



**MAY 12 2005**

LR-E05-0273

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Article Number: 7004 2510 0005 2135 8384

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. 05-05-07-1322-42  
Five Day Report**

Dear Sir/Madam:

In accordance with N.J.A.C. 7:14A-6.10, PSEG Nuclear LLC is submitting this report concerning a release of water containing a concentration of 40 parts per billion (ppb) hydrazine through Discharge Serial Number (DSN) 489. The discharge was reported to the New Jersey Department of Environmental Protection (NJDEP) hotline and assigned case number 05-05-07-1322-42. This discharge was also reported to the Nuclear Regulatory Commission and assigned event number 41679. This report contains the following information as known at the time of this report. In accordance with the regulations, additional information regarding this discharge will be provided as it becomes available.

**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 7, 2005 at approximately 1057 hours, a Unit 1 plant operator observed that the Unit 2 hot well was causing the raw water basin to overflow to nearby building sumps. Salem Unit 2 was in the process of exiting a maintenance/refueling outage. As part of this restart process, water used for the wet lay-up of the steam generators is routed to the raw water basin for reuse by the demineralization plant. The water that accumulated in the raw water basin, however, overflowed and drained to the building

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sumps. The demineralization plant was in operation, but at a flow rate lower than the flow to the raw water basin. One of these sumps (TGA 13) is aligned to drain to the Oil Water Separator (OWS), which discharges to the Delaware River via DSN 489. Upon discovery by the plant operator, the pump was shut-off (approximately 1100 hours) and other plant personnel were alerted. Chemistry personnel dispatched to the Oil Water Separator isolated this system at approximately 1130 hours. Samples of the water at the outfall of DSN 489 were taken at approximately 1145 hours and found the concentration of hydrazine in the water was 40 parts per billion (ppb).

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

PSEG Nuclear is conducting an investigation in accordance with our problem identification and resolution process. A report of the results of this investigation will be sent to NJDEP after the investigation is completed.

**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;**

After discovering the Unit 2 hot well was overflowing to the raw water basin and then the turbine building sumps, the operator immediately turned the 13 TGA turbine building sump pump off to stop any further pumping of material to the piping draining to the Oil Water Separator (approximately 1100 hours). The water within the 13 TGA turbine building sump was then sampled and the presence of hydrazine confirmed. Chemistry personnel dispatched to the Oil Water Separator isolated the Oil Water Separator at approximately 1130 hours. The excess water inside the turbine building was routed to the Non-Radioactive Liquid Waste Disposal System, which is designed and permitted to treat water containing hydrazine. Excess water within the Oil Water Separator was neutralized with hydrogen peroxide. Based upon visual observation and the low concentration of hydrazine detected in the waste water, it is believed there was little to no threat to human health or 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 plant conditions that would have led to the overflow of the raw water basin did not occur until May 7<sup>th</sup> at approximately 0305 hours. Part of the investigation into this incident is focused on trying to assess at what point the raw water basin and 14 TGA turbine building sump capacity was exceeded. This timetable will provide an estimate of the amount of water potentially discharged to the Oil Water Separator and therefore the maximum discharged to the Delaware River through DSN 489. The overflowing turbine building sumps were discovered at 1057 hours, and the Oil Water Separator was isolated at 1130 hours. Therefore, the maximum alignment of this flow path was

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present for no more than 8 hours and 25 minutes.

**5. The cause of the noncompliance;**

The bypass of water from its usual treatment pathway to the Oil Water Separator and DSN 489 was caused by the overflow of water from the raw water basin to the turbine building sumps. The cause of the apparent upset and overflow is currently under investigation. A report of the results of the investigation will be transmitted to the NJDEP after the investigation is completed.

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

The noncomplying discharge has been eliminated. Steps to prevent reoccurrence will be identified, developed and implemented following completion of the investigation of the incident. Since this event occurred during an outage timeframe, the steps being taken to prevent reoccurrence will not likely be placed in service until the next maintenance/refueling outage. PSEG Nuclear will inform NJDEP of these steps when it submits the report of the results of the investigation.

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

Based upon visual observation and the low concentration of hydrazine detected in the waste water, it is believed 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.**

To date the permittee has eliminated the discharge, and is currently investigating the cause of the noncomplying discharge. Steps to prevent reoccurrence are dependant on the results of the investigation

We will be submitting additional information to NJDEP upon completion of the investigation, including additional information to support our claim for an affirmative defense, if warranted. If you have any questions regarding this information, please contact Mr. Clifton Gibson of my staff at (856) 339-2686.

Sincerely,



Christina L. Perino  
Director - Regulatory Assurance

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Administrator of Water Compliance and Enforcement  
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C NJDEP  
Southern Enforcement Office  
One Port Center  
2 Riverside Drive, Suite 201  
Camden, NJ 08102  
Attn: Mr. Steven Mathis

U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555