effluent limitations of the station's NJPDES permit (No. NJ0005622). We have reviewed the DMRs corresponding to the 2004 AEOR reporting period and have determined that no significant deviations have occurred. We have observed no evidence of trends towards damage to the environment. Copies of monthly DMRs are routinely sent to USNRC's Document Control Desk and additional copies are available upon request.

On June 29, 2001, the New Jersey Department of Environmental Protection (NJDEP) issued a Final New Jersey Pollutant Discharge Elimination System (NJPDES) Permit that reauthorizes the continued discharge of cooling water and other effluents from the Salem Generating Station to the Delaware River. The Permit contains conditions and limitations for continued compliance with the federal and state Clean Water Act (CWA) and the NJDEP's regulations.

While the USNRC relies on the State of New Jersey and the NJDEP for protection of the water quality, the National Marine Fisheries Service (NMFS) maintains regulatory authority with respect to certain migratory threatened and endangered aquatic species. As required by Amendments 129 and 108 to the Facility Operating License Nos. DPR-70 and DPR-75 and the Section 7 Consultation, Biological Opinion, Salem Generating Station conducted inspections of the circulating water intake trash bars at least every two hours during the 2004 sea turtle season. In 2004, one shortnose sturgeon was recovered alive at the circulating water intake trash bars on October 1, 2004. The sturgeon appeared weak and lethargic and died shortly after recovery. The sturgeon was disposed of in accordance with the terms and conditions of the current Incidental Take Statement. The appropriate notifications were performed to report the impingement of this species. In 2004, no sea turtles were recovered from the circulating water intake trash bars.

2.2 TERRESTRIAL ISSUES

PSEG NUCLEAR LLC has been voluntarily monitoring the osprey population that nest on our transmission towers through a joint effort with the NJDEP since 1989.

3.0 EPP COMPLIANCE STATUS

3.1 EPP NONCOMPLIANCES

Subsection 5.4.1 of the EPP requires a list of EPP noncompliances and the corrective actions taken to remedy them. The Incidental Take Statement requires among, other things, that the circulating water trash racks are to be cleaned daily during the period of June 1 through October 15th. Due to a mechanical failure of one of the trash rack rakes and the unavailability of spare parts, the 23 B trash rack could only be partially cleaned for approximately three weeks in July and August of 2004. The rake was repaired and returned to service in the third week of August 2004.

3.2 REVIEW

Subsection 5.1 of the EPP for Salem Generating Station, Unit Nos. 1 and 2, requires that an independent review of compliance with the EPP be maintained and made available for inspection. The EPP was reviewed as part of the QA Assessment Program in 2003.

4.0 CHANGES IN STATION DESIGN OR OPERATION

Pursuant to the requirements of Section 3.1 of the EPP for Salem Unit Nos. 1 and 2, station design changes and operation performance of tests or experiments, for the AEOR covered time period, were reviewed for potential environmental impact. None of the recommended changes posed a potential to significantly affect the environment, therefore, none involved an unreviewed environmental question or a change in the EPP.

5.0 NONROUTINE REPORTS

Subsection 5.4.1 of the EPP requires a list of all nonroutine reports (submitted in accordance with Subsection 5.4.2 of the EPP) be included as part of the Annual Environmental Operating Report. During 2004, PSEG Nuclear completed its investigation into the source and quantity of tritium in groundwater at Salem Station. This investigation was conducted in accordance with a Remedial Investigation Work Plan that was submitted to the New Jersey Department of Environmental Protection Bureau of Nuclear Engineering (NJDEP-BNE) in June 2003. Ongoing discussions concerning this work have been conducted with the NJDEP-BNE. The results of this investigation were submitted to the NJDEP in a Remedial Investigation Report. Subsequently, a Remedial Action Work Plan was submitted to NJDEP-BNE, and approved by them in November 2004. Pilot remedial actions were implemented during 2004, and the long-term remediation system was placed in service in early 2005. There is no evidence that tritium contaminated water above permissible levels has migrated to the station boundary or the Delaware River.

Salem Generating Station experienced no unusual or important events that indicated or could have resulted in a "significant environmental impact" during the 2004 reporting period.