

November 8, 2004

Mr. A. Christopher Bakken, III  
Chief Nuclear Officer and President  
PSEG LLC - N09  
P. O. Box 236  
Hancocks Bridge, NJ 08038

Dear Mr. Bakken:

SUBJECT: SALEM GENERATING STATION - NRC SUPPLEMENTAL INSPECTION  
REPORT 05000272/2004010

Dear Mr. Bakken:

On September 30, 2004, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the Salem Generating Station, Unit 1. The enclosed inspection report documents the inspection findings, which were discussed on September 30, 2004, with Messrs. Mike Brothers and John Carlin and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations, and with the conditions of your license. Specifically, the inspection reviewed PSEG's extent of condition review and associated corrective actions for ineffective implementation of corrective actions which led to the failure of the 1C emergency diesel generator (EDG) turbocharger in September 2002. These issues were identified in our inspection report dated March 14, 2003, and determined to be of low to moderate safety significance (White) as described in a letter dated May 1, 2003.

A supplemental inspection was completed of PSEG's actions taken in response to the EDG turbocharger failure and documented in an inspection report dated January 30, 2004. In that report, we stated that a significant contribution to the failure of the EDG turbocharger was deletion of certain maintenance requirements which had been identified in previous reviews. While your specific corrective actions dealing with the technical aspects of the turbocharger failure were complete, additional NRC inspection was necessary to confirm the adequacy of your extent of condition review and programmatic measures to prevent further lapses in corrective action implementation. Accordingly, the applicability of the White finding was extended beyond the four quarters it would normally have been applied in the Operating Reactor Assessment Program Action Matrix.

We consider your corrective actions and extent of condition review for ineffective implementation of corrective actions to be adequate to close this White finding. However, it is important to note that shortcomings in the area of problem identification and resolution continue to be evident as documented in the last four assessment letters dated March 3, 2003, August 27, 2003, March 3, 2004, and August 30, 2004. As a result, the NRC will continue to maintain a heightened level of oversight for activities at both the Salem and Hope Creek Stations as specified in the deviation from the NRC's Action Matrix which was approved by the NRC Executive Director for Operations on August 23, 2004.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any), will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

***/RA/***

A. Randolph Blough, Director  
Division of Reactor Projects

Docket Nos. 50-272  
License No. DPR-70

Enclosure: NRC Inspection Report 05000272/2004010  
w/Attachment: Supplemental Information

cc w/encl:

M. Brothers, Vice President - Site Operations

J. T. Carlin, Vice President Nuclear Assessment

P. S. Walsh, Acting Vice President, Engineering and Technical Support

W. F. Sperry, Director Business Support

C. Perino, Director - Nuclear Safety and Licensing

C. J. Fricker, Salem Plant Manager

R. Kankus, Joint Owner Affairs

J. J. Keenan, Esquire

M. Wetterhahn, Esquire

F. Pompper, Chief of Police and Emergency Management Coordinator

J. Lipoti Ph.D., State of New Jersey, Ass't Director Radiation Protection & Release Prevention

H. Otto, Ph.D., DNREC Division of Water Resources, State of Delaware

Consumer Advocate, Office of Consumer Advocate

N. Cohen, Coordinator - Unplug Salem Campaign

W. Costanzo, Technical Advisor - Jersey Shore Nuclear Watch

E. Zobian, Coordinator - Jersey Shore Anti Nuclear Alliance

Distribution w/encl:

- S. Collins, RA
- J. Wiggins, DRA
- A. Blough, DRP
- E. Cobey, DRP
- S. Barber, DRP
- D. Orr, DRP - NRC Resident Inspector
- K. Venuto, DRP - Resident OA
- J. Jolicoeur, OEDO
- R. Laufer, NRR
- D. Collins, PM, NRR
- T. Kim, Director, DOC
- Region I Docket Room (with concurrences)

DOCUMENT NAME: E:\Filenet\ML043150524.wpd

After declaring this document "An Official Agency Record" it **will** be released to the Public.

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure

"E" = Copy with attachment/enclosure "N" = No copy

OFFICE	RI/DRP	RI/DRP	RI/DRP	
NAME	Jorr/ <b>EWC for</b>	GCobey/ <b>EWC</b>	ABlough/ <b>ARB</b>	
DATE	11/05/04	11/05/04	11/08/04	

OFFICIAL RECORD COPY

**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION I**

Docket No: 50-272

License No: DPR-70

Report No: 05000272/2004010

Licensee: PSEG Nuclear LLC

Facility: Salem Nuclear Generating Station, Unit 1

Location: P.O. Box 236  
Hancocks Bridge, NJ 08038

Dates: May 24 - September 30, 2004

Inspector: J. Daniel Orr, Senior Resident Inspector

Approved by: Eugene W. Cobey, Chief  
Projects Branch 3  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

IR 05000272/2004010; 05/24/2004 - 09/30/2004; Public Service Electric Gas Nuclear LLC, Salem Unit 1; Supplemental Inspection.

Cornerstone: Mitigating Systems

The U.S. Nuclear Regulatory Commission (NRC) performed this follow-up supplemental inspection to assess PSEG's extent of condition review and corrective actions for the causes of the turbocharger failure on the 1C emergency diesel generator (EDG) in September 2002. This issue was described in NRC Inspection Report 05000272/2002010 and 05000311/2002010 dated March 14, 2003, and determined to be of low to moderate risk significance (White) as described in a letter dated May 1, 2003.

During the supplemental inspection performed in October 2003, the inspectors determined that PSEG performed a comprehensive evaluation of the failed turbocharger. However, PSEG had not completed an extent of condition review or implemented corrective actions for the underlying cause of the failure, namely, deletion of corrective actions which had been identified during prior reviews of equipment failures. As a result, the White finding was held open beyond the four quarters it would normally have applied in the Operating Reactor Assessment Program Action Matrix.

During this follow-up supplemental inspection, the inspectors determined that PSEG performed an adequate extent of condition review and implemented corrective actions to ensure that corrective actions to prevent recurrence were reliably tracked and implemented.

## REPORT DETAILS

### 01 INSPECTION SCOPE

The U.S. Nuclear Regulatory Commission (NRC) performed this follow-up supplemental inspection to assess the Public Service Electric Gas Nuclear LLC, (PSEG) efforts taken to address a broader corrective action issue identified in a supplemental inspection completed on October 24, 2003, and documented in NRC Inspection Report 05000272/2003010 and 05000311/2003010. The original supplemental inspection was performed to review PSEG's evaluation associated with the ineffective implementation of corrective actions which led to the failure of the 1C emergency diesel generator (EDG) turbocharger in September 2002. This performance issue was previously characterized as being of low to moderate safety significance (White) in NRC Inspection Report 05000272/2003010 and 05000311/2003010, and was related to the mitigating systems cornerstone in the reactor safety strategic performance area.

During the original supplemental inspection, the NRC concluded that PSEG's specific corrective actions dealing with the technical aspects of EDG turbocharger failures were adequate. However, the NRC also determined that additional inspection was required to review PSEG's outstanding extent of condition review for ineffective implementation of corrective actions. Accordingly, the applicability of the White finding was extended beyond the four quarters it would normally have been applied in the Operating Reactor Assessment Program Action Matrix.

The inspectors reviewed PSEG's extent of condition review which was completed on March 31, 2004. The inspectors evaluated PSEG's overall conclusions and recommendations for further action based on the extent of condition review results. The inspectors also assessed PSEG's corrective actions to address ineffective implementation of corrective actions to prevent recurrence and verified that these actions had been implemented.

### 02 EVALUATION

No findings of significance were identified relative to the quality of the PSEG extent of condition review or administrative processes established to maintain and implement corrective actions to prevent recurrence.

PSEG completed the extent of condition review on March 31, 2004. To evaluate the extent of the corrective action implementation issues, PSEG reviewed the corrective action program computer database for all significance level 1 (SL-1) condition reports (CRs) initiated since July 1999. An SL-1 CR documented those problems that were most significant based on actual or potential consequence of the issue. By PSEG's corrective action program design, only SL-1 CRs were required to be addressed with corrective actions to prevent recurrence (CAPR). PSEG implemented procedure changes in May 2004, to administratively control addition, deletion, and flagging of CAPRs. Prior to May 2004, flagging CAPRs within PSEG documents such as procedures, training plans, or preventive maintenance instructions was not required and infrequent.

PSEG's review considered an ineffective implementation of corrective action to have occurred if CAPRs were not appropriately flagged in plant documents as required by the new requirement

Enclosure

to flag CAPRs. An ineffective implementation of corrective action also occurred when a CAPR was deleted without proper justification. PSEG reviewed 113 SL-1 CRs initiated since July 1999. PSEG identified 11 CRs with at least one CAPR not in place and 47 CRs with at least one CAPR not properly flagged. PSEG personnel appropriately corrected each CR deficiency.

PSEG risk analysts assessed the plant risk for each individual CAPR and the aggregate of CAPRs that were not in place. PSEG concluded that no further extent of condition review, beyond July 1999, was necessary.

The inspectors determined that the overall results of PSEG's extent condition review were significant, in that, 55 of 113 SL-1 CRs had deficiencies with the implementation of CAPRs. The inspectors reviewed each CAPR deficiency and determined that each was of minor significance and there was no adverse impact on any cornerstone objective. The inspectors concluded that PSEG had completed an adequate extent of condition review and implemented corrective actions to ensure that CAPRs were reliably tracked and implemented.

Based upon the results of this follow-up supplemental inspection and the supplemental inspection completed on October 24, 2003, the White finding is closed. Unresolved item 50-272/02-10-02, "Evaluate PSEG Actions for Turbocharger Failure," is also closed based upon the results of this follow-up supplemental inspection.

### **03 MANAGEMENT MEETINGS**

The inspection results were presented to Messrs. Mike Brothers and John Carlin and other members of PSEG staff at an exit meeting on October 1, 2004. Eugene Cobey, Chief, Projects Branch 3, Division of Reactor Projects, was present to conduct the Regulatory Performance Meeting.

ATTACHMENT: SUPPLEMENTAL INFORMATION



**ATTACHMENT**

**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

Licensee Personnel

M. Brothers, Vice President -Site Operations  
J. Carlin, Vice President - Nuclear Assurance  
D. Kolasinski, System Engineer  
C. Fricker, Salem Plant Manager  
S. Mannon, Acting Licensing Manger  
J. Morrison, Reliability Engineer

**LIST OF ITEMS CLOSED**

50-272/02-010-02	URI	Evaluate PSEG Actions for Turbocharger Failure
50-272/02-010-03	VIO	1C EDG Turbocharger Failure Due to Ineffective Implementation of Corrective Actions

**LIST OF DOCUMENTS REVIEWED**

Procedures

NC.WM-AP.ZZ-0000, Rev. 9, Notification Process  
NC.NA-AP.ZZ-0006, Rev. 13, Corrective Action Program  
NC.WM-AP.ZZ-0002, Rev. 7, Corrective Action Process  
NC.NA-WG.ZZ-0001, Rev. 14, Writers Guide  
NC.ER-DG.ZZ-0100, Rev. 1, Equipment Reliability Analysis

Condition Report Orders

980924250	70004666	70020097	*(Includes PSEG's 1C EDG root cause analysis report and extent of condition review)
990323097	70004800	70020597	
70000770	70007106	70026521	
70001728	70014869	70026964*	70027584

**LIST OF ACRONYMS**

CAPR	Corrective Actions to Prevent Recurrence
CR	Condition Report
EDG	Emergency Diesel Generator
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
PSEG	Public Service Electric Gas Nuclear LLC
SL-1	Significance Level 1