PSEG Nuclear LLC
P.O. Box 236, Hancock Bridge, NJ 08038-0236

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PSEG
Nuclear LLC

LR-E06-0299

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Administrator of Water Compliance and Enforcement
New Jersey Department of Environmental Protection
401 East State Street, 4th Floor East
PO Box 422
Trenton, New Jersey 08625-0422

RE: PSEG Nuclear LLC - Salem Generating Station
NJPDES Permit No. NJ0005622
NJDEP Case No. 06-05-10-0235-20
Follow up Report

Dear Sir/Madam:

In accordance with N.J.A.C. 7:1E-5.8, PSEG Nuclear LLC ("PSEG Nuclear") is submitting this final report concerning a discharge of approximately 2,000 gallons of wastewater containing Hydrazine from a leak in the condensate polisher system at Salem Unit 1. The discharge was reported to the New Jersey Department of Environmental Protection (NJDEP) hotline and assigned case number 06-05-10-0235-20. This final report supplements the five day report was sent May 12, 2006 under letter number LR-E06-0232. This discharge was also reported to the Nuclear Regulatory Commission pursuant to that agency's requirements.

1. **A description of the discharge, including the time of the discharge, the location of discharge, the volume of the discharge, the concentration of pollutants discharged, and the receiving water of the discharge;**

On May 10, 2006 at ~0040, the duty Secondary Chemist placed Demineralizer Vessel No. 16 in purge rinse on the Unit 1 Condensate Polishing System. After waiting approximately 15 – 20 minutes, he verified the purge rinse was in progress and left the Unit 1 Condensate Polishing Building (CPB). At ~0103, the Unit 1 Main Control Room received a Unit 1 Condensate Polishing System trouble light. The duty Secondary Chemist was paged via the plant page system, but did not hear it. At 0150, Operations personnel observed Unit 1 Main Condenser hotwell levels dropping unexpectedly. An operator was dispatched to investigate, and the duty Secondary Chemist was again

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paged. This time, the duty Chemistry Technician responded and was directed to the Unit 1 CPB. At 0215, the Control Room received a report of flooding from the Unit 1 CPB. A lifted relief valve (1CP285) within the Unit 1 CPB was found to be the source of the discharge. The relief valve was discharging into the Intermediate Waste Tank No. 13 (1CPE52), which flows into to the High Conductivity Waste Tank No. 12 (1CPE43), which in turn, normally pumps its contents forward to the Non-Radioactive Water Treatment System for treatment prior to discharge to the environment. However, extended actuation of the relief valve resulted in an input that exceeded the capacity of the waste tanks to hold and pump forward. The water filled the tanks, exited out of openings in the top of the tanks, spread across the floor of the CPB and left the building through both the northeast and southeast doors. The duty Secondary Chemist immediately terminated the source of the discharge upon discovery at 0215.

2. Steps being taken to determine the cause of the permit noncompliance;

PSEG has conducted an investigation in accordance with our problem identification and resolution process. The results of this investigation are reported in this letter.

3. Steps being taken to reduce, remediate, and eliminate the noncomplying discharge and any damage to the environment, and the anticipated time frame to initiate and complete the steps to be taken;

The discharge has been eliminated. No visible impact to the environment was noted. There is not expected to be a discernable impact to the environment.

4. The duration of the discharge, including the dates and times of the commencement and, for an unanticipated bypass, the dates and times of the end or anticipated end of the discharge, and if the discharge has not been corrected, the anticipated time when the permittee will correct the situation and return the discharge to compliance;

The approximate start of the discharge is believed to be 01:50 on 05/10/2006. The discharge was stopped at 02:15 on 05/10/2006.

5. The cause of the noncompliance;

A mis-position of the 1CP147 (K) valve allowed Resin Rinse header pressure to lift the 1CP285 relief valve, sending water to the intermediate pit and overflowing the intermediate pit and the high conductivity pit. The Chemistry Technician involved did not use procedure step place keeping as expected which was the contributing cause to the event. Poor communication between Chemistry and Operations contributed to a slow response to the alarm condition thus preventing the potential mitigation of the event by terminating the purge rinse prior to the overflow occurring.

6. Steps being taken to reduce, eliminate, and prevent reoccurrence of the noncomplying discharge;

The following corrective actions have been completed:

- Monitored purge rinse activities on both the Unit 1 and Unit 2 Condensate Polishing Systems to ensure the event was not due to an equipment malfunction. No equipment deficiencies were identified.
- The duty Secondary Chemist has been issued a wireless phone to ensure timely communications with the Operations department. This phone will be charged and carried at all times.
- When performing purge rinses on the Condensate Polishers, the following actions have been instituted in the Chemistry Night and Standing Orders:
  - Prior to starting a purge rinse, the High Conductivity Waste Tanks level will be reduced to less than 10%.
  - The rinse will be continuously monitored for the first hour, and then checked once every hour until complete.
- The Secondary Chemist involved was remediated and held accountable in accordance with PSEG accountability processes.
- Chemistry management reinforced procedure place keeping and step signoff expectations with the Chemistry Technicians though issuance of an internal memorandum, dated May 24, 2006, requiring signoff by each Chemistry Technician and supervior.

The following corrective actions remain to be completed:

- The Chemistry Department Curriculum Review Committee (CRC) will evaluate training needs with respect to this event.
- Operations will reinforce expectations for timely communications with duty Chemistry personnel at all times.

7. An estimate of the threat to human health or the environment posed by the discharge; and

Based on the sampling performed and the estimated water flows, 7 pounds of Ammonium Hydroxide was discharged to the Delaware River and 7 pounds was discharged to the ground without recovery. Further, 8.3 ounces of Hydrazine was discharged to the Delaware River and 8.3 ounces was discharged to the ground without recovery. It is estimated there was little to no threat to human health or the environment.

8. The measures the permittee has taken or is taking to remediate the problem and any damage or injury to human health or the environment, and to avoid a repetition of the problem.

The permittee has eliminated the discharge, and actions as listed in Question 6 have been enacted to avoid repetition of the event.

If you have any questions regarding this information, please contact Brendan Daly of my staff at (856) 339-1169.

Sincerely,

Carl J. Fricker
Salem Plant Manager

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