June 6, 2002

Mr. Harold W. Keiser
Chief Nuclear Officer and President
PSEG Nuclear LLC - N09
P. O. Box 236
Hancocks Bridge, NJ 08038

SUBJECT: HOPE CREEK NUCLEAR GENERATING STATION - NRC INSPECTION REPORT 50-354/2002-04

Dear Mr. Keiser:

On May 11, 2002, the NRC completed an inspection of your Hope Creek facility. The enclosed report documents the inspection findings which were discussed on May 10, with Mr. Dave Garchow 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. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. Specifically, this inspection involved six weeks of resident inspection.

Based on the results of this inspection, the inspectors identified three issues of very low safety significance (Green). These issues were determined to involve violations of NRC requirements. However, because of their very low safety significance and because they have been entered into your corrective action program, the NRC is treating these issues as non-cited violations, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny these non-cited violations, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, 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, and the NRC Resident Inspector at the Hope Creek facility.

Immediately following the terrorist attacks on the World Trade Center and the Pentagon, the NRC issued an advisory recommending that nuclear power plant licensees go to the highest level of security, and all promptly did so. With continued uncertainty about the possibility of additional terrorist activities, the Nation's nuclear power plants remain at the highest level of security and the NRC continues to monitor the situation. This advisory was followed by additional advisories, and although the specific actions are not releasable to the public, they generally include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with law enforcement and military authorities, and more limited access of personnel and vehicles to the sites. The NRC has conducted various audits of your response to these advisories and your ability to respond to terrorist attacks with the capabilities of the current design

basis threat (DBT). On February 25, 2002, the NRC issued an Order to all nuclear power plant licensees, requiring them to take certain additional interim compensatory measures to address the generalized high-level threat environment. With the issuance of the Order, we will evaluate PSEG Nuclear's compliance with these interim requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure 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.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Glenn W. Meyer, Chief
Projects Branch 3
Division of Reactor Projects

Enclosure: Inspection Report 50-354/02-04
Attachment: Supplemental Information

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

cc w/encl: M. Friedlander, Director - Business Support
D. Garchow, Vice President - Operations
G. Salamon, Manager - Licensing
R. Kankus, Joint Owner Affairs
J. J. Keenan, Esquire
Consumer Advocate, Office of Consumer Advocate
F. Pompper, Chief of Police and Emergency Management Coordinator
M. Wetterhahn, Esquire
N. Cohen, Coordinator - Unplug Salem Campaign
E. Gbur, Coordinator - Jersey Shore Nuclear Watch
E. Zobian, Coordinator - Jersey Shore Anti Nuclear Alliance
State of New Jersey
State of Delaware

Distribution w/encl: Region I Docket Room (with concurrences)
J. Schoppy - NRC Resident Inspector
H. Miller, RA
J. Wiggins, DRA
G. Meyer, DRP
R. Barkley, DRP
L. Prividy, DRS
H. Nieh, OEDO
S. Richards, NRR
G. Wunder, PM, NRR
R. Fretz, Backup PM, NRR

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No:	50-354
License No:	NPF-57
Report No:	50-354/2002-04
Licensee:	PSEG Nuclear LLC
Facility:	Hope Creek Nuclear Generating Station
Location:	P.O. Box 236 Hancocks Bridge, NJ 08038
Dates:	March 31 - May 11, 2002
Inspectors:	J. G. Schoppy, Jr., Senior Resident Inspector C. G. Cahill, PE, Resident Inspector
Approved By:	Glenn W. Meyer, Chief, Projects Branch 3 Division of Reactor Projects

Summary of Findings

IR 05000354-02-04, on 3/31 - 5/11/02, Public Service Electric Gas Nuclear LLC, Hope Creek Generating Station, Equipment Alignment, Maintenance Risk Assessments and Emergent Work Control, Post Maintenance Testing.

The inspection was performed by resident inspectors. The inspectors identified three Green issues, all of which were non-cited violations. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, *Significance Determination Process* (SDP). The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html. Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation.

A. Inspector Identified Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation for inadequate corrective actions for PSEG Nuclear's inability to promptly identify a degraded condition on the D emergency diesel generator (EDG).

  The safety significance of this finding was very low, based on the continued operability of the D EDG. (Section 1R04.1)

- Green. The inspectors identified a non-cited violation for PSEG Nuclear's ineffective assessment and management of the increase in risk associated with planned maintenance on the A EDG and C service water (SW) pump.

  The safety significance of this finding was very low, because the components were not removed from service at the same time. (Section 1R13)

- Green. The inspectors identified a non-cited violation for PSEG Nuclear's failure to adequately perform post installation inspections on the high pressure coolant injection (HPCI) 250 volt DC battery.

  The safety significance of this finding was very low, because PSEG Nuclear was able to demonstrate that the HPCI battery remained operable in this circumstance. (Section 1R19.1)

B. Licensee Identified Violations

The inspectors reviewed one violation of very low significance which was identified by PSEG Nuclear. PSEG Nuclear's corrective actions, taken or planned, appeared reasonable. This violation is listed in Section 40A7 of this report.

Report Details

SUMMARY OF PLANT STATUS

The Hope Creek plant operated continuously at or near full power for the duration of the inspection period except for a planned power reduction to 84 percent on April 13 for turbine valve testing.

1. REACTOR SAFETY
Initiating Events, Mitigating Systems, and Barrier Integrity [REACTOR - R]

R01 Adverse Weather Protection

a. Inspection Scope

On April 16 Hope Creek experienced several lightening strikes near the site. The inspectors observed control room operators' response and mitigation measures. The inspectors independently performed control room panel and in-plant electrical distribution panel walkdowns to verify the status of potentially affected risk significant systems.

The inspectors reviewed the following documents:

- *Acts of Nature* (HC.OP-AB.MISC-0001)
- *Grid Disturbances* (HC.OP-AB.BOP-0004)

b. Findings

No findings of significance were identified.

R04 Equipment Alignment

.1 D Emergency Diesel Generator Lube Oil Header Support Deficiency

a. Inspection Scope

During plant status walkdowns of control/diesel building, the inspectors independently assessed the operability, including general material condition, of risk significant structures, systems, and components (SSCs). The inspectors discussed identified deficiencies or operability concerns with control room senior reactor operators (SROs) and performance engineers. In addition, the inspectors observed PSEG Nuclear's associated corrective actions.

b. Findings

The inspectors identified a non-cited violation for PSEG Nuclear's inability to promptly identify a degraded condition on the D EDG. The safety significance of this finding was very low, because the D EDG remained operable and capable of performing its safety function.

On April 15 inspectors identified a loose bolt on the D EDG lube oil header support. Based on an extent of condition walkdown, inspectors identified that lock washers were installed on these support bolts on the other three EDGs but not on the D EDG. Operators promptly involved engineering and maintenance, and documented the non-conforming condition in notification 20096957. Maintenance technicians discovered that all 24 associated bolts were loose. The vendor stated that lock washers are required to ensure that bolts do not loosen during extended periods of continuous operation, impacting both the lube oil line and the block support. Engineering determined that the D EDG was operable but degraded (see Section 1R15).

The inspectors discussed the D EDG maintenance history with maintenance supervisors in an effort to determine when and why the lock washers were removed and not re-installed. Maintenance records indicate that maintenance had not performed any work requiring removal of these bolts within the last five years. With the lock washers missing for several years, the more recent performance deficiency is the failure of plant personnel to identify this non-conforming condition during EDG surveillances and inspections, especially since the one bolt had backed out and was visibly evident.

If left uncorrected, the failure to identify and correct configuration control deficiencies could result in a more significant safety concern, in this case the loss of function of an emergency diesel generator. The safety significance of this finding was very low, because the D EDG remained operable and capable of performing its safety function.

10 CFR 50, Appendix B, Criterion XVI, *Corrective Actions,* requires that measures shall be established to assure that conditions adverse to quality, such as deficiencies and malfunctions are promptly identified and corrected. Contrary to the above, PSEG Nuclear did not promptly identify a non-conforming condition associated with the missing lock washers on the D EDG. However, because the violation is of very low significance (Green) and PSEG Nuclear entered the deficiency into their corrective action system (notification 20096957), this finding is being treated as a non-cited violation, consistent with Section VI.A of the Enforcement Policy, issued May 1, 2000 (65FR25368). **(NCV 50-354/02-04-01)**

.2 Service Water System Alignment Verification

a. Inspection Scope

The inspectors performed equipment alignment verifications on redundant equipment during an extended B SW pump outage. The inspectors performed plant walkdowns, in-field tagging verifications (WCDs 4056379, 4057047, 4057048, and 4061482), and main control room tours to verify that the planned SW pump outage did not adversely affect the redundant SW components. In particular, the inspectors performed walkdowns of the following equipment and areas:

- A, C, and D EDGs.
- SW intake pump and screen rooms.
- 4160 V vital switchgear rooms.
- SW motor control centers.

The inspectors reviewed HC.OP-IS.EA-0003, *B Service Water Pump - BP502 - Inservice Test*, and verified that the B SW pump was restored to an operable condition after the planned maintenance was complete. Additionally, the inspectors reviewed various corrective action notifications associated with equipment alignment deficiencies (20095336, 20096469, 20097738, 20098920, 20099110, 20099386, and 20099548).

b. Findings

No findings of significance were identified.

R05 Fire Protection

a. Inspection Scope

The inspectors performed walkdowns of the accessible turbine building rooms containing bus ducts for the offsite power sources to the safety-related 4kV busses (102' elevation, rooms 1315, 1316, and 1317), the reactor core isolation cooling (RCIC) battery room, and the HPCI battery room. Plant walkdowns included observations of combustible material control, fire detection and suppression equipment availability, and compensatory measures. The inspectors performed fire protection inspections due to the potential to impact mitigating systems in these areas. The inspectors reviewed Hope Creek's Individual Plant Examination for External Events for risk insights concerning these areas. Additionally, the inspectors reviewed several notifications associated with fire protection deficiencies (20097255, 20097677, 20097944, 20097556, and 20099279).

b. Findings

No findings of significance were identified.

R06 Flood Protection Measures

a. Inspection Scope

The inspectors reviewed notification 20096408 associated with a flood protection issue.

b. Issues and Findings

No findings of significance were identified.

R11 Licensed Operator Requalification

a. The inspectors observed one simulator training scenario to assess operator performance and training effectiveness. The scenario involved toxic gas in the control room, control room evacuation, and operation from the remote shutdown panel. The inspectors assessed simulator fidelity and observed the simulator instructor's critique of operator performance. The inspectors reviewed notification 20096785 involving operator requalification training. The inspectors also observed control room activities with emphasis on simulator identified areas for improvement.

The inspector also reviewed the following documents:

- *HCGS Event Classification Guide*
- *HCGS Event Classification Guide Technical Basis*
- *Control Room Environment* (HC.OP-AB.HVAC-0002)
- *Shutdown From Outside Control Room* (HC.OP-IO.ZZ-0008)

b. Findings

No findings of significance were identified.

R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed all corrective action notifications initiated between January 1, 2002, and February 15, 2002 for maintenance rule screening. The inspectors further reviewed seven notifications that included system engineer functional failure determinations (20087499, 20091190, 20088273, 20088706, 20089427, 20089779 and 20090702). The inspectors also reviewed Hope Creek Expert Panel Meeting Minutes (HCEP 02-004).

To assess PSEG Nuclear's implementation of 10CFR 50.65 *Maintenance Rule* requirements, the inspectors reviewed the following documents:

- SE.MR.HC.02, *System Function Level Maintenance Rule VS Risk Reference*
- NRC Regulatory Guide 1.160, *Monitoring the Effectiveness of Maintenance at Nuclear Power Plants*, Revision 2
- NUMARC 93-01, *Industry Guideline For Monitoring the Effectiveness of Maintenance at Nuclear Power Plants*, Revision 2

b. Findings

No findings of significance were identified.

R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors evaluated on-line risk management for the following configurations: (1) the concurrent planned outage of the A and C SW intake ventilation fans; and (2) the planned maintenance on A EDG and C SW pump during the same work week. The inspectors reviewed maintenance risk evaluations, work schedules, recent corrective action notifications, and control room logs to verify that other concurrent planned and emergent maintenance or surveillance activities did not adversely affect the plant risk already incurred with the out of service components. The inspectors also used PSEG Nuclear’s on-line risk monitor, Equipment Out Of Service (EOOS) workstation, to evaluate the risk

associated with the plant configuration and to assess PSEG Nuclear's risk management. In addition, the inspectors reviewed other notifications involving risk assessment and emergent work (20095828, 20096091, 20096188, 20096336, 20096460, 20096743, 20097055, 20098315, 20098686, and 20099109).

To assess PSEG Nuclear's risk management, the inspectors reviewed the following documents:

- SE.MR.HC.02, *System Function Level Maintenance Rule VS Risk Reference*
- HCGS PSA Risk Evaluation Forms for Work Week Nos. 64 - 70
- SH.OP-AP.ZZ-108, *On-Line Risk Assessment*
- NRC Regulatory Guide 1.182, *Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants*
- Section 11, *Assessment of Risk Resulting from Performance of Maintenance Activities,* dated February 11, 2000, of NUMARC 93-01, *Industry Guideline For Monitoring the Effectiveness of Maintenance at Nuclear Power Plants*

b. Findings

The inspectors identified a non-cited violation for PSEG Nuclear's ineffective assessment and management of the increase in risk associated with planned maintenance on the A EDG and C SW pump. The safety significance of this finding was very low, because the components were not removed from service at the same time.

Probabilistic safety assessment (PSA) engineers originally assessed the risk for work week No. 70 (May 5 - 11) as Green (core damage frequency equal to 4.95E-5/year) based on planned work on the A EDG and C SW pump. (The PSEG Nuclear Yellow risk threshold is 5.0E-5/year.) On May 6 the inspectors used the EOOS software and independently calculated the core damage frequency as 5.26E-5/year. The inspectors discussed this difference with PSA engineers and identified that PSA did not properly consider the existing plant configuration in their use of EOOS. In particular, PSA assumed that three SW pumps were normally running, however, the normal alignment had been with one SW pump per loop (two SW pumps running and two in standby). The inspector noted that the first step in using EOOS (SH.OP-AP.ZZ-108, *On-Line Risk Assessment*, Section 5.2.6) is to set the current plant configuration with respect to trains in service or in standby. The PSA group noted that they had not regularly used the standby function of the EOOS software and initiated corrective action notification 20099666 for this deficiency.

The issue is more than minor in this circumstance as crossing the Yellow risk threshold requires additional risk management actions in accordance with SH.OP-AP.ZZ-108, *On-Line Risk Assessment*. If left uncorrected, the failure to adequately assess and manage an increase in risk could result in a more significant safety concern, in this case a change in plant configuration that results in an actual increase in plant risk. The issue had the potential to adversely affect the availability of mitigating systems (the A EDG and the C SW pump). The safety significance of this finding was very low because (1) the work week schedule did not plan to have the A EDG and C SW pump out concurrently, (2) the C SW pump work was planned as a contingency, and (3) the inspectors identified the issue

prior to the A EDG outage. Consequently, PSEG Nuclear did not remove the C SW pump from service while the A EDG was unavailable. Based on the actual plant configuration, the finding is characterized as Green by the SDP Phase 1 screening.

Failure to adequately assess and manage the increase in risk associated with planned maintenance on the A EDG and C SW pump is a violation of 10 CFR 50.65(a)(4). However, because the violation is of very low significance (Green) and PSEG Nuclear entered the deficiency into their corrective action system (notification 20099666), this finding is being treated as a non-cited violation, consistent with Section VI.A of the Enforcement Policy, issued May 1, 2000 (65FR25368).
(NCV 50-354/02-04-02)

R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the operability determinations for non-conforming conditions associated with D EDG lube oil support collar bolts (70024303), a HPCI 250 Vdc battery skewed sample tube in cell No. 5 (70024748), and an A EDG neutral ground transformer wiring discrepancy (70024821). The inspectors also reviewed all other safety-related equipment deficiencies identified by PSEG Nuclear during this report period and assessed the adequacy of the operability screenings.

To assess PSEG Nuclear's operability determinations, the inspectors reviewed the following documents:

- *Operability Assessment and Equipment Control Program* (SH.OP-AP.ZZ-0108)
- *NRC Generic Letter No. 91-18, Revision 1*
- *Notification Process* (NC.WM-AP.ZZ-0000)

b. Findings

No findings of significance were identified.

R16 Operator Workarounds

a. Inspection Scope

The inspectors reviewed corrective action notifications, operator logs, and instrument panel status to evaluate potential impacts on the operators' ability to implement abnormal or emergency operating procedures.

The inspectors also reviewed the following documents:

- Condition Resolution Operability Determination Notebook
- Inoperable Instrument/Alarm/Indicators/Lamps/Device Log
- Inoperable Computer Point Log
- Hope Creek Operator Workarounds List

- Hope Creek Operator Concerns List

b. Findings

No findings of significance were identified.

R19 Post Maintenance Testing

.1 HPCI Battery Testing and Inspection

a. Inspection Scope

During a plant status walkdown of the HPCI 250 Vdc battery, the inspectors noticed that the sample tube in cell No. 5 was skewed. The tube bent and crossed the divider plate. Since the battery was recently replaced during the refueling outage (RF10), the inspectors reviewed the PMT and installation data for the HPCI 250 Vdc battery.

The inspectors reviewed the following documents:

- *18 Month Surveillance and Service Test of 250 Volt Batteries Using BCT-2000* (HC.IC-ST.PJ-0002)
- *250 Volt Quarterly Battery Surveillance* (HC.MD-ST.PJ-0002)
- *Full Battery Replacement (*VHC.MD-GP.ZZ-0100)

b. Findings

The inspectors identified that PSEG Nuclear did not perform adequate inspections of the HPCI battery. The finding was of very low safety significance and resulted in a non-cited violation for failure to comply with PMT requirements.

The inspectors found that the sample tube in cell No. 5 of the HPCI battery was noticeably skewed and had bent the non-conducting separator between the negative plate and the cell wall. The inspectors discussed the identified deficiency and operability concerns with control room SROs and performance engineers. PSEG Nuclear conducted an extent of condition review and found that similar conditions existed on cells 95, 111, and 117 of the HPCI battery and on cells 37, 39, 51, and 59 of a 1E 125 Vdc battery (1CD-D-411). PSEG Nuclear completed an operability review (70024748) and determined that the batteries were operable but degraded, and implemented shiftly compensatory actions to monitor the battery cells.

The inspectors had identified other minor deficiencies with the HPCI battery following its replacement in October 2001 during RF10. Specifically, the inspectors identified that the battery rack was not properly installed (notification 20082037) and that protective tie rod sleeves were not installed (notification 20093340). PSEG Nuclear missed the opportunity to use these HPCI battery installation deficiencies to identify the skewed sample tubes. Additionally, the inspectors found that the PMT procedure, *18 Month Surveillance and Service Test of 250 Volt Batteries Using BCT-2000* (HC.IC-ST.PJ-0002), had been administratively completed poorly (notification 20099863) and could have also provided

the opportunity to identify quality issues associated with the installation of the HPCI battery.

If left uncorrected, the failure to identify and remove defective battery cells could result in a more significant safety concern (potential HPCI inoperability during a station blackout). Based on the HPCI battery continued operability in this circumstance, the finding is characterized as Green by the SDP Phase 1 screening.

Technical Specification 6.8.1 requires, in part, that written procedures shall be established, implemented and maintained covering the activities recommended in Appendix A of Regulatory Guide 1.33. Regulatory Guide 1.33 requires, in part, that procedures be developed for performing maintenance. *18 Month Surveillance and Service Test of 250 Volt Batteries Using BCT-2000* (HC.IC-ST.PJ-0002) Section 5.3, *Full Battery Replacement (*VHC.MD-GP.ZZ-0100) Section 5.2 and *250 Volt Quarterly Battery Surveillance* (HC.MD-ST.PJ-0002) Section 5.4, specify the battery cell inspection requirements. The failure to perform adequate inspections in accordance with HC.IC-ST.PJ-0002, VHC.MD-GP.ZZ-0100 and HC.MD-ST.PJ-0002 is a violation. However, because the violation is of very low significance (Green) and PSEG Nuclear entered the deficiency into their corrective action system (notifications 20099110 and 20099863), this finding is being treated as a non-cited violation, consistent with Section VI.A of the Enforcement Policy, issued May 1, 2000 (65FR25368). **(NCV 50-354/02-04-03)**

.2 B Service Water Subsystem Testing

a. Inspection Scope

The inspectors reviewed the PMT data on the B SW subsystem. The inspectors reviewed NC.NA-TS.ZZ-0050, *Maintenance Testing Program Matrix,* and verified that the PMTs were adequate for the scope of maintenance performed. The inspectors also reviewed notifications concerning problems associated with PMTs (20096590, 20096698, 20097330, and 20098502).

The inspectors reviewed the following documents:

- *B Service Water Pump - BP502 - Inservice Test* (HC.OP-IS.EA-0002)
- *Service Water Subsystem B Valves - Inservice Test* (HC.OP-IS.EA-0102)
- *Service Water Screen Wash Subsystem B Valves - Inservice Test* (HC.OP-IS.EP-0102)

b. Findings

No findings of significance were identified.

R22 Surveillance Testing

a. Inspection Scope

The inspectors observed portions of and reviewed the results of the C EDG surveillance and the RCIC system flow path verification. The inspectors monitored EDG performance during its monthly operability run and independently verified RCIC valve position indications. The inspectors reviewed the test procedures to verify that applicable system requirements for operability were incorporated correctly into the test procedures, test acceptance criteria were consistent with the TS and UFSAR requirements, and the systems were capable of performing their intended safety function. The inspectors also reviewed notifications concerning problems encountered during surveillance testing (20095352, 20095810, 20097696, 20097479, 20098450, 20098458, and 20099537).

The inspectors reviewed the following documents:

- *Emergency Diesel Generator CG400 Operability Test - Monthly* (HC.OP-ST.KJ-0003)
- *RCIC Piping and Flow Path Verification - Monthly* (HC.OP-ST.BD-0001)
- *Primary Containment Integrity Verification - Monthly/Cold Shutdown* (HC.OP-ST.ZZ-0002)

b. Findings

No findings of significance were identified.

R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed Hope Creek T-MOD 02-005 associated with the HPCI oil cooler discharge temperature switch. The objectives of this review were to verify that (1) the design bases, licensing bases, and performance capability of risk significant SSCs had not been degraded through this modification, and (2) that implementation of the modification did not place the plant in an unsafe condition. Additionally, the inspectors reviewed five notifications (20096572, 20097307, 20097828, 20097869, and 20099084) associated with temporary modification issues.

The inspectors reviewed the following documents:

- *High Pressure Coolant Injection System Operation* (HC.OP-SO.BJ-0001)
- *Inoperable Instrument/Alarm/Indicators/Lamps/Device Log*
- *Overhead Annunciator Window B1-C4, HPCI TURBINE TROUBLE* (HC.OP-AR.ZZ-0006)
- Digital Alarm Point D5434, *HPCI TURB OIL CLR DISCH TEMP*, Alarm Response

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES [OA]

OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors verified the methods used to calculate the *Heat Removal System Unavailability* (RCIC) performance indicator and reviewed the data for the period April 1, 2001, through March 31, 2002. The inspectors reviewed limiting condition for operation (LCO) logs, control room operating logs, corrective action program notifications, and Maintenance Rule electronic data bases.

b. Findings

No findings of significance were identified.

OA2 Identification and Resolution of Problems

.1 Selected Issue Follow-up Inspection

a. Inspection Scope (71152)

The inspectors performed a problem identification and resolution (PI & R) sample inspection for previously identified deficiencies related to the identification and control of safety-related parts and components (see NRC Inspection Reports 354/2001-07 Section 4OA3.1, 354/2001-09 Section 1RO4.1, and 354/2001-010 Section 4OA7.3). The inspectors chose this PI & R sample based on the risk significance of previously impacted SSCs (safety auxiliaries cooling, core spray, and safety relief valves) and the potential to adversely impact other risk important SSCs if PSEG Nuclear did not adequately address the identified deficiencies.

In particular, the inspectors reviewed PSEG Nuclear's root cause evaluation reports associated with these issues (70018021, 70019291, and 70020748) and focused on the effectiveness of corrective actions for these deficiencies. The inspectors discussed the corrective actions with procurement engineers and valve component engineers. The inspectors independent assessment of PSEG Nuclear's corrective actions included (1) an in-field verification of accessible safety-related relief valve setpoints (using nameplate data), (2) a detailed review of the traceability of the serial number, setpoint, and material master description for all fourteen installed safety relief valves, (3) a procurement warehouse (material center) walkdown and relief valve release tag review, and (4) a review of all corrective action notifications initiated between January 1, 2001, and May 6, 2002, associated with bill of materials issues. The inspectors also reviewed PSEG Nuclear procedure NC.PM-AP.ZZ-0019, *Procurement and Control of Materials and Services*, to evaluate their receipt, storage, and issue of safety-related parts and components.

b. Findings

No findings of significance were identified.

.2 Identification, Evaluation, and Resolution of Problems

Inspection findings in previous sections of this report also had implications regarding PSEG Nuclear's identification, evaluation, and resolution of problems, as follows:

a. Section 1RO4.1 - Failure to promptly identify a degraded condition on the D EDG. This demonstrated weak identification of a configuration control problem.

b. Section 1R19.1 - Failure to identify a non-conforming condition on the HPCI battery. In addition, PSEG Nuclear missed several opportunities to identify HPCI battery installation deficiencies during refueling outage PMTs. This demonstrated weak identification of conditions adverse to quality.

Additional items associated with PSEG Nuclear's corrective action program were reviewed without findings and are listed in Sections 1R04, 1RO5, 1RO6, 1R11, 1R12, 1R13, 1R15, 1R16, 1R19.2, 1R22, and 1R23 of this report.

OA3 Event Follow-up

(Closed) FIN 354/2001-002-01: Shutdown outside control room procedure could not be performed as written. The inspectors completed their review of this issue in NRC Fire Protection Inspection Report 354/2001-02. The inspectors determined that the issue was of very low safety significance (Green) and that PSEG Nuclear entered this deficiency into their corrective action program as notification 20054649. However, due to an administrative error the issue was listed as "opened" vice "closed" under the Supplemental Information section of Inspection Report 354/2001-02. Based on this information, this item is administratively closed.

OA6 Management Meetings

Exit Meeting Summary

On May 10 the inspectors presented their overall findings to members of PSEG Nuclear management led by Mr. Dave Garchow. PSEG Nuclear management stated that none of the information reviewed by the inspectors was considered proprietary.

OA7 Licensee Identified Violations. The following finding of very low significance was identified by PSEG Nuclear and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as a Non-Cited Violation (NCV).

Cornerstone: Mitigating Systems

NCV 50-354/02-04-04: On April 30, an in-field SRO identified that a 1-inch SW emergency makeup line breached secondary containment. Operators determined that a tagged open SW vent valve in the control/diesel building provided an air leakage path to a SW emergency makeup line drain valve in the reactor building. Engineering determined that the leakage path would not have prevented the filtration, recirculation and ventilation system from preforming its intended safety function. Failure to maintain secondary containment integrity is a violation of TS 3.6.5.1. PSEG Nuclear entered this issue into their corrective action system as notification 20098464. This is being treated as a Non-Cited Violation.

SUPPLEMENTAL INFORMATION

a. Key Points of Contact

Matt Conroy, Maintenance Rule Supervisor
Mike Dammann, Maintenance Manager - Controls & Power Distribution
Kurt Krueger, Operations Manager
Devon Price, Assistant Operations Manager
Gabor Salamon, Nuclear Safety & Licensing Manager
Larry Wagner, Director - Site Work Integration & Management

b. List of Items Opened, Closed, and Discussed

Opened/Closed

50-354/2002-04-01	NCV	PSEG Nuclear failed to promptly identify and correct a degraded condition on the D EDG. (Section 1R04.1)
50-354/2002-04-02	NCV	PSEG Nuclear failed to adequately assess and manage the increase in risk associated with planned maintenance on the A EDG and C SW pump. (Section 1R13)
50-354/2002-04-03	NCV	Failure to perform adequate inspections in accordance with procedures. (Section 1R19.1)
50-354/2002-04-04	NCV	Failure to maintain secondary containment integrity in accordance with TS 3.6.5.1. (Section 4OA7)

Closed

50-354/2001-002-01	FIN	Shutdown outside control room procedure could not be performed as written. (Section 4OA3)

c. 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 (SH.OP-AP.ZZ-108)
HCGS NCO Narrative
HCGS Plant Status Report
Weekly Reactor Engineering Guidance to Hope Creek Operations

d. List of Acronyms

DBT	Design Basis Threat
EDG	Emergency Diesel Generator
EOOS	Equipment Out Of Service
HCGS	Hope Creek Generating Station
HPCI	High Pressure Coolant Injection
LCO	Limiting Condition for Operation
NCV	Non Cited Violation
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
PI & R	Problem Identification and Resolution
PMT	Post Maintenance Testing
PSA	Probabilistic Safety Assessment
PSEG	Public Service Electric Gas
RF10	Refueling Outage No. 10
RCIC	Reactor Core Isolation Cooling
SDP	Significance Determination Process
SRO	Senior Reactor Operator
SSC	Structure, System, and Component
SW	Service Water
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report