UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

May 5, 2008

Mr. William Levis
President and Chief Nuclear Officer
PSEG Nuclear LLC
80 Park Plaza, T4B
Newark, NJ 07102

SUBJECT: HOPE CREEK GENERATING STATION – NRC INTEGRATED INSPECTION REPORT 05000354/2008002

Dear Mr. Levis:

On March 31, 2008, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Hope Creek Generating Station. The enclosed integrated inspection report documents the inspection results discussed on April 14, 2008, with Mr. Barnes and other members of your staff.

The inspections 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. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

The report documents one NRC-identified finding of very low safety significance (Green). The finding was determined to involve a violation of NRC requirements. Additionally, two licensee-identified violations determined to be of very low safety significance are listed in this report. However, because of their very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest any NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Hope Creek Generating Station.

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 NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Arthur L. Burritt, Chief
Projects Branch 3
Division of Reactor Projects

Docket No: 50-354
License No: NPF-57

Enclosure: Inspection Report 05000354/2008002
w/Attachment: Supplemental Information

cc w/encl:
T. Joyce, Senior Vice President, Operations
G. Barnes, Site Vice President
K. Chambliss, Director, Nuclear Oversight
J. Spears, Acting Director of Finance
J. Perry, Hope Creek Plant Manager
J. Keenan, General Solicitor, PSEG
M. Wetterhahn, Esquire, Winston and Strawn, LLP
Consumer Advocate, Office of Consumer Advocate, Commonwealth of PA
L. Peterson, Chief of Police and Emergency Management Coordinator
P. Baldauf, Assistant Director, NJ Radiation Protection Programs
P. Mulligan, Chief, NJ Bureau of Nuclear Engineering
H. Otto, Ph.D., Adminstrator, DE Division of Water Resources
N. Cohen, Coordinator - Unplug Salem Campaign
E. Zobian, Coordinator - Jersey Shore Anti Nuclear Alliance

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Sincerely,
Arthur L. Burritt, Chief **/ra/**
Projects Branch 3
Division of Reactor Projects

Distribution w/encl:
S. Collins, RA
M. Dapas, DRA
D. Lew, DRP
J. Clifford, DRP
A. Burritt, DRP
L. Cline, DRP
G. Malone, DRP, Senior Resident Inspector
B. Welling, DRP, Senior Resident Inspector
H. Jones, DRP, (Acting) Resident Inspector
K. Venuto, DRP, Resident OA
S. Williams, RI OEDO
R. Nelson, NRR
H. Chernoff, NRR
R. Ennis, PM, NRR
J. Shea, NRR, Backup
ROPreportsResource@nrc.gov (All IRs)
Region I Docket Room (with concurrences)

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U.S NUCLEAR REGULATORY COMMISSION

REGION I

Docket No:	50-354
License No:	NPF-57
Report No:	05000354/2008002
Licensee:	PSEG Nuclear LLC
Facility:	Hope Creek Generating Station
Location:	P.O. Box 236 Hancocks Bridge, NJ 08038
Dates:	January 1, 2008 through March 31, 2008
Inspectors:	G. Malone, Senior Resident Inspector A. Patel, (Acting) Resident Inspector A. Ziedonis, (Acting) Resident Inspector H. Jones, (Acting) Resident Inspector J. Furia, Senior Health Physicist
Approved By:	Arthur L. Burritt, Chief Projects Branch 3 Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000354/2008002; 01/01/2008 – 03/31/2008; Hope Creek Generating Station; Other Activities.

The report covered a three-month period of inspection by resident inspectors and an announced inspection by a regional health physics specialist. One Green non-cited violation (NCV) was identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter (IMC) 0609, “Significance Determination Process” (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC’s program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, “Reactor Oversignt Process,” Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation of Technical Specification (TS) 6.2.2.d, “Unit Staff,” because four individuals worked beyond the TS limit of 72 hours in a 7-day period without proper authorization. Additionally, PSEG did not approve the work hour deviations of 20 individuals prior to them working the hours. PSEG entered this issue into their corrective action program in notification 20357323.

  The finding was determined to be more than minor because, if left uncorrected, exceeding TS work hour limits would increase the likelihood of a fatigue-related human performance error during normal plant operations or plant events. The inspectors used Inspection Manual Chapter 0609 Appendix M, "Significance Determination Process Using Qualitative Criteria," because other significance determination process guidance was not suited to provide reasonable estimates of the significance of this inspection finding. With the assistance of Region 1 management and a Senior Risk Analyst, the inspectors determined that the finding was of very low safety significance (Green) because there were no human performance issues that were linked directly to worker fatigue. The finding had a cross-cutting aspect in the area of human performance because PSEG did not follow procedure LS-AA-119 to authorize deviations from working hour limits described in Technical Specification 6.2.2.d. (H.4(b)) (Section 4OA5)

B. Licensee Identified Violations

Violations of very low safety significance that were identified by PSEG have been reviewed by the inspectors. Corrective actions taken or planned by PSEG have been entered into PSEG's corrective action program. These violations and corrective actions tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

The Hope Creek Generating Station (HCGS) began the inspection period operating at full power. HCGS operators reduced plant power to 20% on January 5, 2008, to repair a steam leak on the main turbine's high pressure turbine casing. HCGS returned to full power operation on January 7. Reactor power was reduced to 78.5% due to an intermediate recirculation pump runback on February 8. The runback was caused by an unplanned trip of the C secondary condensate pump breaker. HCGS returned to full power on February 8 (see section 71153).

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 - 1 sample)

a. Inspection Scope

The inspectors completed one impending adverse weather condition inspection sample. The inspectors reviewed PSEG's preparation activities for river grass intrusion conditions that impact the station service water system. Inspectors assessed implementation of PSEG's grassing readiness plan through service water system walkdowns, corrective action program review, and discussions with cognizant managers and engineers. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04 - 3 samples, 71111.04S – 1 sample)

.1 Partial Walkdown

a. Inspection Scope

The inspectors completed three partial walkdown inspection samples. The inspectors completed walkdowns of portions of the three systems listed below to verify the operability of redundant or diverse trains and components when safety equipment was unavailable. The inspectors reviewed applicable operating procedures, walked down control systems components, and verified that selected breakers, valves, and support equipment were in the correct position to support system operation. The inspectors also verified that PSEG had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program. Documents reviewed are listed in the Attachment.

- B, C, and D emergency diesel generators (EDGs) during A EDG planned maintenance outage
- C service water (SW) train during D SW maintenance outage in grassing season

- high pressure coolant injection system (HPCI) during reactor core isolation cooling system (RCIC) planned maintenance outage

.2 Complete Walkdown

a. Inspection Scope

The inspectors completed one complete walkdown inspection of accessible portions of RCIC between March 18 and 21, 2008. The inspectors used PSEG procedures and other documents listed in the Attachment to verify proper system alignment and functional capability. The inspectors independently verified the alignment and status of RCIC pump and valve electrical power, labeling, operator workarounds, hangers and supports, and associated support systems. The walkdowns also included evaluation of system piping and equipment to verify pipe hangers were in satisfactory condition, oil reservoir levels were normal, pump rooms and pipe chases were adequately ventilated, radiation and contamination areas were properly marked, system parameters were within established ranges, and equipment deficiencies were appropriately identified.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05 - 6 samples)

.1 Fire Protection – Tours

a. Inspection Scope

The inspectors completed six quarterly fire protection inspection samples. The inspectors conducted tours of the areas to assess the material condition and operational status of fire protection features. The inspectors verified that combustibles and ignition sources, were controlled in accordance with PSEG's administrative procedures; fire detection and suppression equipment was available for use; that passive fire barriers were maintained in good material condition; and that compensatory measures for out-of-service, degraded, or inoperable fire protection equipment were implemented in accordance with PSEG's fire plan. The six areas toured are listed below with their associated pre-fire plan designator. Other documents reviewed are listed in the Attachment.

- FRH-II-414, A Core Spray Room
- FRH-II-411, B Core Spray Room
- FRH-II-414, C Core Spray Room
- FRH-II-411, D Core Spray Room
- FRH-II-413, HPCI Room
- FRH-II-412, RCIC Room

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06 – 1 sample)

a. Inspection Scope

The inspectors completed one flood protection measures inspection sample. The inspectors reviewed selected risk-important plant design features and PSEG procedures intended to protect the plant and its safety-related equipment from internal flooding events. Specifically, the inspectors focused on internal flood mitigation features for the 54' elevation of the reactor building that contains significant portions of the core spray, residual heat removal, high pressure coolant injection, reactor core isolation cooling, and reactor building sump systems. The inspectors reviewed flood analysis and design documents, including the Individual Plant Examination, updated final safety analysis report (UFSAR), engineering calculations, and abnormal operating procedures. The inspectors observed the condition of wall penetrations, watertight doors, flood alarm switches, watertight hatches, and drains to assess their readiness to contain flow from an internal flood in accordance with the design basis.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11 - 1 sample)

.1 Requalification Activities Review By Resident Staff

a. Inspection Scope

The inspectors completed one licensed operator requalification program inspection sample. The inspectors observed a licensed operator requalification simulator scenario on February 19, 2008, to assess operator performance and training effectiveness. The scenario involved: mechanical problems with the main turbine that resulted in a reactor scram, a failure of the reactor mode switch; a main steam leak and high radiation condition combined with a failure of a main steam isolation valve to automatically isolate; and reactor pressure and level control without the main condenser available. The inspectors verified that control room staff correctly identified and declared emergency action levels in a timely manner. The inspectors assessed simulator fidelity and observed the simulator instructor's critique of operator performance. The inspectors also observed control room activities with emphasis on simulator identified areas for improvement. Finally, the inspectors reviewed applicable documents associated with licensed operator requalification as listed in the Attachment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12 - 3 samples)

a. Inspection Scope

The inspectors completed three maintenance effectiveness inspection samples for the items listed below. The inspectors verified that PSEG was using appropriate work

practices; identifying and addressing common cause failures; scoping in accordance with 10 CFR 50.65(b) of the maintenance rule (MR); characterizing reliability issues for performance; trending key parameters for condition monitoring; charging unavailability for performance; and classifying and reclassifying structures, systems and components (SSCs) in accordance with 10 CFR 50.65(a)(1) or (a)(2). The inspectors also reviewed the appropriateness of performance criteria for SSCs/functions classified as (a)(2) and the appropriateness and adequacy of goals and corrective actions for SSCs/functions classified as (a)(1). Documents reviewed are listed in the Attachment. Items reviewed included the following:

- Traveling water screen failures on the service water (SW) system
- SW chlorination system failures at the A and D SW bay
- B primary containment instrument gas (PCIG) compressor degradation

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation (71111.13 - 4 samples)

a. Inspection Scope

The inspectors completed four maintenance risk assessment and emergent work control inspection samples. The inspectors reviewed on-line risk management evaluations through direct observation and document reviews for the following four configurations:

- D service water train inoperable during grassing event concurrent with 'B' EDG maintenance outage;
- C service water train out of service and C EDG out of service concurrent with high winds and thunderstorms;
- A2 SACS heat exchanger out-of-service for emergent inspection due to fouling concurrent with 500kV offsite power source outage (5023 line); and
- 5023 500kV line outage concurrent with Salem 500kV switchyard testing and a reported fire threatening 5015 500kV line.

The inspectors reviewed the applicable risk evaluations, work schedules and control room logs for these configurations to verify that concurrent planned and emergent maintenance and test activities did not adversely affect the plant risk already incurred with these configurations. PSEG's risk management actions were reviewed during shift turnover meetings, control room tours, and plant walkdowns. The inspectors also used PSEG's on-line risk monitor (Equipment Out-Of-Service workstation) to gain insights into the risk associated with these plant configurations. Finally, the inspectors reviewed notifications documenting problems associated with risk assessments and emergent work evaluations. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15 - 6 samples)

a. Inspection Scope

The inspectors completed six operability evaluation inspection samples. The inspectors reviewed operability determinations for non-conforming conditions associated with:

- RCIC feedwater injection valve susceptibility to thermal binding.
- Impact to safety auxiliary cooling system heat exchangers following an acute river-grass intrusion that resulted in multiple off-scale high service water strainer differential pressures on January 30, 2008.
- Operability of the 'C' residual heat removal (RHR) train when in a test alignment.
- Primary containment instrument gas (PCIG) system with 'B' PCIG compressor degraded and 'A' PCIG out of service for maintenance.
- Abnormal noise and elevated vibrations on C RHR pump.
- Degraded A2 SACS heat exchanger performance following grass intrusion on March 24, 2008.

The inspectors reviewed the technical adequacy of the operability determinations to ensure the conclusions were justified. The inspectors also walked down accessible equipment to corroborate the adequacy of PSEG's operability determinations. Additionally, the inspectors reviewed other PSEG identified safety-related equipment deficiencies during this report period and assessed the adequacy of their operability screenings. Notifications and documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R18 Plant Modifications (71111.18 – 1 sample)

a. Inspection Scope

The inspectors completed one plant modifications inspection sample. The inspectors reviewed one temporary plant modification package for the RCIC pump feedwater isolation valve BD-HV-F013 to verify that the design bases, licensing bases, and performance capability of the system was not degraded by the temporary modification. The inspectors verified the new configuration was accurately reflected in the design documentation, and that the post-modification testing was adequate to ensure the structures, systems, and components would function properly. The inspectors interviewed plant staff, and reviewed issues entered into the corrective action program to determine whether PSEG was effective in identifying and resolving problems associated with temporary modifications. The 10 CFR 50.59 evaluation associated with this temporary modification was also reviewed, and is listed in the Attachment along with the other documents reviewed.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19 – 6 samples)

a. Inspection Scope

The inspectors completed six post-maintenance testing (PMT) inspection samples. The inspectors reviewed the post-maintenance tests for the maintenance listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed test procedures to verify that the procedure adequately tested the safety functions affected by the maintenance activity and that the acceptance criteria in the procedure was consistent with the UFSAR and other design documentation. The inspectors witnessed the test or reviewed the test data to verify test results adequately demonstrated restoration of the affected safety functions. The inspectors verified that the post-maintenance tests conducted were adequate for the scope of the maintenance performed. Documents reviewed are listed in the Attachment.

- A emergency diesel generator (EDG) planned maintenance outage between January 29 and 30, 2008
- A control room emergency filtration (CREF) chiller planned maintenance outage between February 4 and 7, 2008
- K-1 relay maintenance on the B EDG on February 13, 2008
- C EDG planned maintenance outage that included replacement of the cranking timer relays, the stop timer relays, and the alarm delay relay between March 3 and 7, 2008
- Installation of temporary modification for the RCIC feedwater injection isolation valve between March 10 and 14, 2008
- Standby liquid control system planned maintenance outage that included pump oil seal repairs between March 11 and 13, 2008

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 - 5 samples)

a. Inspection Scope

The inspectors completed five surveillance testing (ST) inspection samples. The inspectors witnessed performance of and/or reviewed test data for the risk-significant STs listed below to assess whether the SSCs tested satisfied TS, UFSAR, and procedure requirements. The inspectors verified that test acceptance criteria were clear, demonstrated operational readiness and were consistent with design documentation; that test instrumentation had current calibrations and the range and accuracy for the application; and that tests were performed, as written, with applicable prerequisites satisfied. Upon ST completion, the inspectors verified that equipment was returned to the status specified to perform its safety function. Documents reviewed for the inspection are listed in the Attachment.

- Safety relief valve low-low setpoint functional test
- C emergency diesel generator surveillance test
- A safety auxiliaries cooling system subsystem A valves in-service test
- Reactor recirculation motor-generator set high speed stop test

- Reactor protection system manual scram test

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06 - 1 sample)

The inspectors completed one drill evaluation inspection sample. The inspectors observed control room operator emergency plan response actions during an evaluated LORT scenario on February 19, 2008. The inspectors verified that emergency classification declarations and notifications were completed in accordance with 10 CFR 50.72, 10 CFR 50, Appendix E, and the Hope Creek emergency plan implementing procedures. Documents reviewed for this inspection are listed in the Attachment.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems (71122.01 - 3 samples)

a. Inspection Scope

The inspectors reviewed appropriate program documents, procedures, and evaluations from PSEG related to the radiological effluent controls program. These included:

- Offsite Dose Calculation manual (ODCM) revisions and associated technical justifications for ODCM changes;
- New or applicable procedures for effluent programs (e.g., including ground water monitoring programs);
- Source terms and part 61 analyses;
- Evaluations of abnormal effluent discharges (leaks and spills);
- 10 CFR 50.59 reviews (e.g., system changes, advanced water chemistry methods);
- New entries into 10 CFR 50.75(g) files;
- Corrective action program condition reports;
- Licensee event reports, or special reports; and
- Self assessments and QA audits.

The inspectors verified that each of the Radiological Effluent Controls Program requirements were implemented as described in Radiological Effluent Technical Specifications (RETS).

For each system modification, the inspectors reviewed changes to the liquid or gaseous radioactive waste system design, procedures, or operation as described in the UFSAR and plant procedures. The inspectors verified that any changes made to the liquid or

gaseous waste systems were effective and maintained effluent releases to the public ALARA. No changes of this type occurred since the last inspection of this area.

The inspectors reviewed changes to the ODCM made by PSEG since the last inspection. The inspectors reviewed changes to ensure consistency was maintained with respect to guidance in NUREG-1301, 1302 and 0133, and Regulatory Guides 1.109, 1.21 and 4.1. No changes of this type occurred since the last inspection of this area.

For effluent monitoring instrumentation, the inspectors reviewed documentation to ensure adequate methods and monitoring of effluents. For changes to effluent radiation monitor set-point calculation methodology, the inspectors evaluated the basis for the changes to ensure an adequate justification.

The inspectors reviewed PSEG's program for identifying, assessing and controlling contaminated spills and leaks. For significant new effluent discharge pathways, the inspectors ensured the ODCM was updated to include the new pathway.

The inspectors reviewed the Radiological Effluent Release Reports issued since the last inspection.

The inspectors verified that anomalous or unexpected results were identified by PSEG and entered into the corrective action program and adequately resolved.

For significant changes in reported dose values, the inspectors evaluated the factors that may have resulted in the change.

The inspectors reviewed the plant’s correlation between the effluent release reports and the environmental monitoring results (see Section IV.B.2 of Appendix I to 10 CFR Part 50).

The inspectors reviewed the results of PSEG QA audits that verified compliance with the requirements of the RETS/ODCM.

The inspectors walked-down selected components of the gaseous and liquid discharge systems to include gas compressors, demineralizers and filters in use or standby, tanks, and vessels. The inspectors reviewed current system configuration with respect to the description in the UFSAR, temporary waste processing activities, system modifications and the equipment material condition. For equipment or areas not readily accessible, the inspectors reviewed PSEG's material condition surveillance records.

The inspectors walked-down and review selected point of discharge effluent radiation monitoring systems and flow measurement devices. The inspectors reviewed effluent radiation monitor alarm set point values to verify agreement with RETS/ODCM requirements.

The inspectors observed selected portions of the routine processing and discharge of radioactive gaseous effluent including sample collection and analysis. The inspectors verified that appropriate treatment equipment is used and that the radioactive gaseous effluent was processed and discharged in accordance with RETS/ODCM requirements.

The inspectors reviewed several radioactive gaseous effluent discharge permits, including projected doses to members of the public.

The inspectors observed the routine processing and discharge of effluents including sample collection and analysis. The inspectors verified that appropriate effluent treatment equipment is used and that radioactive liquid waste was processed and discharged in accordance with procedure requirements. The inspectors observed the sampling and compositing of liquid effluent samples. The inspectors reviewed several radioactive liquid waste discharge permits, including projected doses to members of the public.

The inspectors reviewed a sample of effluent discharges made with inoperable effluent radiation monitors. The inspectors determined if appropriate compensatory sampling and radiological analyses were conducted at the required frequency specified in the RETS/ODCM. For compensatory sampling methods, the inspectors verified that representative samples were obtained. The inspectors also evaluated whether the facility was routinely relying on the use of compensatory sampling in lieu of adequate system maintenance or calibration. No events of this type occurred since the last inspection of this area.

The inspectors reviewed surveillance test results on non-safety related ventilation and gaseous discharge systems both HEPA and charcoal filtration. The inspectors ensured that the system was operating within acceptance criteria. The inspectors also reviewed the methodology PSEG used to determine the stack and vent flow issue rates and verified that the flow rates were consistent with RETS/ODCM or UFSAR values.

The inspectors verified that PSEG had identified contaminated non-radioactive systems. The inspectors ensured that 10 CFR 50.59 evaluations were performed per IE Bulletin 80-10. The inspectors verified that for newly contaminated systems with unmonitored effluent discharge paths to the environment, PSEG completed ODCM revisions to incorporate the new pathways and reported the effluents in accordance with Regulatory Guide 1.21. No events of this type occurred since the last inspection of this area.

The inspectors reviewed instrument maintenance and calibration records for both installed and counting room effluent monitoring equipment. The inspectors reviewed quality control records for the radiation measurement instruments.

The inspectors evaluated the methods used to determine the isotopes included in the source term to ensure all applicable radionuclides were included and within detectability standards. The inspectors also reviewed the Part 61 analyses to ensure hard-to-detect radionuclides were included in the source term.

The inspectors reviewed the meteorological dispersion and deposition factors and hydrogeologic characteristics used in the ODCM and effluent dose calculations to ensure appropriate factors were being used for public dose calculations.
The inspectors reviewed the land-use census and verified that new public dose receptors or pathways were considered when performing member of the public dose assessments.

The inspectors reviewed a selection of monthly, quarterly, and annual dose calculations to ensure that PSEG properly demonstrated compliance with 10 CFR 50, Appendix I and Technical Specifications dose criteria.

The inspectors verified that PSEG is continuing to implement the voluntary NEI/Industry Ground Water Protection Initiative (GPI). Since the last inspection, the inspectors: reviewed changes made to the GPI; reviewed monitoring results of the GPI; reviewed identified leakage or spill events and entries made into 10 CFR 50.75(g) records; reviewed evaluations of leaks or spills and any remediation actions taken for effectiveness, and verified voluntary reporting of leaks and spills to local and State authorities.

The inspectors reviewed the records of any abnormal gaseous or liquid tank discharges (e.g., discharges resulting from misaligned valves, valve leak-by, etc). The inspectors ensured the abnormal discharge was monitored by the discharge point effluent monitor. If abnormal discharges were made with inoperable effluent radiation monitors, the inspectors ensured that an evaluation was made of the discharge to account for the source term and projected doses to the public. The inspectors reviewed onsite contamination events involving contamination of ground water. The inspectors assessed whether the source of the leak or spill was identified and mitigated. For unmonitored spills, leaks, or unexpected liquid or gaseous discharges, the inspectors ensured that an evaluation was performed to determine the type and amount of radioactive material that was discharged. The inspectors assessed whether sufficient radiological surveys were performed to evaluate the extent of the contamination and the radiological source term. The inspectors also verified that a survey/evaluation was performed to include consideration of hard-to-detect radionuclides.

The inspectors evaluated analyses of any new or additional effluent discharge pathways as a result of a spill, leak, abnormal, or unexpected liquid discharge or gaseous discharges and verified that the ODCM was revised for significant, long term ground water discharges.

The inspectors verified that significant leaks and spills were properly documented in the sites corrective action program and/or in the decommissioning file, per 10 CFR 50.75 (g).

The inspectors verified that dose assessments were performed for off-site members of the public that may have been exposed to abnormal effluent discharges.

The inspectors verified that PSEG completed required or voluntary offsite notifications for abnormal effluent discharges.

The inspectors verified that abnormal discharges were assessed and reported as part of the Annual Radiological Effluent Release Report per Reg. Guide 1.21. No events of this type occurred since the last inspection of this area.

The inspectors assessed evaluations of discharges from onsite surface water bodies (ponds, retention basins, lakes) that contain or potentially contain radioactivity, and the potential for ground water leakage from these onsite surface water bodies. The inspectors determined if licensees are properly accounting for discharges from these

surface water bodies as part of their effluent release reports. No events of this type occurred since the last inspection of this area.

The inspectors reviewed routine groundwater monitoring results to assess whether PSEG was monitoring for unknown leakage. The inspectors verified that PSEG sufficiently evaluated the monitoring results, properly documented and reported the results, entered abnormal results into its corrective action program, and implemented adequate corrective actions.

The inspectors reviewed self assessments, audits, and licensee event reports that involved unanticipated offsite discharges of radioactive material. No events of this type occurred since the last inspection of this area.

The inspectors reviewed the results of the inter-laboratory comparison program to verify the quality of radioactive effluent sample analyses. The inspectors reviewed assessments of any identified bias in the sample analysis results and the overall effect on calculated projected doses to members of the public.

The inspectors verified that PSEG maintained adequate effluent sampling records, including sampling locations, sample analyses results, flow rates, and source term data for radioactive liquid and gaseous effluent.

The inspectors verified that problems identified by PSEG through audits, self assessments, and monitoring results were entered into the corrective action program. The inspectors verified that PSEG implemented immediate and long term corrective actions to sufficiently address the causes for each identified issue.

The inspectors interviewed staff and reviewed documents to verify that follow-up activities were conducted in an effective and timely manner commensurate with their importance to safety and risk.

For repetitive deficiencies or significant individual deficiencies in problem identification and resolution, the inspectors verified that PSEG's self-assessment activities were also identifying and addressing these deficiencies. No events of this type occurred since the last inspection of this area.

The inspectors evaluated PSEG's performance against the requirements contained in: Technical Specifications 6.8.1.i, 6.8.4.g, 6.9.1.7, 6.14; and 10 CFR 50.36a and 10 CFR 50, Appendix I, section IV.B.1.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151 - 3 samples)

a. Inspection Scope

The inspectors reviewed PSEG's program for gathering, evaluating and reporting information for the performance indicators (PIs) listed below. The inspectors used the definitions and guidance contained in (Nuclear Energy Institute) NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, to assess the accuracy of PSEG's collection and reporting of PI data. The documents reviewed by the inspectors are listed in the Attachment.

Cornerstone: Initiating Events

- Unplanned Scrams per 7000 Critical Hours
- Unplanned Scrams with Complications
- Unplanned Power Changes per 7000 Critical Hours

The inspectors reviewed the data reported for these PIs for the period January 1 through December 31, 2007. The records reviewed included PI data summary reports, licensee event reports, monthly operating reports, and operator narrative logs. The inspectors verified the accuracy of the number of critical hours reported, and interviewed the system engineers responsible for data collection and evaluation.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Review of Items Entered into the Corrective Action Program:

As required by Inspection Procedure 71152, Identification and Resolution of Problems, and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of all items entered into PSEG's corrective action program. This was accomplished by reviewing the description of each new notification, reviewing the details of selected notifications, and attending daily management review committee meetings.

4OA3 Event Followup (71153 - 5 samples)

.1 Main Turbine Control Valve (TCV) #2 slow closure on January 14, 2008

a. Inspection Scope

On January 29, 2008, while operating at 100% power, Hope Creek experienced a slow closure of TCV #2. A small pressure transient occurred as a result of the slow valve closure, with peak reactor thermal power reaching 100.4%. All plant equipment responded to the pressure transient as designed. Following the transient, operators maintained the plant at 99% reactor power. Operators reduced reactor power to 50% to repair TCV #2 on February 2, 2008, to perform inspections and repairs of the other three TCVs. PSEG determined that vibration induced failure of the TCV position indication transmitter caused the slow closure. PSEG modified the position indicators on all four TCVs to mitigate the effects of vibration induced failure and also installed monitoring equipment to improve the capability to identify degrading position indicators.

The inspectors responded to the control room following the transient to observe post-transient operations. The inspectors observed and participated in interviews with plant personnel to gain an understanding of how operators and plant equipment responded to the transient. The inspectors observed engineering technical analysis and evaluation meetings and interviewed engineers to gain an understanding of the transient, to assess PSEG's evaluation process, and to evaluate whether PSEG identified and corrected the cause of the transient. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

.2 Secondary Condensate Pump Trip and Recirculation Pump Runback on February 8, 2008

a. Inspection Scope

On February 8, 2008, while operating at 100% power, the C secondary condensate pump (SCP) power supply breaker tripped, which caused an intermediate reactor recirculation pump runback to 78.5% power. All power plant systems performed as designed during and following the transient. PSEG reviewed plant conditions prior to, during, and following the transient to verify that the plant responded appropriately. PSEG determined that the C SCP low suction pressure signal conditioner card had failed, resulting in the SCP trip. Corrective actions included replacing the failed logic card associated with the C SCP, as well as an extent of condition review. Documents reviewed are listed in the Attachment.

The inspectors responded to the control room following the transient to observe post-transient operations. The inspectors observed and participated in interviews with plant personnel to gain an understanding of how operators and plant equipment responded to the transient. The inspectors observed engineering technical analysis and evaluation meetings and interviewed engineers to gain an understanding of the transient, to assess PSEG's evaluation process, and to verify that PSEG appropriately resolved the issues that led to the transient. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

.3 (Closed) LER 05000354/2007-002-001, Performance of Vital Bus Surveillance Caused a Partial Loss of Feed Resulting in a Manual Scram

On May 29, 2007, while operating at 100% reactor power, a manual scram was initiated in anticipation of a low reactor water level condition. During monthly relay testing, an unexpected slow (dead bus) transfer of a 4 KV Class 1-E bus from the normal to alternate source occurred. As a result, a non-safety related motor control center (MCC) was also de-energized resulting in a loss of two of three reactor feedwater pumps. Reactor water level could not be maintained in the required band; therefore, the operators manually scrammed the reactor in accordance with station procedures. This LER provided supplemental information to LER 2007-002-00 regarding the cause of the

event. The supplemental information did not change the inspectors disposition of the event. The NRC documented the performance deficiency and associated enforcement aspects of this issue in NRC report 05000354/2007003. This LER is closed.

.4 (Closed) LER 05000354/2007-003-00, Grab Samples Not Performed As Required by Technical Specification 3.3.7.1

On July 1, 2007, Hope Creek operators observed the main condenser offgas flow rate increasing. As required by the main condenser vacuum abnormal operating procedure, the control room supervisor (CRS) directed radiation protection technicians to enter correction factor changes into the offgas pretreatment radiation monitoring system (RMS) in anticipation of offgas flow approaching an instrument limit of 75 cubic feet per minute (CFM). The offgas pretreatment RMS must be declared inoperable when offgas flow increases to 75 cfm, but can be declared operable once the required correction factor changes are entered into the RMS. On July 4, 2007, offgas flow decreased below 75 cfm. The CRS directed radiation protection technicians to remove the correction factors from the RMS. The technicians stated that no correction factors were ever entered into the RMS, but the alert setpoint was raised instead. The offgas pretreatment RMS was declared inoperable from July 1 through July 4, 2007. Technical Specification 3.3.7.1 required grab samples to be taken at least once per 8 hour period and analyzed within the following 4 hours. PSEG did not take the required grab samples during the period of July 1 through July 4, 2007. The inspectors reviewed the LER and associated root cause to verify that PSEG complied with the reporting requirements in 10 CFR 50.73. The enforcement aspects of this issue are documented in section 4OA7. This LER is closed.

.5 (Closed) LER 05000354/2008-001-00, Reactor Recirculation Pump Motor generator Set Scoop Tube Mechanical and Electrical Stop Over-Speed Set Points Found Outside of Technical Specification Limits

On January 19, 2008, during the performance of 18-month Technical Specification Surveillance Requirement (SR) 4.4.1.1.3, which demonstrated the operability of the reactor recirculation pump motor generator (MG) set scoop tube mechanical and electrical stops, the A and B MG set mechanical and electrical stops were found set non-conservatively high. PSEG immediately set the MG mechanical and electrical stops at the appropriate setting prescribed by station procedures. PSEG determined through an apparent cause analysis that the most likely cause of the issue was that PSEG changed the operational methodology for matching recirculation loop flows in June 2006, that is, they stopped matching recirculation drive flows and began matching jet pump loop flows to meet recirculation flow mismatch requirements in TS. This change reduced the net resistance to flow in the recirculation loops and made the recirculation pumps more efficient at driving flow. As a result, the previously set mechanical and electrical stops were too high. PSEG also determined that the change in hydraulic behavior was not promptly detected. PSEG created corrective actions to evaluate and improve system monitoring techniques.

PSEG determined that with the mechanical and electrical stops set high, no safety limit maximum critical power ratio or fuel rod thermal mechanical limits would be exceeded even if both pumps ran up to their mechanical stops. Furthermore, by procedure, Hope Creek does not operate reactor recirculation pumps in master manual mode; therefore, a

single failure could not have caused both recirculation pumps to fail in a manner that resulted in both pumps speeding up to their mechanical stops.

The inspectors reviewed the LER, the apparent cause, and interviewed cognizant engineers. No findings of significance were identified. The inspectors identified one violation of T.S. 3.4.1.1, “Recirculation Loops.” The inspectors determined the finding was not more than minor because, as described above, no safety limits would have been exceeded. This LER is closed.

4OA5 Other Activities

.1 Employees working beyond Technical Specification limits of 72 hours in a 7-day period

a. Inspection Scope

The inspectors reviewed PSEG’s record of working hours for several plant employees during fourteenth refueling outage (October 25 through November 6, 2007). The inspectors also reviewed notifications in the corrective action program and interviewed employees and station management.

b. Findings

Introduction. The NRC identified a non-cited violation of Technical Specification (TS) 6.2.2, "Unit Staff," when some PSEG employees exceeded work hour limits specified by TS 6.2.2 and plant procedures. The finding was determined to be of very low safety significance (Green).

Description. The inspectors identified that PSEG did not evaluate and approve working hour deviations for four individuals who worked more than 72 hours in a 7-day period. Additionally, there were 20 examples of TS work hour limit deviation forms that were not completed in accordance with procedure LS-AA-119, "Overtime Controls." Specifically, the deviation forms were not signed prior to the individuals exceeding the limit of 72 hours in a 7-day period.

The inspectors determined that a performance deficiency existed because PSEG did not manage the work hours of some individuals who perform safety-related functions within the limits of Technical Specification 6.2.2 and procedure LS-AA-119. The inspectors concluded that it was reasonable for PSEG to foresee and correct deficiencies with managing the work hours of employees within the guidelines of TS 6.2.2 because procedure LS-AA-119 described the process of maintaining, approving, and documenting worker hours to comply with TS 6.2.2.

Analysis. The finding was determined to be more than minor because, if left uncorrected, exceeding TS work hour limits would increase the likelihood of a fatigue-related human performance error during normal plant operations or plant events. The inspectors used Inspection Manual Chapter 0609 Appendix M, "Significance Determination Process Using Qualitative Criteria," because other significance determination process guidance was not suited to provide reasonable estimates of the significance of this inspection finding. With the assistance of Region 1 management and a Senior Risk Analyst, the inspectors determined that the finding was of very low safety significance because there were no human performance issues linked directly to worker fatigue.

The finding had a cross-cutting aspect in the area of human performance associated with work practices because personnel did not follow procedures. Specifically, PSEG did not follow procedure LS-AA-119 to authorize deviations from working hour limits described in Technical Specification 6.2.2.d. PSEG determined that personnel did not follow the procedure because they were not adequately trained on its use. (H.4(b))

Enforcement. Technical Specification 6.2.2.d, "Unit Staff," requires that administrative procedures shall be implemented to limit the working hours of unit staff that perform safety-related functions. Additionally, the TS states that any individual should not be permitted to work more than 72 hours in any 7-day period. Any deviation from the above guidelines shall be authorized by the appropriate department manager in accordance with established procedures and with documentation of the basis for granting the deviation. Contrary to the above, PSEG did not authorize four individuals to exceed the Technical Specification limit of working no more than 72 hours in a 7-day period for the time period of October 25 through November 6, 2007. Furthermore, PSEG did not authorize an additional 20 individuals to exceed the Technical Specification limit of working no more than 72 hours in a 7-day period prior to the work being performed. Because this issue was of very low safety significance and PSEG entered this issue into their corrective action program (notification 20357323), this finding is being treated as a non-cited violation, consistent with section VI.A of the NRC Enforcement Policy. **(NCV 05000354/2008002, Improper Management of Working Hours During Refueling Outage)**

4OA6 Meetings, Including Exit

On April 14, 2008, the inspectors presented their findings to members of PSEG management led by Mr. George Barnes. None of the information reviewed by the inspectors was considered proprietary.

4OA7 Licensee-Identified Violations

The following violations of very low significance (Green) were identified by PSEG and are violations of NRC requirements that met the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as non-cited violations

- Technical Specification 6.8.1.j, “Procedures and Programs,” requires that PSEG implement a quality assurance program for the effluent monitoring program. The quality assurance program for the effluent monitoring program includes participation in an interlaboratory comparison program to verify the quality of radioactive effluent sampling analysis performed. Contrary to the above, PSEG did not participate in an interlaboratory comparison program for the second quarter of 2006, and had multiple comparison failures that were not investigated or documented in their corrective action program (CAP). This was identified in PSEG’s CAP as notifications 20347099 and 20354301. This finding is of very low safety significance because while it impaired PSEG’s ability to assess dose, there was no dose impact to a member of the public.

- Technical Specification (TS) 3.3.7.1, “Monitoring Instrumentation,” requires that PSEG take grab samples at least once in every 8-hour period and analyze the sample within the next 4 hours when the offgas pretreatment radiation monitoring system is inoperable. Contrary to the above, PSEG did not take the required

grab samples when the offgas pretreatment RMS was inoperable from July 1 through July 4, 2007. The issue was documented in their corrective action program in notification 20328891. Additionally, PSEG conducted a root cause analysis to determine the causes of the error. PSEG determined that the root cause was that radiation protection technicians did not have adequate procedural guidance to perform actions directed in an operations abnormal operating procedure. This finding is of very low safety significance because it did not represent an unmonitored release path and there was not an actual release that exceeded regulatory requirements.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

G. Barnes, Hope Creek Site Vice President
R. Binz, IST Program Admin
B. Booth, Director - Operations
D. Boyle, Operations Superintendent
J. Perry, Plant Manager
P. Davison, Director Site Engineering
M. Gaffney, Manager Regulatory Assurance
K. Knaide, Senior Manager Plant Engineering
B. Kopchick, Operations Superintendent
P. Koppel, Vibrations Engineer
H. Trimble, Radiation Protection Manager

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened/Closed

05000354/2008002-001	NCV	Improper Management of Working Hours During Refueling Outage (Section 4OA5)

Closed

05000354/2007-002-01	LER	Performance of Vital Bus Surveillance Caused a Partial Loss of Feed Resulting in a Manual Scram (Section 4OA3.3)
05000354/2007-003-00	LER	Grab Samples Not Performed As Required by Technical Specification 3.3.7.1 (Section 4OA3.4)
05000354/2008-001-00	LER	Reactor Recirculation Pump Motor Generator Set Scoop Tube Mechanical and Electrical Stop Over-Speed Set Points Found Outside of Technical Specification Limits (Section 4 OA3.5)

LIST OF DOCUMENTS REVIEWED

In addition to the documents identified in the body of this report, the inspectors reviewed the following documents and records:

Hope Creek Generating Station (HCGS) Updated Final Safety Analysis Report
Technical Specification Action Statement Log (HC.OP-AP.ZZ-0108)
HCGS NCO Narrative Logs
HCGS Plant Status Reports
Weekly Reactor Engineering Guidance to Hope Creek Operations
Hope Creek Operations Night Orders and Temporary Standing Orders

Section 1R01: Adverse Weather Protection

Procedures
HC.OP-AB.COOL-0001, Rev. 12, Station Service Water
HC.OP-SO.DA-0001, Rev. 40, Circulating Water System Operation
WC-AA-107, Rev. 5, Seasonal Readiness
WC-AA-107, Rev. 7, Seasonal Readiness

Notifications *NRC identified
20331963 20354390 20354424 20354588* 20354799 20355896*
20355941 20356033 20356207 20357243

Orders
30161945

Other Documents
Hope Creek Winter/Grassing Readiness Report and Weekly Information Update

Section 1R04: Equipment Alignment

Procedures
HC.OP-SO.EA-0001, Service Water System Operation, Rev. 32
HC.OP-SO.KJ-0001, Emergency Diesel Generators Operation, Rev. 45
HC.OP-ST.BJ-0001, HPCI System Piping and Flow Path Verification – Monthly – Rev 11

Completed Surveillances/Functional Tests
HC.OP-ST.EA-0001, dated 01/11/08, Service Water Flow Path Verification – Monthly, Rev. 10
HC.OP-ST.KJ-0002, dated 12/10/07, EDG 1BG400 Operability Test – Monthly, Rev. 62

Drawings
M-10-1, Sh. 1, Rev. 50
M-10-1, Sh. 2, Rev. 39
M-56-1, Sh. 1, Rev 16, HPCIC Pump Turbine
M-49-1, Sh. 1, Rev. 18, RCIC
M-50-1, Sh. 1, Rev. 19, RCIC Pump Turbine

Notifications
20338625 20338626 20338627 20338628 20347870 20350835

Orders
60072381 60073783 60073818 60074491

Section 1R05: Fire Protection

Procedures
Hope Creek Pre-Fire Plan FRH-II-412, Rev. 3, RCIC Pump & Turbine Room, RHR Pump and Heat Exchanger Rooms & Electrical Equipment Room Elevation: 54'-0"
Hope Creek Pre-Fire Plan FRH-II-413, Rev. 3,HPCI Pump & Turbine Room, RHR Pump and Heat Exchanger Rooms & Electrical Equipment Room Elevation: 54'-0"
Hope Creek Pre-Fire Plan FRH-II-414, Rev. 3,Core Spray Pump Rooms, CRW-DRW Pumps & Sumps Room Elevation: 54'-0"
Hope Creek Pre-Fire Plan FRH-II-411, Rev. 3,Torus Water Clean-up Pump Room, Core Spray Pump Rooms, CRW-DRW Pumps & Sumps Room Elevation: 54'-0"
NC.CC-AP.ZZ-0011, Rev. 3,Transient Loads

Notifications *NRC identified
*20349669

Section 1R06: Flood Protection Measures

Drawings
A-4641-1, Reactor Building Unit 1 Floor Plan at Elevation 54'
A-4642-1, Reactor Building Unit 1 Floor Plan at Elevation 77'

Notifications
20333809 20334492

Orders
70073385

Other Documents
Calculation 11-92, Rev. 5, Reactor Building Flooding – El. 54' and 77'
Hope Creek Generating Station Individual Plant Examination

Section 1R11: Licensed Operator Requalification Program

Procedures
HC.OP-EO.ZZ-0101AFC, Rev. 3, ATWS – RPV Control
HC.OP-EO.ZZ-0101FC, Rev. 11, Reactor/Pressure Vessel (RPV) Control
HC.OP-EO.ZZ-0102FC, Rev. 12, Primary Containment Control
HC.OP-AB.ZZ-0000, Rev. 3, Reactor Scram
HC.OP-AB.BOP-0002, Rev. 9, Main Turbine
HC.OP-AB.COOL-0002, Rev. 2, Safety/Turbine Auxiliaries Cooling System
HC.OP-AB.CONT-0002, Rev. 6, Primary Containment
HC.OP-AB.RPV-0005, Rev.4, Reactor Pressure
HC.OP-AR.SP-0001, Rev. 17, Radiation Monitoring System Alarm Response

Notifications
20344987 20357134 20342093

Orders
70077470

Other Documents
Hope Creek Generating Station Emergency Classification Guide, Rev. 3
Simulator Scenario Guide SG-331, Main Turbine Vibration/Steam Leak in the Turbine Building/ Isolated Condenser Operations

Section 1R12: Maintenance Effectiveness

Procedures
ER-AA-340-1001, Rev. 5, GL 89-13 Program Implementation Instructional Guide
ER-AA-340, Rev. 3,GL 89-13 Program Implementation Procedure
MA-AA-716-210, Rev. 5,Performance Centered Maintenance Process
MA-AA-716-210-1001, Rev. 8,Performance Centered Maintenance
HC.CH-SO.EQ-0001, Rev. 19, Service Water Chlorination System Operation

Calculations
CALC KL-0005, Instrument Gas Compressor and Receiver Sizing

Modifications
80094969, 'B' PCIG Compressor Auto Lead Function Pressure Stop Setpoint

Notifications
20337950 20344752 20345050 20345740 20346736 20346747
20347062 20347241 20347938 20350005 20350747 20351437
20352358 20352359 20352549 20354563 20354603

Orders
60073610 70077169 70078738

Other Documents
HC.ER-DG.ZZ-0002, Rev. 2, Hope Creek Generating Station System Function Level Maintenance Rule Scoping
M48-84-5, Operation and Maintenance Manual for PCIG Compressor Skid and Accessories, Rev. 07/08/83
Plant Historian graphical trends of PCIG receivers
SHIP System Health Report (PCIG), 4th Qtr 2007
SHIP System Health Report (PCIG), 2nd Qtr 2007
SHIP System Health Report (PCIG), 1st Qtr 2007
SHIP System Health Report (PCIG), 4th Qtr 2006
SHIP System Health Report (PCIG), 3rd Qtr 2006
SHIP System Health Report (PCIG), 2nd Qtr 2006
SHIP System Health Report (PCIG), 1st Qtr 2006

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures
OP-SH-101-112-1002, On-Line Risk Assessment, Rev. 1

Notifications *NRC identified
20356394 20356444* 20362614 2038728

Orders
70082756

Section 1R15: Operability Evaluations

Procedures
HC.OP-AB.RPV-0001, Rev. 8, Reactor Power
HC.OP-IS.BC-0002, CP202, C Residual Heat Removal Pump In-Service Test, Rev. 31
HC.OP-SO.BD-0001, Rev. 33, Reactor Core Isolation Coolant System Operation

Calculations
CALC KL-0005, Instrument Gas Compressor and Receiver Sizing

Completed Surveillances/Functional Tests
HC.OP-IS.BC-0002, dated 02/05/08 'C' RHR Pump IST, Rev. 31
HC.OP-FT.EA-0001, dated 03/24/08 Validating SSWS Flow Through SACS HXS

Drawings
M-51-1, Sh. 1, Rev. 37

Notifications
20346628 20354390 20354424 20355187 20362614 20362728
20362406 20362395 20362390
Orders
70040545 70042066 70077242 70082756

Other Documents
DE-CB.EA/EP-0052, Rev. 2, Configuration Baseline Documentation for Station Service Water System
EA-0033, Rev. 9, Biofouling Monitoring and Trending Calculation
Part 9900 Technical Guidance, Operability Determinations and Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety
Risk-Informed Inspection Notebook for Hope Creek Generating Station, Rev. 2.1a
Standing Order 2008-09, RHR Test Mode Operability, effective 2/21/08

Section 1R18: Plant Modifications

Procedures
HC.OP-AB.PRV-0001, Rev. 8, Reactor Power
HC.OP-SO.BD-0001, Rev. 33, Reactor Core Isolation Cooling System Operation

Calculations
CALC BD-0020, Rev. 0, RCIC Jockey Pump System Capabilities

Completed Tests
HC.OP-IS.BD-010, Rev. 48, Reactor Core Isolation Cooling System Valves – Inservice Test, 12/12/07

Drawings
M-41-1, Sh. 1, Rev. 18, Nuclear Boiler
M-49-1, Rev. 18, Reactor Core Isolation Cooling
M-50-1, Rev. 19, RCIC Pump Turbine

Modifications
80094730, Disable RCIC F013 Auto-close to Address Thermal Binding Issue

Notifications
20346628 20354574 20356621

Order
60073954 70077242 70080000

Other Documents
80094730/4HT-08-02, 50.59 Review associated with T-Mod to prevent RCIC Discharge Valve BD-HV-F013 from Automatic Closure
Design Criteria 10855-D7.3, Rev. 4, Design Criteria for Procedure for Documentation and Criteria of Plant Separation for the Hope Creek Generating Station
HC-08-025, 50.59 Evaluation associated with Order 80094730
Safety Evaluation Report for the Hope Creek Final Safety Analysis Report, Section 6.2.4 Containment Isolation
Standard Review Plan Section 3.6.2, Rev. 1, Determination of Rupture Locations and Dynamic Effects Associated with the Postulated Rupture of Piping
VTD 431098, Rev. 1, HCGS RCIC Injection Valve General Design Criteria 55 Evaluation

Section 1R19: Post-Maintenance Testing

Procedures
HC.OP-IS.GJ-0001, 'A' Control Area Chilled Water Pump – AP400 – In-Service Test, Rev. 26
HC.OP-SO.GJ-0001, Control Area Chilled Water System Operation, Rev. 44
HC.OP-SO.GK-0001, Control Area Ventilation System Operation, Rev. 12
HC.OP-ST.GK-0001, 'A' – Control Room Emergency Filtration System Functional Test - Monthly, Rev. 13
HC.OP-ST.KJ-0001, Emergency Diesel Generator 1AG400 Operability Test – Monthly, Rev. 63
HC.OP-ST.KJ-0003, Emergency Diesel Generator 1CG400 Operability Test – Monthly, Rev. 63
HC.IC-GP.ZZ-0067, General Instrument Calibration, Rev. 13
HC.OP-ST.BD-0003, RCIC Functional Verification – 18 Months, Rev. 14
HC.OP-IS.BH-0004(Q), Standby Liquid Control Pump – BP208 – In-Service Test, Rev. 1
NC.NA-AP.ZZ-0050, Station Post Maintenance Testing, Rev. 7
NC.MD-AP.ZZ-0050, Maintenance Testing Program Matrix, Rev. 10

10 CFR 50.59 Safety Evaluation Screens and Applicability Reviews
80091258, Upgrade AK400 Chiller Cycle Timer, Rev. 1

Drawings
PN1-E51-1040-0059, Sheet 1, Rev. 20 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 2, Rev. 13 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 3, Rev. 27 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 4, Rev. 15 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 5, Rev. 11 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 6, Rev. 24 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 7, Rev. 20 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 8, Rev. 18 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 9, Rev. 19 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 10, Rev. 20 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 11, Rev. 23 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 12, Rev. 14 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 13, Rev. 22 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 13, Rev. 22 with Temporary Modification Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 14, Rev. 13 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 15, Rev. 18 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 16, Rev. 16 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1040-0059, Sheet 17, Rev. 9 Elem. Diag. Reactor Core Isolation Cooling
PN1-E51-1030-0061, Sheet 5, Reactor Core Isolation Cooling System
J-50-0, Sheet 6, Rev. 3, Logic Diagram RCIC Pump Turbine
E-6084-0, Sheet 11, Rev. 8, Electrical Schematic Diagram RCIC Turbine Trip Throttle Valve
E-6084-0, Sheet 5, Rev. 6, Electrical Schematic Diagram RCIC Feedwater Isolation Valve
10855-N1-H11-P621-32, Sheet 5, Rev. 29, RCIC Relay
M-50-1, Sheet 1, Rev. 19, RCIC Pump Turbine
M-49-1, Sheet 1, Rev. 18, RCIC
M-48-1, Sheet 1, Rev. 11, Standby Liquid Control

Modifications
80091258, Upgrade AK400 Chiller Cycle Timer, Rev. 0

Notifications

20212156	20346780	20354020	20354122	20355619	20355567
20355568	20355569	20355570	20355581	20355582	20355583
20355584	20355585	20355586	20355619	20360535	20360574
20360707					

Orders

60049756	60074395	70042869	30098237	30098238	30098307
30098308	30098309	60073954	60064490	50024116	60062524

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Operator System Training Diagram 096-01: Control Area Ventilation
OP-HC-108-115-1001, Technical Specification Action Statement Log: 'A' EDG Planned Maintenance Outage, entered January 28, 2008
OP-HC-108-115-1001, Technical Specification Action Statement Log: AK400 Control Room Chiller, entered February 4, 2008

Part 9900 Technical Guidance, Preconditioning of Structures, Systems, and Components before determining Operability
HCGS Piping Class Sheet 10855-P-0500, Rev. 7, Sheet 21

Section 1R22: Surveillance Testing

Procedures
CC-AA-102, Rev. 14, Design Input and Configuration Change Impact Screening
HC.IC-CC.BB-0021, Rev. 14, Low Reactor Pressure – CS Initiation Permissive and ADS – SRV Low-Low Set
HC.IC-CC.BB-0022, Rev. 12, Core Spray Initiation Permissive and Automatic Depressurization Safety Relief Valve Low-Low Set
HC.IC-CC.BB-0023, Rev. 7, Reactor Pressure (Core Spray Permissive)
HC.IC-CC.BB-0024, Rev. 8, Reactor Pressure – Core Spray Initiation Permissive
HC.IC-FT.BB-0014, Rev. 18, Core Spray Permissive (Low Reactor Pressure) SRV Low-Low Set
HC.OP-AB.IC-0001, Rev. 7, Control Rod
HC.OP-SO.BB-0001, Rev. 5, Nuclear Boiler System Alignment
HC.OP-SO-BB-0002, Rev. 69, Reactor Recirculation System Operation
HC.OP-ST.SF-0003, Rev. 10, RPS Manual Scram Test - Weekly
HC.RE-RA.BB-0002, Rev. 16, Core Flow Determination Data Sheet
NF-AA-100, Rev. 8, Reload Control Procedure
NF-AA-100-1001, Rev. 0 Core Reload and Cycle Management Configuration Changes Using SAP

Completed Surveillances/Functional Tests
HC.IC-LC.BB-0004, Rev. 31, Reactor Recirculation M/G Set High Speed Stops, 01/18/2008
HC.OP-IS.EG-0101, Safety Auxiliaries Cooling System – subsystem A' valves – in-service test, 1/10/2008
HC.OP-ST.KJ-0003, Emergency Diesel Generator 1CG400 Operability Test, 1/7/2008

Modifications
80090339, Rev. 1, Hope Creek Cycle 15 Reload Design Fuel Change Package

Notifications

20042596	20350761	20352891	20352892	20352955	20352991
20353027	20353034	20353042	20353052	20353082	20353115
20353214	20353290	20353438	20354055	20354796	20355071
20356188	20356225	20356623	20357746		

Orders

30147712	30160770	70079677	70080702

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10855-D3.30, Rev. 5, Design, Installation, and Test Specifications of the Reactor Recirculation System for the Hope Creek Generating Station
8009039/HC-07-313, Rev. 0, 50.59 Review and Screen associated with Hope Creek Cycle 15 Core Reload Fuel Change Package
Core Operating Limits Report for Hope Creek Generating Station, Reload 14, Cycle 15, approved 10/10/07
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GE SIL 228, Supplement 1, Recirculation Pump Maximum Speed Limiter Settings
IE Circular 78-11, Recirculation M-G Set Overspeed Stops
LP NOH01THERMO-00, Hope Creek Non-Licensed Operator Training, 11/26/02
Standing Order 200803, Thermal Check of the RPS Scram Pilot Solenoids
UFSAR Change Request HCN-07-033
Vendor Manual: Fluke 63/66/68 Infrared Thermometers (Raytec)
VPF 3384-36-1, MG Set Vendor Manual

Section 1EP6: Drill Evaluation

See section 1R11.

Section 2PS1: Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

Procedures
HC.IC-SC.SP-0001(Q), Rev. 14, Process Radiation Monitoring – Non Divisional Flow Elements 1SP-FE-4811-1, 2, 3 and 4 Filtration Recirculation Vent Process Flow
HC.IC-FT.SP-0025(Q), Rev. 27, Process Radiation Monitoring – Non Divisional Monitor H1SP-1SPRY-4811 Filtration Recirculation Ventilation System Vent (WRGM)
HC.IC-CC.SP-0031(Q), Rev. 18, Process Radiation Monitoring – Non Divisional Monitor H1SP-1SPRY-4811 Filtration Recirculation Ventilation System Vent (WRGM)
HC.IC-SC.SP-0002(Q), Rev. 6, Process Radiation Monitoring – Non Divisional Sensor 1SP-FT-4811A and 1SP-FT-4811B Filtration Recirculation Ventilation Sample Flow System
HC.IC-SC.SP-0009(Q), Rev. 18, Process Radiation Monitoring – Non Divisional Channel H1SP-1SPRE-4811B1 Filtration Recirculation Ventilation System Vent High Range Noble Gas
HC.IC-CC.SP-0031(Q), Rev. 18, Process Radiation Monitoring – Non Divisional Monitor H1SP-1SPRY-4811 Filtration Recirculation Ventilation System Vent (WRGM)
HC.IC-DC.ZZ-0079(Q), Rev. 11, Baily Stripchart Recorders, Type 771, 772 and 773, Factory Style 1 & 2
HC.IC-SC.SP-0028(Q), Rev. 14, Process Radiation Monitoring – Non Divisional Channel H0SP-0SPRE-4861 Liquid Radwaste Discharge Monitor
HC.IC-FT.SP-0035(Q), Rev. 23, Process Radiation Monitoring – Non Divisional Channel H0SP-0SPRY-4861 Liquid Radwaste Discharge Monitor
HC.IC-FT.SP-0015(Q), Rev. 32, Process Radiation Monitoring – Non Divisional Monitor H1SP-1SPRY-4873B North Plant Vent (WRGM)
HC.IC-SC.SP-0006(Q), Rev. 6, Process Radiation Monitoring – Non Divisional Flow Elements 1SP-FE-4873A, 1SP-FE-4873B North Plant Vent Process Flow
HC.IC-SC.SP-0028(Q), Rev. 14, Process Radiation Monitoring – Non Divisional Channel H0SP-0SPRE-4861 Liquid Radwaste Discharge Monitor
HC.IC-FT.SP-0015(Q), Rev. 33, Process Radiation Monitoring – Non Divisional Monitor H1SP-1SPRY-4873B North Plant Vent (WRGM)
HC.IC-SP.SC-0014(Q), Rev. 14, Process Radiation Monitoring – Non Divisional Channel H1P-1SPRY-4875B South Plant Vent (WRGM)
HC.IC-CC.SP-0021(Q), Rev. 28, Process Radiation Monitoring – Non Divisional Channel H1P-1SPRY-4875B South Plant Vent (WRGM)
HC.IC-FT.SP-0021(Q), Rev. 30, Process Radiation Monitoring – Non Divisional Channel H1P-1SPRY-4875B South Plant Vent (WRGM)
HC.IC-SC.SP-0015(Q), Rev. 15, Process Radiation Monitoring – Non Divisional Channel H1P-1SPRE-4875C1 South Plant Vent High Range Noble Gas

HC.IC-SC.SP-0005(Q), Rev. 10, Process Radiation Monitoring – Non Divisional Monitor H1P-1SPRY-4875B South Plant Vent Sample Flow System
HC.IC-FT.SP-0021(Q), Rev. 31, Process Radiation Monitoring – Non Divisional Monitor H1P-1SPRY-4875B South Plant Vent (WRGM)
HC.IC-FT.SP-0057(Q), Rev. 8, Process Radiation Monitoring – Non Divisional Monitor H1P-1SPRY-4557 Turbine Building Circulating Water
HC.IC-FT.SP-0022(Q), Rev. 14, Process Radiation Monitoring – Non Divisional Monitor H0SP-0SPRY-8817 Cooling Tower Blowdown
HC.RP-TI.SP-0018(Q), Rev. 1, Routine Sampling of the North Plant Vent Skid

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Offsite Dose Calculation Manual for PSEG Nuclear LLC Hope Creek Generating Station, Rev. 22
2006 Annual Radioactive Effluent Release Report for the Salem and Hope Creek Generating Stations
2006 Annual Radiological Environmental Operating Report, January 1 to December 31, 2006, Appendix F, "Radiological Groundwater Protection Program"
Check-in Self-Assessment of RETS Compliance with Reg. Guide 4.15 (January 28, 2008)
Methyl Iodide & DOP Testing Results for : 1A-VH 400; 1B-VH400; 1A-VH213; 1B-VH213; 1C-VH213; 1D-VH213; 1E-VH213; 1F-VH213; 1A-VH206; 1B-VH206; 1C-VH206; 1D-VH206; 1E-VH206; 1F-VH206; 1A-VH301; 1B-VH301; 1C-VH301; 0A-VH305; 0B-VH305; 0C-VH305; 0A-VH306; 0B-VH306
Gaseous Radioactive Waste Release Permits: 201079.013.444.G; 201236.014.096.G
Liquid Radioactive Waste Release Permits: 201417.003.234.L; 201575.009.412.L
Analytics Radiochemistry Cross Check Program Results: 2007 (1st-4th quarter); 2006 (1st, 3rd & 4th quarter)

Section 4OA1: Performance Indicator Verification

Procedures
LS-AA-2001, Rev. 9, Collecting and Reporting of NRC Performance Indicator Data
LS-AA-2010, Rev. 5, Monthly Data Elements for NRC/WANO Unit/Reactor Shutdown Occurrences
LS-AA-2030, Rev. 5, Monthly Data Elements for NRC Unplanned Power Changes per 7000 Critical Hours

Other Documents
Hope Creek Integrated Inspection Reports 2007002, 2007003, 2007004, 2007005
NRC Performance Indicators for 1st quarter, 2nd quarter, 3rd quarter and 4th quarter
Licensee Event Report 3542007002 Event Date 05/29/2007
Licensee Event Report 3542007001 Event Date 01/29/2007
NEI 99-02, Rev. 4, Regulatory Assessment Performance Indicator Guideline
NEI 99-02, Rev. 5, Regulatory Assessment Performance Indicator Guideline
Hope Creek Monthly Operating Data Reports for January 2007 through February 2008

Section 4OA3: Event Followup

Procedures
HC.IC-GP.CH-0007, Rev. 1, Turbine Control Valve LVT Online Repair
HC.OP-AB.BOP-0002, Rev. 9, Main Turbine
HC.OP-SO.AC-0001, Rev. 56,

Drawings
211D5997, Sh. 1, Rev. 0, GE Switch Box 16 in LVDT Retrofit

Notifications

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20354322	20354324	20354342	20354567	20354834	20354849
20354943	20356151				

Orders
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20354217, Prompt Investigation associated with No. 2 Turbine Control Valve
ACM 08-002, 1/31/2008, No. 2 TCV Failed Closed
ACM H08-03, 02/02/2008, MTCV #1-4 LVDT Voltage Monitoring
Global Nuclear Fuel Evaluation: Hope Creek Cycle 15 TCVOOS Evaluation, 01/31/2008
HCG50052, Rev. 1, Supplemental Reload Licensing Report for Hope Creek Unit 1 Reload 14 Cycle 15
NF0700187, Rev. 0, Hope Creek Cycle 15 OPL-3 at Current Licensed Thermal Power Limit
OTDM 08-0002, 01/24/2008, Main Turbine CV #2
OTDM 08-0003, 01/31/2008, Main Turbine Control Valve (TCV) No. 2

LIST OF ACRONYMS

ADAMS	Agency-wide Documents Access and Management System
CAP	Corrective Action Program
CFM	Cubic Feet Per Minute
CRS	Control Room Supervisor
EDG	Emergency Diesel Generator
GPI	Ground Protection Initiative
HCGS	Hope Creek Generating Station
HPCI	High Pressure Coolant Injection
IMC	Inspection Manual Chapter
LER	Licensee Event Report
MCC	Motor Control Center
MG	Motor Generator
MR	Maintenance Rule
NCV	Non-cited Violation
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PARS	Publicly Available Records
PCIG	Primary Containment Instrument Gas
PIs	Performance Indicators
PMT	Post-maintenance Testing
PSEG	Public Service Enterprise Group Nuclear LLC
QA	Quality Assurance
RCIC	Reactor Core Isolation Cooling
RETS	Radiological Effluent Technical Specifications
RHR	Residual Heat Removal
RMS	Radiation Monitoring System
RPS	Reactor Protection System
SCP	Secondary Condensate Pump
SDP	Significance Determination Process
SR	Surveillance Requirement
SSC	Structures, Systems, and Components
ST	Surveillance Test
SW	Service Water
TCV	Turbine Control Valve
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report