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U.S. Nuclear Regulatory Commission
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Washington, DC 20555-0001

Salem Generating Station, Units 1 and 2
Facility Operating License Nos. DPR-70 and DPR-75
NRC Docket Nos. 50-272 and 50-311


Subject: 2011 ANNUAL ENVIRONMENTAL OPERATING REPORT

The attached 2011 Annual Environmental Operating Report is hereby submitted pursuant to Subsection 5.4.1 of the Environmental Protection Plan (non-radiological) for Salem Generating Station, Units 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).

There are no commitments contained in this letter.

If you have any questions or require additional information, please do not hesitate to contact Jeffrey Pantazes, Manager – Nuclear Environmental Affairs at (856) 339-7900.

Sincerely,



Lawrence M. Wagner
Plant Manager - Salem
PSEG Nuclear LLC

Attachment: 2011 Annual Environmental Operating Report

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NRR

Designated original
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2011 ANNUAL ENVIRONMENTAL OPERATING REPORT
(NON-RADIOLOGICAL)
January 1 through December 31, 2011

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

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APRIL 2012

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1.0 INTRODUCTION

This 2011 Annual Environmental Operating Report (AEOR) is submitted in accordance with Section 5.4.1 of the Salem Generating Station Units 1 and 2, Environmental Protection Plan (EPP), non-radiological (Appendix B to Units 1 and 2, Facility Operating License Nos. DPR-70 and DPR-75, Docket Nos. 50-272 and 50-311, respectively).

2.0 ENVIRONMENTAL PROTECTION ACTIVITIES

2.1 AQUATIC MONITORING – SUMMARY AND ANALYSES

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 ensure 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 NJPDES permit (No. NJ0005622). PSEG reviewed the DMRs corresponding to the AEOR 2011 reporting period and determined that the station is in compliance with the effluent limitations of the station's NJPDES permit. PSEG has 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.

As required by Section 4.2.1 of the EPP, Salem Generating Station also adhered to the requirements delineated in the "Reasonable and Prudent Measures" and "Terms and Conditions" sections of the current National Marine Fisheries Service Incidental Take Statement, dated January 21, 1999. In 2011, no sea turtles and two deceased shortnose sturgeons were recovered at the circulating water intake trash bars. These non-routine events are described in section 5.1 later in this document.

2.2 TERRESTRIAL MONITORING – SUMMARY AND ANALYSES

As addressed in Section 4.2.2 of the EPP, Terrestrial Monitoring is not required.

3.0 EPP NONCOMPLIANCES

Subsection 5.4.1 of the EPP requires a list of EPP noncompliances and the corrective actions taken to remedy them. There were no EPP noncompliances during 2011.

4.0 CHANGES IN STATION DESIGN OR OPERATION

Pursuant to the requirements of Section 3.1 of the EPP, station changes to design or operations, as well as any tests and experiments, made in 2011 were reviewed for potential environmental impact. None of these changes posed a potential to significantly affect the environment, created an unreviewed environmental question or resulted in a change to the EPP.

5.0 NONROUTINE REPORTS

5.1 2011 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. Salem Generating Station experienced one unusual or important event (in accordance with Subsection 4.1 of the EPP) that indicated or could have resulted in a "significant environmental impact" during the 2011 reporting period. The following events were reported to other Federal, State or local agencies in accordance with their reporting requirements, and copies of those reports were provided to the USNRC at the same time:

- On January 24, 2011, Salem Site Maintenance workers performing weekly cleaning of the Salem Unit 1 Circulating Water trash racks made an unusual observation of fish that had been stranded below the surface of the water on the intake trash bars. No threatened or endangered species were observed. The fish were observed to be extremely lethargic. The combination of unusually cold and rapidly declining river water temperatures, higher than normal salinity, combined with the increasing abundance of striped bass in the Delaware Estuary are believed to have resulted in the cold coma/cold shock to striped bass and the other species observed at the Salem Circulating Water Intake Structure trash bars during January 2011. Several fish were returned to the river but they did not appear to survive.
- On March 21, 2011, a shortnose sturgeon was removed from the Circulating Water System (CWS) Intake trash racks at the Salem Generating Station. During routine cleaning of the trash racks, Maintenance Common personnel recovered the sturgeon. It was severely damaged with an obvious hole in its side. Nuclear Environmental Affairs responded and confirmed the identification of the sturgeon as a shortnose Sturgeon. The sturgeon was examined, measured, weighed and scanned for Passive Integrated Transponder (PIT) tags. No response was obtained when the sturgeon was scanned for PIT tags. The U. S. Nuclear Regulatory Commission (NRC), the National Marine Fisheries Service (NMFS) and the New Jersey Department of Environmental Protection (NJDEP) were notified regarding this occurrence. Since the shortnose sturgeon was not recovered alive and it is not likely that the facility caused the death, it is felt that the measures in place are sufficient and no other actions are warranted at this time.
- On September 9, 2011, a shortnose sturgeon was removed from the Circulating Water System (CWS) Intake trash racks at the Salem Generating Station. During routine

cleaning of the trash racks, Maintenance Common personnel recovered the sturgeon, which was deceased and starting to decompose. Environmental Consulting Services Inc. (ECSI) confirmed the identification of the sturgeon as a shortnose sturgeon and notified Salem Operations and Nuclear Environmental Affairs. The sturgeon was transported to ECSI headquarters. There it was examined, measured, weighed and scanned for Passive Integrated Transponder (PIT) tags. No response was obtained when the sturgeon was scanned for PIT tags. The U. S. Nuclear Regulatory Commission (NRC), the National Marine Fisheries Service (NMFS) and the New Jersey Department of Environmental Protection (NJDEP) were notified regarding this occurrence. Since the shortnose sturgeon was not recovered alive, was partially decomposed and it is not likely that the facility caused the death, it is felt that the measures in place are sufficient and no other actions are warranted at this time.

5.2 ONGOING ISSUES FROM PREVIOUS NONROUTINE REPORTS

Groundwater monitoring and product recovery activities to remediate an underground leak of spent fuel pool water containing tritium from the Unit 1 Fuel Handling / Auxilliary Building seismic gap first identified on September 18, 2002 continued through 2011 in accordance with the scope of work proposed in the Remedial Action Work Plan, approved by the NJDEP-Bureau of Nuclear Engineering (BNE) in November 2004. Product recovery activities involved the use of a fixed groundwater extraction system.

Groundwater monitoring and product recovery activities to remediate an underground diesel fuel oil leak first identified on August 2, 2004 continued through 2011 in accordance with the scope of work proposed in the Remedial Investigation Work Plan, dated December 2004 (NJDEP Incident Number 04-08-02-2350-16). Product recovery activities involve the intermittent use of a Spill Buster® unit, a passive oil skimmer, or absorbent socks at the monitoring wells. Groundwater sample results continue to remain below the Ground Water Quality Criterion (GWQA) for Class IIA aquifers. By letter dated March 24, 2008, NJDEP has modified the scheduled sampling and reporting periods. A new groundwater monitoring well was installed in 2010 at NJDEP's request to provide additional horizontal delineation data.

Copies of the progress reports for the above remediation activities are available upon request.