



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406

November 9, 2007

Mr. William Levis  
President and Chief Nuclear Officer  
PSEG Nuclear LLC – 4B  
80 Park Plaza  
P.O. Box 570  
Newark, NJ 07102

**SUBJECT: HOPE CREEK GENERATING STATION – NRC INTEGRATED  
INSPECTION REPORT 05000354/2007004**

Dear Mr. Levis:

On September 30, 2007, the U. S. Nuclear Regulatory Commission (NRC) completed an inspection of your Hope Creek Generating Station. The enclosed integrated inspection report documents the inspection results discussed on October 4, 2007, with Mr. Barnes 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.

The report documents two NRC-identified findings and one self-revealing finding of very low safety significance (Green). These findings were determined to involve violations of NRC requirements. However, because of the 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

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Sincerely,

/RA/

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

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

Enclosure: Inspection Report 05000354/2007004  
w/Attachment: Supplemental Information

cc w/encl:

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G. Barnes, Site Vice President  
K. Chambliss, Director, Nuclear Oversight  
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N. Cohen, Coordinator - Unplug Salem Campaign  
E. Zobian, Coordinator - Jersey Shore Anti Nuclear Alliance

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U.S NUCLEAR REGULATORY COMMISSION

REGION I

Docket No: 050000354

License No: NPF-57

Report No: 05000354/2007004

Licensee: PSEG Nuclear LLC

Facility: Hope Creek Generating Station

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

Dates: July 1, 2007 through September 30, 2007

Inspectors: G. Malone, Senior Resident Inspector  
T. Wingfield, Resident Inspector  
J. Schoppy, Senior Reactor Inspector  
S. Pindale, Senior Reactor Inspector  
J. Furia, Senior Health Physicist

Approved By: Arthur L. Burritt, Chief  
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Division of Reactor Projects

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## SUMMARY OF FINDINGS

IR 05000354/2007004; 07/01/2007 - 09/30/2007; Hope Creek Generating Station; Equipment Alignment, Operability Evaluations.

The report covered a three-month period of inspection by resident inspectors and three announced inspections led by a regional senior reactor inspector and a senior health physicist. Three Green non-cited violations (NCVs) were 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 Oversight 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 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," because PSEG did not identify and correct a condition adverse to quality involving a degraded reactor core isolation cooling system (RCIC) flow controller at the remote shutdown panel (RSP). PSEG's corrective actions included replacing a defective circuit card and creating an administrative tool to periodically check and record the status of RSP controls and indications.

The finding was determined to be more than minor because it resulted in RCIC not able to perform its safety function from the RSP. This finding was determined to be of very low safety significance (Green). The finding had a cross-cutting aspect in the area of problem identification and resolution because PSEG did not identify the degraded RSP RCIC flow controller completely, accurately, and in a timely manner commensurate with its potential safety significance (P.1.a). Specifically, PSEG did not identify the leaking capacitors that caused the controller's setpoint to drift. (Section 1R04)

- Green. The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, criterion V, "Instructions, Procedures, and Drawings," because PSEG did not have adequate procedures to operate the service water strainer baskets under conditions of high differential pressure. This resulted in PSEG not detecting severe damage to the D service water strainer basket on April 25, 2007, which caused the B1 and B2 safety auxiliaries cooling system (SACS) heat exchangers to become fouled with river grass. PSEG's immediate corrective actions included cleaning the SACS heat exchangers and replacing the D service water strainer basket. Other corrective actions include improving the strainer basket strength and evaluating other improvements to the service water system to minimize susceptibility to river grass.

The finding was determined to be more than minor because it resulted in degradation of the B1 and B2 SACS heat exchangers' capability due to macrofouling. The inspectors determined that the finding was of very low safety significance (Green). The finding had a cross-cutting aspect in the area of problem identification and resolution because PSEG did not evaluate problems such that the resolution addressed the causes (P.1.c). Specifically, PSEG's evaluations did not identify procedural weaknesses related to the operating limitations of the service water strainer baskets. (Section 1R15)

- Green. A self-revealing non-cited violation of Technical Specification 6.8.1 was identified when PSEG did not remove foreign material from the D service water bay following desilting activities that subsequently caused the D service water strainer to seize. The D service water train was unavailable for approximately 45 hours to implement repairs. PSEG's immediate corrective actions included removing foreign material from the D service water bay, repairing the D service water strainer, reviewing potential design improvements for the service water traveling screens, and enhancing the desilting procedures to verify that foreign material was removed from the bay prior to system restoration.

The finding was determined to be more than minor because it resulted in approximately 45 hours of unavailability for the D service water train. The inspectors determined that the finding was of very low safety significance (Green). The finding had a cross-cutting aspect in the area of human performance because workers did not follow procedures (H.4.b). Specifically in accordance with PSEG procedure MA-AA-716-008, divers did not remove all foreign material that was identified in the D service water bay. (Section 1R15)

B. Licensee Identified Violations

None.

## REPORT DETAILS

### Summary of Plant Status

The Hope Creek Generating Station operated at or near full power for the duration of the inspection period except for one unplanned power reduction on July 25, 2007, due to degraded main condenser vacuum. PSEG resumed full power operation on July 27, 2007. The power reduction is documented in section 4OA3 of this report.

### **1. REACTOR SAFETY**

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

#### 1R02 Evaluation of Changes, Tests, or Experiments (71111.02 - 5 safety evaluations and 13 safety evaluation screens)

##### a. Inspection Scope

The inspectors reviewed five safety evaluations to verify that changes and tests were evaluated and documented in accordance with 10 CFR 50.59; and, if required, PSEG obtained NRC approval prior to implementation. The inspectors assessed the adequacy of the safety evaluations through interviews with PSEG personnel and review of supporting information, such as calculations, engineering analyses, design change documentation, the Updated Final Safety Analysis Report (UFSAR), and Technical Specifications. In addition, the inspectors reviewed the administrative procedures that control the screening, preparation and issuance of the safety evaluations to ensure that procedures adequately implemented the requirements of 10 CFR 50.59, "Changes, Tests, and Experiments." The inspectors also reviewed a sample of 13 changes that PSEG had evaluated using a screening process and determined that safety evaluations were not required. The inspectors performed this review to assess PSEG's conclusions with respect to 10 CFR 50.59 applicability. The safety evaluations and screenings were selected based on the safety significance of the affected structures, systems, and components.

The inspectors also reviewed issues that had been entered into the corrective action program to determine whether PSEG had been effective in identifying and resolving problems associated with the 10 CFR 50.59 safety evaluation process.

A listing of the safety evaluations, safety evaluation screenings, and other documents reviewed are provided in the attachment.

##### b. Findings

No findings of significance were identified.

#### 1R04 Equipment Alignment (71111.04 – 3 samples)

##### .1 Partial Walkdown

##### a. Inspection Scope

The inspectors performed a partial walkdown of two systems to verify the operability of redundant or diverse trains and components when safety equipment was inoperable. The inspectors also walked down a single train system with a high risk significance. The inspectors examined system configurations to identify discrepancies that could impact the function of the system and increase risk. 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 verified that PSEG 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.

- Remote shutdown panel (RSP) 10C399, a high risk system to achieve and maintain safe shutdown following control room evacuation.
- 'A' standby liquid control (SLC) system while the 'B' SLC system was unavailable.
- A, B, and C trains of service water following an emergent failure of D service water strainer.

b. Findings

Introduction. The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," because PSEG did not identify and correct a condition adverse to quality involving a degraded reactor core isolation cooling system (RCIC) flow controller at the remote shutdown panel (RSP).

Description. During inspection on March 26, 2007, the inspectors observed that the RCIC flow controller setpoint indicated 580 gpm at the RSP instead of the expected 600 gpm. The inspectors immediately notified the control room of the deviation. Following the notification by inspectors, Hope Creek operators adjusted the setpoint to 600 gpm but did not initiate a corrective action notification to determine why the setpoint was not at 600 gpm.

During inspections on August 20, 2007, the inspectors again identified the RSP RCIC flow controller setpoint below the expected 600 gpm and notified the operating shift. PSEG evaluated the condition and determined that the RCIC flow controller was degraded such that the operators could not adjust the setpoint above 550 gpm. Operators promptly entered the seven-day shutdown action statement for the TS LCO 3.3.7.4. PSEG created notification 20333450 to document the issue. PSEG determined that the RSP could not perform its designed safety function to achieve and maintain safe shutdown conditions from outside of the control room due to the degraded RCIC controller. Subsequently, maintenance technicians determined that leaking capacitors on the flow controller circuit board caused the setpoint drift. PSEG also determined that, although the controller would not function while it was selected to "automatic", it

was capable of functioning properly when manual control was selected. The flow controller was required to be aligned for automatic operation in accordance with station procedures.

On August 21, 2007, maintenance repaired and satisfactorily retested the flow controller under work order 60071485. PSEG identified a contributing factor to the issue was that there was no program or process established to monitor the status of RSP indicators, controllers, and switches. On August 23, 2007, PSEG created notification 20333853 to address the absence of sufficient operator monitoring of the RSP.

The inspectors determined that the degraded RSP RCIC flow controller involved a performance deficiency because PSEG did not identify and correct a condition adverse to quality in accordance with the requirements of 10 CFR 50 Appendix B. Specifically, PSEG did not identify the leaking capacitors that caused the flow controller setpoint drift. The inspectors determined that it was reasonable for PSEG to correct the issue because NRC inspectors originally communicated the condition to control room operators back in March 2007.

Analysis. The finding was more than minor because it was associated with the protection against external factors (fire and toxic hazard) attribute of the mitigating systems cornerstone and affected the cornerstone's objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix F, "Fire Protection Significance Determination Process (SDP)," the inspectors conducted a Phase I SDP screening utilizing Figure F.1 in Appendix F. Per the Phase I screening criteria, the finding was assigned the category of "post-fire safe shutdown." The inspectors assigned a low degradation rating in accordance with Attachment 2 of Appendix F. A low degradation rating was assigned because the control circuit was able to achieve 600 gpm when manual control was used and operators are trained to operate the RCIC flow controller in either auto or manual modes requiring only simple actions. Therefore, in accordance with Appendix F step 1.3.1, "Qualitative Screening for All Finding Categories," this finding screened as very low safety significance (Green) because the finding had a low degradation rating. The finding had a cross-cutting aspect in the area of problem identification and resolution because PSEG did not identify a degraded condition completely, accurately, and in a timely manner commensurate with its potential safety significance (P.1.a). Specifically, PSEG did not identify the leaking capacitors that caused the RSP RCIC flow controller setpoint drift.

Enforcement. 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, requires that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. Contrary to the above, from March 26, 2007, through August 20, 2007, PSEG failed to promptly identify and correct a condition adverse to quality involving a degraded RCIC flow controller at the RSP. As a result, the RSP was not fully capable of performing its design function in that the RCIC controller on the RSP was degraded for approximately five months. However, because the finding was of very low safety significance and has been entered into the corrective action

program (notifications 20333450 and 20333853), this violation is being treated as a NCV, consistent with section VI.A of the NRC Enforcement Policy. **(NCV 05000354/2007004-01, Degraded RCIC Flow Controller at the Remote Shutdown Panel not Corrected).**

.2 Complete Walkdown (IP 71111.04S - 1 sample)

a. Inspection Scope

The inspectors conducted one complete walkdown of accessible portions of the A and B residual heat removal (RHR) trains between September 24 and 28, 2007. 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 RHR 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 (71111.05Q – 10 samples; 71111.05A – 1 sample)

.1 Fire Protection – Quarterly Walkdown

a. Inspection Scope

The inspectors completed ten quarterly fire protection 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 ten areas toured are listed below with their associated pre-fire plan designator. Other documents reviewed are listed in the Attachment.

- FRH-II-542, Control equipment mezzanine (upper cable spreading room)
- FRH-II-533, Electrical access area 102' auxiliary building room 5339
- FRH-II-531, Diesel generator rooms A, B, C, & D
- FRH-II-541, Class 1E switchgear rooms A, B, C, & D
- FRH-II-351, 'B' reactor recirculation pump motor generator set room
- FRH-II-461, Standby liquid control pump area
- FRH-II-512,513,551, 'A,' 'B,' 'C,' and 'D' 125V battery and battery charger rooms

- FRH-II-542, Remote shutdown facility
- FRH-II-151, Electro-hydraulic control power unit area
- FRH-II-714, Fire water pump house

b. Findings

No findings of significance were identified.

.2 Fire Protection Annual Drill Observation

a. Inspection Scope

The inspectors completed one annual fire drill observation inspection sample. The inspectors observed an unannounced fire drill conducted in the electrical equipment area in the auxiliary building (54' elevation, room 5102). The inspectors observed the drill to evaluate the readiness of the plant fire brigade to fight fires. The inspectors verified that PSEG staff identified deficiencies, openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were: proper wearing of turnout gear and self-contained breathing apparatus; proper use and layout of fire hoses; employment of appropriate fire fighting techniques; sufficient fire fighting equipment brought to the scene; effectiveness of fire brigade leader communications, command, and control; search for victims and propagation of the fire into other plant areas; smoke removal operations; utilization of pre-planned strategies; adherence to the pre-planned drill scenario; and drill objectives.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06 - 1 sample)

a. Inspection Scope

Internal Flooding Area. The inspectors completed an internal flood protection 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. The inspectors focused on mitigation strategies and equipment in the A and C station service water (SSW) spray wash booster pump room. The inspectors reviewed flood analysis and design documents, including the 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, and drains to assess their readiness to contain flow from an internal flood in accordance with the design basis. In addition, the inspectors walked down the SSW traveling water screen room and adjacent SSW intake rooms to assess potential flooding vulnerabilities.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11Q – 1 sample)

a. Inspection Scope

Requalification Activities Review By Resident Staff. The inspectors completed one quarterly requalification activity review inspection sample. The resident inspectors observed a licensed operator annual requalification control room simulator examination on August 9, 2007, to assess operator performance and training effectiveness. The scenario examined the operator response to a failure of a reactor building ventilation supply fan followed by degraded conditions on the turbine generator electro-hydraulic control system that subsequently resulted in a main turbine trip. The scenario also examined the crew's response to a failure of all control rods to insert (ATWS) after the turbine trip. The inspectors assessed simulator fidelity and observed the examination evaluators' critique of operator performance to verify that evaluators were identifying and documenting simulator and crew performance problems. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12 – 2 samples)

a. Inspection Scope

Routine Maintenance Effectiveness.

The inspectors completed two routine maintenance effectiveness inspection samples. The inspectors evaluated such as: 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; classification and reclassification in accordance with 10 CFR 50.65(a)(1) or (a)(2); and the appropriateness of performance criteria for structures, systems, and components (SSCs)/functions classified as (a)(2) and/or appropriateness and adequacy of goals and corrective actions for SSCs/functions classified as (a)(1). In addition, the inspectors specifically reviewed events where ineffective equipment maintenance had resulted in invalid automatic actuations of engineered safeguards systems affecting the operating units. Documents reviewed are listed in the Attachment. The equipment issues reviewed included the following:

- A SSW screen wash pump failure on July 24, 2007
- D SACS pump motor elevated vibration on July 31, 2007

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 4 samples)

a. Inspection Scope

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

- Tube leak on the 2C feedwater heater and subsequent isolation of the 1C and 2C feedwater heaters on August 13, 2007;
- 'B' SSW pump and 'B' SLC pump maintenance on July 17, 2007;
- 'D' SACS pump emergent failure while HPCI and 'A' FRVS systems were inoperable during an 'A'-channel workweek on July 29, 2007; and
- Emergent unavailability of the 'D' SSW pump and traveling water screen on September 19 through 21, 2007.

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. The inspectors also 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 – 4 samples)

a. Inspection Scope

The inspectors completed four operability evaluation inspection samples. The inspectors reviewed the operability determinations for degraded or non-conforming conditions associated with:

- C emergency diesel generator kilowatt load fluctuations on August 6, 2007;
- HPCI feedwater injection valve IST failure on July 31, 2007;
- 'A' control room chiller failure on August 6, 2007; and
- Inability of service water traveling screens to remove grass, sticks, and other river debris on August 23, 2007.

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. Documents reviewed are listed in the Attachment.

b. Findings

.1 Inadequate Procedures for the Service Water Strainers

Introduction. The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, criterion V, Instructions, Procedures, and Drawings when the B1 and B2 safety auxiliaries cooling system (SACS) heat exchangers' capability was reduced due to debris passage through a broken service water strainer basket. The finding was determined to be of very low safety significance (Green).

Description. Between April 25, 2007, and May 5, 2007, following several river grass events that challenged the operation of the service water system, operators performed service water system flow testing on the A1, A2, B1 and B2 SACS heat exchangers. Based on the test results operators determined that the B1 and B2 SACS heat exchangers were significantly fouled such that they could not meet their design basis cooling requirements.

PSEG cleaned the B1 and B2 SACS heat exchanger tube sheets on May 15 and 16, 2007. Large amounts of grass and other debris from the river were identified on the tube sheets. PSEG did not identify any strainer material in the heat exchanger and concluded that there was no indication of service water strainer damage; therefore, PSEG did not inspect the strainer at that time.

PSEG performed an internal inspection on the D service water strainer on May 21, 2007, in accordance with the strainers preventative maintenance schedule. During this inspection technicians found that the basket's lower element mesh had failed such that debris could pass unobstructed through the strainer. PSEG's evaluation of the identified condition concluded that the strainer basket likely failed between April 22 and April 25, 2007, when unusually high amounts of river grass challenged the service water system. PSEG concluded that high differential pressures or cyclic stresses that occurred during these events fatigued the mesh material. PSEG replaced the strainer basket and restored the D service water train to service on May 25, 2007.

PSEG evaluated the April 2007 strainer failure in order 70070358. Corrective actions included direction for the engineering department to evaluate the strainer mesh design to improve its strength and to increase the range of the strainer differential pressure indications. Additional corrective actions included development of a design modification that would allow throttling of service water to the SACS heat exchangers that may help reduce the effects of river grass on the service water strainer by reducing required flow through the strainer and improving backwash performance.

The inspectors determined that inadequate procedures led to the strainer basket failure. The vendor manual for the strainer documented that operating differential pressures should not exceed 15 psid across the strainer basket. The strainer

basket manufacturer's documentation stated that the strainer baskets were designed for a collapse pressure of 30 psid. Service water differential pressures across the strainers can rise as high as 90 psid when a strainer is clogged during grassing events. These limitations were not addressed in operating procedures to prevent or detect strainer basket failure.

The range for the differential pressure instrumentation installed across the strainer was 0 to 200 inches of water column or approximately 7.22 psid. Therefore, operators could not determine when or if the maximum differential pressure for the baskets was exceeded. In addition, the operators could not verify strainer basket integrity after periods of high grassing because the change in pressure drop across the strainer assembly due to a broken basket was too small to detect with installed instrumentation. PSEG procedures did not adequately address the above design limitations so that operators could identify damaged strainer baskets.

PSEG evaluated a number of service water strainer problems in 2004 and 2005 that included basket mesh failures and operability determinations for high differential pressure conditions. PSEG recognized the design limitations of the baskets in these evaluations but did not identify the need for procedural improvements to minimize or detect failures.

The inspectors concluded that PSEG missed several opportunities to identify that service water operating procedures did not adequately address the design limitations of strainer baskets. The procedures could not identify broken service water strainer baskets nor did they establish adequate operating limitations to prevent or mitigate damage due to excessive differential pressures as described by the equipment vendor manual. The inspectors concluded that PSEG's failure to establish adequate procedures was a performance deficiency.

Analysis. The finding was determined to be more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone's objective to ensure the capability and reliability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the operation of the D service water train with a broken strainer element resulted in reduced capability of the B1 and B2 SACS heat exchangers. The inspectors determined the risk of the finding using NRC Inspection Manual Chapter 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations." The inspectors used a phase 1 analysis and determined the finding to be of very low safety significance (Green) because the finding did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time. The finding had a cross-cutting aspect in the area of problem identification and resolution in that PSEG did not evaluate problems such that the resolution addressed the causes (P.1.c). Specifically, PSEG's evaluations did not identify procedural weaknesses related to the operating limitations of the service water strainer baskets.

Enforcement. 10 CFR 50, Appendix B, criterion V, "Instructions, Procedures, and Drawings," states that activities affecting quality shall be prescribed by documented instructions, procedures, and drawings, of a type appropriate to the

circumstances. Contrary to the above, PSEG's service water procedures were not appropriate to the circumstances in that they did not adequately address differential pressure limitations of the service water strainer baskets. As a result, the D service water strainer basket failed on or about April 25, 2007, resulting in a reduction in capability of the B1 and B2 SACS heat exchangers due to river grass fouling. The heat exchangers operated in a degraded condition for approximately 20 days. Because this finding was of very low safety significance and was entered into the corrective action program in notification 20324756, this violation is being treated as an NCV, consistent with section VI.A of the NRC Enforcement Policy. **(NCV 2007004-02, Inadequate Operating Procedure for the Service Water Strainers).**

.2 Foreign Material Results in Unavailability of D Service Water Train

Introduction. A self-revealing non-cited violation of Technical Specification 6.8.1 was identified when PSEG did not remove foreign material from the D service water bay during desilting activities that subsequently caused the D service water strainer to seize. The finding was determined to be of very low safety significance (Green).

Description. On August 20, 2007, PSEG desilted the D service water bay in accordance with procedure HC.MD-PM.EA-0002, "Service Water Intake Bay Silt Survey and Silt Removal." This procedure required divers to enter the bay to perform inspections and desilting operations. The divers observed that, in addition to silt, there were sticks in the area between the service water traveling screens and the pump suction. The divers notified their supervisor of the debris identified and the comments were documented in the work order. The sticks were not removed from the area.

The controlling work order (30153570) designated the service water bay as a foreign material exclusion area - class 2 (FMEA-2). Procedure MA-AA-716-008, "Foreign Material Exclusion Program," defined an FMEA-2 as a foreign material exclusion area where a final visual examination of the entire area is possible prior to closing the area out. Procedure MM-AA-716-008 directed foreign material to be removed from the area. Contrary to the above, the divers did not remove the sticks from the service water bay.

On August 22, 2007, the D service water train was declared operable and returned to service following the completion of the silt survey and a satisfactory operability test. On August 23, 2007, the control room received alarms indicating problems with the D service water strainer. PSEG determined that the service water strainer motor breaker tripped on overload. Inspections internal to the strainer conducted on August 24, 2007, documented several bent support rods on the strainer basket. A stick was also found inside the strainer drum. PSEG concluded that the stick at one point had lodged itself between the backwash arm and the basket's support rods.

The D service water strainer basket was repaired and returned to service on August 25, 2007. PSEG's immediate corrective actions were to clean the service water bay of foreign material and to repair the D service water strainer basket. PSEG's long-term corrective actions included an engineering review of potential improvements to the service water traveling screen design and enhancement of procedure HC.MD-PM.EA-0002 to include a supervisor hold point that verifies all

foreign material was removed from the service water bay area between the traveling screen and service water pump suction.

PSEG did not remove identified foreign material from the D service water bay during work activities on August 22, 2007. This was determined to be a performance deficiency because the controlling work order designated the service water bay as an FMEA-2 and procedure MA-AA-716-008 directed the removal of all foreign material from a foreign material exclusion area.

Analysis. The finding was determined to be more than minor because it was associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone's objective to ensure the availability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the performance deficiency resulted in approximately 45 hours of unnecessary unavailability of the D service water train. The inspectors determined the risk of the finding using NRC Inspection Manual Chapter 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations." The inspectors used a phase 1 analysis and determined the finding to be of very low safety significance (Green) because the finding did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time. The finding had a cross-cutting aspect in the area of human performance because workers did not follow procedures (H.4.b). Specifically in accordance with PSEG procedure MA-AA-716-008, divers did not remove all foreign material that was identified in the D service water bay.

Enforcement. Hope Creek Technical Specification 6.8.1, states in part that written procedures shall be implemented covering the activities in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Specifically, section 9 of Regulatory Guide 1.33 states "Maintenance that can affect the performance of safety-related equipment should be properly pre-planned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances." Contrary to the above, on August 20, 2007, PSEG did not adequately implement procedure MA-AA-716-008 that required removal of identified foreign material from the bay following identification of the debris. As a result, the foreign material entered the D service water system and seized the D service water strainer on August 23, 2007. The D service water train was rendered unavailable for approximately 45 hours while PSEG implemented repairs to the strainer. Because this finding was of very low safety significance and was entered into the corrective action program in notification 20333820, this violation is being treated as an NCV, consistent with section VI.A of the NRC Enforcement Policy. **(NCV 2007004-03, Foreign Material Results in Unavailability of D Service Water Train).**

1R17 Permanent Plant Modifications (71111.17B – 8 samples)

a. Inspection Scope

The inspectors reviewed eight permanent plant modification packages to verify that the design bases, licensing bases, and performance capability of risk

significant structures, systems, and components were not degraded by the plant modifications. Modifications were selected for review based on risk insights. The inspectors performed walkdowns of selected plant systems and components, interviewed plant staff, and reviewed applicable documents, including procedures, calculations, modification packages, engineering evaluations, drawings, corrective action program documents, the UFSAR and Technical Specifications.

The inspectors verified that selected attributes (component safety classification, energy requirements supplied by supporting systems, seismic qualification, instrument setpoints, uncertainty calculations, electrical coordination, electrical loads analysis, and equipment environmental qualification) were consistent with the design and licensing bases. Design assumptions were reviewed to verify that they were technically appropriate and consistent with the UFSAR. For each modification, the 10 CFR 50.59 screenings or evaluations were reviewed as described in section 1R02 of this report. The inspectors verified that procedures, calculations, and the UFSAR were properly updated with the revised design information. The inspectors also verified that the as-built configuration was accurately reflected in the design documentation and that post-modification testing was adequate to ensure the structures, systems, and components would function properly.

The inspectors also reviewed issues that had been entered into the corrective action program to determine whether PSEG had been effective in identifying and resolving problems associated with the plant modification process and activities.

A listing of documents reviewed is provided in the Attachment.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19 – 7 samples)

a. Inspection Scope

The inspectors completed seven post-maintenance testing 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.

- 5C feedwater heater drain valve repair
- A service water pump maintenance
- B standby liquid control pump rebuild
- A 1E switchgear chiller safety circuit failure repair
- A hydrogen recombiner containment isolation valve breaker replacement
- B service water pump packing replacement
- Reactor core isolation cooling valve logic module replacement

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 – 5 samples)

a. Inspection Scope

The inspectors completed five surveillance testing inspection samples. The inspectors witnessed performance of and/or reviewed test data for five risk-significant STs 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. The following STs reviewed are listed below. Documents reviewed for the inspection are listed in the Attachment.

- D residual heat removal pump in-service test on August 2, 2007
- ATWS recirculation pump trip surveillance test on August 4, 2007
- C 4kV vital AC bus under voltage relay monthly surveillance test on July 10, 2007
- Reactor coolant system leakage surveillance test on August 6, 2007
- High pressure coolant injection pump in-service test on September 8, 2007

b. Findings

No findings of significance were identified.

**2. RADIATION SAFETY**

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas (71121.01 – 6 samples)

a. Inspection Scope

The inspectors reviewed PSEG's self assessments, audits, Licensee Event Reports, and Special Reports related to the access control program and issued

since the last inspection. The inspectors determined that identified problems were entered into the corrective action program for resolution.

The inspectors reviewed corrective action reports related to access controls that occurred since the last inspection in this area.

For repetitive deficiencies or significant individual deficiencies in the problem identification and resolution areas identified above, the inspectors determined if PSEG's self-assessment activities are also identifying and addressing these deficiencies. No repetitive deficiencies were identified.

The inspectors reviewed PSEG documentation packages for all performance indicator events that occurred since the last inspection. No events of this nature have occurred since the last inspection.

The inspectors reviewed radiological problem reports issued since the last inspection that found that the cause of the event was due to radiation worker errors. The inspectors determined there was an observable pattern traceable to a similar cause. The inspectors determined if this perspective matched the corrective action approach taken by PSEG to resolve the reported problems. The inspectors verified adequate posting and locking of entrances to all high dose rate - high radiation areas, and very high radiation areas.

The inspectors reviewed radiological problem reports issued since the last inspection that found that the cause of the event was a radiation protection technician error. The inspectors determined whether there was an observable pattern traceable to a similar cause. The inspectors determined if this perspective matched the corrective action approach taken by PSEG to resolve the reported problems.

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Controls (71121.02 – 2 samples)

a. Inspection Scope

The inspectors reviewed ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements. The inspectors determined if PSEG had established procedures, engineering and work controls, based on sound radiation protection principles, to achieve occupational exposures that were ALARA.

The inspectors compared the results achieved (dose rate reductions, person-rem used) with the intended dose established in PSEG's ALARA planning for these work activities.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation and Protective Equipment (71121.03 – 2 samples)

a. Inspection Scope

The inspectors reviewed corrective action program reports related to exposure significant radiological incidents that involved radiation monitoring instrument deficiencies since the last inspection in this area.

For repetitive deficiencies or significant individual deficiencies in problem identification and resolution identified above, the inspectors determined if PSEG's self-assessment activities were also identifying and addressing these deficiencies.

b. Findings

No findings of significance were identified.

Cornerstone: Public Radiation Safety

2PS3 Radiological Environmental Monitoring Program (REMP) and Radioactive Material Control Program (71122.03 – 10 samples)

a. Inspection Scope

The inspectors reviewed the current Annual Environmental Monitoring Report, and PSEG assessment results, to verify that the REMP was implemented as required by TS and the Offsite Dose Calculation Manual (ODCM). The review included changes to the ODCM with respect to environmental monitoring commitments in terms of sampling locations, monitoring and measurement frequencies, land use census, interlaboratory comparison program, and analysis of data. The inspectors reviewed the ODCM to identify environmental monitoring stations. In addition, the inspectors reviewed: PSEG self-assessments and audits, licensee event reports, inter-laboratory comparison program results, and the UFSAR for information regarding the environmental monitoring program and meteorological monitoring instrumentation. The inspectors also reviewed the scope of PSEG's audit program to verify that it met the requirements of 10 CFR 20.1101(c).

The inspectors walked down six air particulate and iodine sampling stations; four milk collection locations; and, twenty-five thermoluminescent dosimeter (TLD) monitoring locations. The inspectors verified that they were located as described in the ODCM and that the equipment material condition was acceptable.

The inspectors observed the collection and preparation of a variety of environmental samples and verified that environmental sampling was representative of the release pathways in the ODCM and that sampling techniques were in accordance with procedures.

Based on direct observation and review of records, the inspectors verified that the meteorological instruments were operable, calibrated, and maintained in accordance with guidance contained in the UFSAR, NRC Safety Guide 23, and PSEG procedures. The inspectors verified that the meteorological data readout and recording instruments in the control room and at the tower were operable.

The inspectors reviewed each event documented in the Annual Environmental Monitoring Report that involved a missed sample, inoperable sampler, lost TLD, or anomalous measurement for the cause and corrective actions. The inspectors reviewed PSEG's assessment of any positive sample results.

The inspectors reviewed any significant changes made by PSEG to the ODCM due to changes to the land census or sampler station modifications since the last inspection. The inspectors also reviewed technical justifications for any changed sampling locations and verified that PSEG performed the reviews required to ensure that the changes did not affect its ability to monitor the impacts of radioactive effluent releases on the environment.

The inspectors reviewed the calibration and maintenance records for air samplers. The inspectors reviewed: the results of PSEG's interlaboratory comparison program to verify the adequacy of environmental sample analyses performed by PSEG; PSEG's quality control evaluation of the interlaboratory comparison program and the corrective actions for any deficiencies; PSEG's determination of any bias to the data and the overall effect on the REMP; and quality assurance (QA) audit results of the program to determine whether PSEG met the TS/ODCM requirements. The inspectors verified that the appropriate detection sensitivities with respect to TS/ODCM requirements were utilized for counting samples. The inspectors also reviewed the results of the quality control program, including the interlaboratory comparison program to verify the adequacy of the program.

The inspectors observed several locations where PSEG monitors potentially contaminated material leaving the radiologically controlled area (RCA) and inspected the methods used for control, survey, and release from these areas, including observing the performance of personnel surveying and releasing material for unrestricted use. The inspectors verified that the work was performed in accordance with plant procedures.

The inspectors verified that radiation monitoring instrumentation was appropriate for the radiation types present and was calibrated with appropriate radiation sources. The inspectors reviewed PSEG's criteria for the survey and release of potentially contaminated material; verified that there was guidance on how to respond to an alarm that indicates the presence of licensed radioactive material; and reviewed PSEG's equipment to ensure the radiation detection sensitivities were consistent with the NRC guidance contained in IE Circular 81-07 and IE Information Notice 85-92 for surface contamination and HPPOS-221 for volumetrically contaminated material. The inspectors also reviewed PSEG's procedures and records to verify that the radiation detection instrumentation was used at its typical sensitivity level based on appropriate counting parameters and that PSEG had not established a "release limit" by altering the instrument's

typical sensitivity through such methods as raising the energy discriminator level or locating the instrument in a high radiation background area.

The inspectors reviewed PSEG's LERs, Special Reports, and audits related to the radiological environmental monitoring program performed since the last inspection. The inspectors verified that identified problems were entered into the corrective action program for resolution. The inspectors also reviewed corrective actions affecting environmental sampling, sample analysis, or meteorological monitoring instrumentation.

The inspectors evaluated PSEG's performance against the requirements contained in 10 CFR 50.36, 10 CFR 50, Appendix I, and TS 6.9.1.6.

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151 – 2 samples)

a. Inspection Scope

The inspectors reviewed PSEG submittals for the Mitigating Systems cornerstone and the Public Radiation Safety cornerstone performance indicators listed below. To verify the accuracy of the PI data reported during this period the inspectors compared it to the PI definition and guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Indicator Guideline," Revision 5 and other source documents as discussed below.

Cornerstone: Mitigating Systems

- Safety System Functional Failures

For the PI listed above the inspectors verified the data for the PI results reported for the period of July 1, 2006 to July 1, 2007. The inspectors verified the accuracy of the data by comparing it to the functional failures documented in the LERs issued during that period.

Cornerstone: Public Radiation Safety

- RETS/ODCM Radiological Effluent Occurrences

For this PI the inspectors verified the data for the PI results reported for January through August of 2007. The inspectors verified the accuracy of the reported data by comparing it to the relevant PSEG NOTFs for radiological effluent release occurrences that exceed 1.5 mrem/qtr whole body or 5.0 mrem/qtr organ dose for liquid effluents; 5 mrad/qtr gamma air dose, 10 mrad/qtr beta air dose, and 7.5 mrad/qtr for organ dose for gaseous effluents procedures.

a. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152 – 1 sample)

.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 NOTF, and attending daily management review committee meetings. Documents reviewed are listed in the Attachment.

.2 Annual Sample: Operator Workarounds

a. Inspection Scope

The inspectors also reviewed one specific workaround condition that involved the cycling of SACS system valves during cold weather months in accordance with plant procedures to prevent the SACS system from dropping below minimum temperatures (NOTF 20263903). The inspectors verified that the problem did not impact the functional capability of the affected equipment and that appropriate corrective actions to correct the condition were identified.

The inspectors completed one problem identification and resolution selected issue follow-up inspection conducting an in-depth review of operator workarounds. The inspectors performed a cumulative review of PSEG's identified operator workaround conditions. The inspectors reviewed PSEG's list of operator burdens and concerns, temporary modifications, and operability determinations to assess the potential for these issues to impact the operators' ability to properly respond to plant transients or postulated accident conditions. In addition, the inspectors reviewed PSEG's list of deficient control room computer points and locked-in overhead annunciators to determine whether operators could adequately identify degraded plant equipment. The inspectors further reviewed operator logs and control room instrument panels to evaluate potential impacts on operator ability to implement abnormal and emergency operating procedures. The inspectors also toured the plant and control room to identify potential workaround conditions not previously identified by PSEG. Documents reviewed for this inspection activity are listed in the Attachment.

b. Findings and Observations

No findings of significance were identified.

4OA3 Event Followup (71153 – 2 samples)

.1 Power Reduction due to Lowering Main Condenser Vacuum on July 25, 2007

a. Inspection Scope

On July 25, 2007, PSEG reduced power to 77% to address degrading vacuum in the main condenser. Main condenser vacuum degraded to 5.6 inches of mercury absolute (5.6" HgA). Inspectors responded to the control room to observe operator response to the event and verify that plant equipment responded properly. Vacuum degraded because the C south waterbox of the main condenser was out of service to investigate a potential tube leak and the B steam jet air ejector (SJAE) was degraded. PSEG repaired damaged tubes on the C south waterbox and commenced power ascension on July 26, 2007. PSEG returned the plant to 100% power operation on July 27, 2007.

The transient was reported to the NRC as an unplanned power reduction greater than 20%.

b. Findings

No findings of significance were reported.

.2 (Closed) LER 05000354/2007-002-00, Performance of Vital Bus Surveillance Caused a Partial Loss of Feed Resulting in Manual Reactor Scram

On May 29, 2007, PSEG initiated a manual scram from the control room in anticipation of a low reactor water level condition. The low reactor water level condition was caused by a trip of the A and B reactor feed water pumps (RFPs) that occurred after an unexpected slow transfer of the 4kV bus 10A401 infeed breakers. The non-vital motor control center breakers powered from the 10A401 bus supply power to the A RFP turbine main lube oil pump and the B RFP turbine auxiliary lube oil pump. The breakers for these pumps tripped due to the 4kV slow transfer. The loss of the two lube oil pumps caused the A and B RFPs to trip due to low bearing oil pressure. The slow transfer occurred during surveillance testing of the undervoltage coils on the 10A401 bus.

This issue was reviewed and described in NRC inspection report 05000354/2007003. This LER was reviewed by the inspectors and no additional findings of significance or violations of NRC requirements were identified.

4OA6 Meetings, Including Exit

The resident inspectors presented the inspection results to Mr. Barnes on October 4, 2007. PSEG acknowledged that none of the material reviewed by the inspectors during this period was proprietary.

**ATTACHMENT: SUPPLEMENTAL INFORMATION**

**SUPPLEMENTAL INFORMATION****KEY POINTS OF CONTACT**Licensee Personnel

R. Binz, IST Program Admin  
 B. Booth, Director – Operations  
 J. Carey, Design Manager  
 M. Crisafulli, Maintenance Superintendent  
 B. Kopchick, Operations Superintendent  
 M. Pfizenmaier, Programs Manager  
 M. Reed, Operations Superintendent  
 G. Stith, Mechanical/Structural Design Manager  
 H. Trimble, Radiation Protection Manager

**LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**Opened/Closed

05000354/2007004-01	NCV	Degraded RCIC Flow Controller at the Remote Shutdown Panel Not Corrected (Section 1RO4.1)
05000354/2007004-02	NCV	Inadequate Operating Procedure for the Service Water Strainers (Section 1R15.1)
05000354/2007004-03	NCV	Foreign Material Results in Unavailability of D Service Water Train (Section 1R15.2)

Closed

05000354/2007-002-00	LER	Performance of Vital Bus Surveillance Caused a Partial Loss of Feed Resulting in Manual Reactor Scram (Section 4OA3.2)
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**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 Logs  
 HCGS Plant Status Reports  
 Weekly Reactor Engineering Guidance to Hope Creek Operations  
 Hope Creek Operations Night Orders and Temporary Standing Orders

**Section 1R02: Evaluation of Changes Test, or Experiments**

Procedures

HC.OP-AB.CONT-0001, Drywell Pressure, Rev. 1  
HC.OP-EO.ZZ-0319, Restoring Instrument Air in an Emergency, Rev. 2  
HC.OP-SO.KJ-0001, Emergency Diesel Generators Operation, Rev. 44  
LS-AA-104, Exelon 50.59 Review Process, Rev. 5  
LS-AA-104-1000, Exelon 50.59 Resource Manual, Rev. 3  
LS-AA-104-1001, 50.59 Review Coversheet Form, Rev. 2  
LS-AA-104-1002, 50.59 Applicability Review Form, Rev. 2  
LS-AA-104-1003, 50.59 Screening Form, Rev. 1  
LS-AA-104-1004, 50.59 Evaluation Form, Rev. 2  
LS-AA-104-1006, Exelon 50.59 Training and Qualification, Rev. 2  
NO-AA-100-003, Independent Review of 10CFR50.59 and 10CFR72.48 Evaluations,  
Rev. 7

10 CFR 50.59 Safety Evaluations

06-006, Dry Cask Storage Operations, Rev. 1  
06-048, Deletion of HCGS Mechanical Equipment Qualification Program, Rev. 0  
80089105, 'C' EDG Lube Oil Keepwarm Temperature Switch Bypass, Rev. 0  
H2006-001, Noble Metals Chemical Addition- Infrequently Performed Evolution, 3/17/06  
H2006-002, Hope Creek Cycle 14 Core Design, 3/15/06

10 CFR 50.59 Safety Evaluation Screens and Applicability Reviews

70066614, SSWS Pump Lubricating Water Piping Use-as-is Disposition, Rev. 0  
80077749, Remove Service Water Trash Rake, Rev. 1  
H-06-101, DCP 80048085, EPU Implementation, Rev. 0  
HC-05-028, Clarify Commitment to NRC Regulatory Guide 1.9, Rev. 0  
HC-07-045, Emergency Diesel Generators Operations (HC.OP-SO.KJ-0001, Rev. 44)  
HC-07-055, Control Area Ventilation System (HC.OP-SO.BJ-0001, Rev. 11)  
HC-07-065, Aftercooler Outlet Temperature Trip Elimination, Rev. 0  
HC-07-068, Drywell Pressure (HC.OP-AB.CONT-0001, Rev. 1) HC-07-070, Shutdown  
Cooling Injection Valve Isolation Override (HC.OP-EO.ZZ-0323, Rev. 1)  
HC-07-117, Restoring Instrument Air in an Emergency (HC.OP-EO.ZZ-0319, Rev. 2)  
HC-07-143, Backup Pneumatic Supply for 1GSHV-4964 and 1GSHV-11541 Valves,  
Rev. 0  
HC-07-184, Loss of 4.16 kV Bus 10A401- A Channel (HC.OP-AB.ZZ-0170, Rev. 3)  
T-Mod 07-014, Add Time Delay to RCIC Pump Suction Pressure Trip, Rev. 0

Calculations / Evaluations

E-9, Standby Class 1E Diesel Generator Sizing, Rev. 8A

Drawings

PM018Q-0056, Lube Oil System, Sh. 1, Rev. 20

Other Documents

Temporary Log No. 07-066, Monitor A & B SSW Lube Water Head Tanks for Leakage,  
Rev. 5

**Section 1R04: Equipment Alignment**Procedures

HC.ER-DG.ZZ-0002, Rev. 3, System Function Level Maintenance Rule Scoping vs. Risk Reference

HC.OP-IO.ZZ-0008, Rev. 26, Shutdown From Outside Control Room

HC.OP-SO.SV-0001, Rev. 1, Remote Shutdown Panel Operation

HC.OP-ST.SV-0001, Rev. 21, Remote Shutdown Monitoring Instrumentation Channel Check – Monthly

HC.OP-SO.BH-0001, Rev. 9, Standby Liquid Control System Operation

HC.OP-IS.BH-0003, Rev. 2, Standby Liquid Control Pump – AP208 – Inservice Test

SH.OP-AP.ZZ-0107, Rev. 21, Shift Turnover Responsibilities

HC.OP-AB.RPV-0009, Rev. 5, Shutdown Cooling

HC.OP-AP.ZZ-0109, Rev. 14, Equipment Operational Control

HC.OP-SO.BC-0001, Rev. 41, Residual Heat Removal System Operation

HC.OP-ST.BC-0001, Rev. 14, RHR System Piping and Flow Path Verification - Monthly

Completed Surveillances/Functional Tests

HC.OP-FT.BC-0001, dated 12/15/06, C ECCS Jockey Pump-CP228 - Functional Test

HC.OP-FT.BC-0002, dated 1/24/07, D ECCS Jockey Pump-DP228 - Functional Test

HC.OP-IS.BC-0001, dated 7/4/07, AP202, A RHR Pump Inservice Test

HC.OP-IS.BC-0003, dated 8/15/07, BP202, B RHR Pump Inservice Test

HC.OP-IS.BC-0101, dated 7/7/07, RHR Subsystem A Valves - Inservice Test

HC.OP-IS.BC-0102, dated 8/17/07, RHR Subsystem B Valves - Inservice Test

HC.OP-ST.BC-0001, dated 8/16/07, 8/29/07, & 9/11/07, RHR System Piping and Flow Path Verification - Monthly

HC.RA-AP.ZZ-0051, dated 9/5/07, Leakage Reduction Program

Drawings

M-48-1, Sh. 1, Rev. 14, P&ID Standby Liquid Control

M-51-1 SH 1, Rev. 37, Residual Heat Removal

M-51-1 SH 2, Rev. 34, Residual Heat Removal

Notifications

20333448	20333450	20333761	20081252	20096573	20109275
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20132105	20175658	20190073	20209495	20244545	20308898
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20311142	20316899	20317486	20337345		
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Orders

70041689	30129461	60045806	60056178	60068817	60068915
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60066938	70039624	70042458	70068108	80036388	80040594
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80044226	80049823	80057706			
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Other Documents

SH.OP-AP.ZZ-0107 Attachment 6, dated 8/20/07, Equipment Status Checklist

ESHIP Summary Report, dated 9/27/07

Hope Creek Operations Operator Burdens Log, dated 9/24/07

Off Normal Report, Mode 1, dated 9/24/07

Operability Determination (CROD)/ Follow-up Assessment (CRFA) Log, dated 9/21/07

SH.OP-AP.ZZ-0107 Attachment 6, dated 9/25/07, Equipment Status Checklist

SHIP System Report (RHR), 3rd Qtr 2007

Trxn. 2661, RHR Loop A Equipment Lineup, dated 1/13/05  
Trxn. 2878, RHR Loop B Equipment Lineup, dated 1/13/05  
Temporary Configuration Change Package Tracking Log, dated 9/24/07

**Section 1R05: Fire Protection**

Procedures

HC.FP-AP.ZZ-0004, Rev. 10, Actions for Inoperable Fire Protection - Hope Creek Station  
Salem and Hope Creek Fire Impairment Log Book, dated 8/24/07  
HC.FP-AP.ZZ-0004, Rev. 10, Actions for Inoperable Fire Protection - Hope Creek Station  
Hope Creek Pre-Fire Plan FRH-II-542, Rev. 8, Control Equipment Mezzanine, Elevation 117' & 124'  
Hope Creek Pre-Fire Plan FRH-II-533, Rev. 6, Electrical Access Area, Elevation 102'  
Hope Creek Pre-Fire Plan FRH-II-531, Rev. 7, Diesel Generator Rooms, Elevation 102'  
Hope Creek Pre-Fire Plan FRH-II-541, Rev. 7, Class 1E Switchgear Rooms, Elevation 130'  
Hope Creek Pre-Fire Plan FRH-II-351, Rev. 6, Service and Radwaste Area Elevation 137'  
Hope Creek Pre-Fire Plan FRH-II-461, Rev. 3, FRVS Rooms, MCC Area, Recombiner Areas, Spent Fuel Pool & Gamma Scan Detector Area Elevation 162'  
Hope Creek Pre-Fire Plan FRH-II-512, Rev. 5, Battery Rooms Elevation 54'  
Hope Creek Pre-Fire Plan FRH-II-513, Rev. 6, Electrical Equipment Area Elevation 54'  
Hope Creek Pre-Fire Plan FRH-II-551, Rev. 6, Battery Rooms & Cable Chases Elevation 146'  
Hope Creek Pre-Fire Plan FRH-III-123, Rev. 5, Turbine Building Elevation 77'  
Hope Creek Pre-Fire Plan FRH-III-151, Rev. 4, Turbine Building Elevation 137'  
Hope Creek Pre-Fire Plan FRH-III-714, Rev. 4, Fire Water Pump House  
Salem and Hope Creek Fire Impairment Log Book, dated 9/19/07

Notifications

20314890	20332960	20333517	20333681	20333706	20333779
20311588	20330466	20333064	20334708	20336419	20336742
20336766	20336856	20336899	20337229	20337278	20337552
20337581	20337716	20337746			

Orders

60061827      60071666

Other Documents

Fire Drill S23UAD0092007 Controller & Scenario Sheets, dated 9/20/07  
Fire Drill S23UAD0092007 Critique Report, dated 9/20/07

**Section 1R06: Flood Protection Measures**

Procedures

HC.ER-DG.ZZ-0002, Rev. 3, System Function Level Maintenance Rule Scoping vs. Risk Reference  
HC.OP-AB.COOL-0001, Rev. 11, Station Service Water  
HC.OP-AR.GQ-0001, Rev. 5, Intake Structure HVAC Local Panel 1EC581

HC.OP-AR.ZZ-0001, Rev. 18, Overhead Annunciator Window A1  
HC.OP-AR.ZZ-0001 Attachment G, Rev. 18, D5518 - SSW Intake A Structure Flooded  
HC.OP-SO.EA-0001, Rev. 29, Service Water Operation  
HC.OP-SO.LF-001, Rev. 0, Normal Drain System Operation  
HC.RW-FT.HB-0001, Rev. 0, Sump Pump Status Check - Monthly

Drawings

C-0099-0, Rev. 5, Service Water Intake Structure Plans at EL 79'-8" & 87'-8"  
C-0104-0, Rev. 10, Service Water Intake Structure Wall Key Plans  
M-97-0 SH.5, Rev. 6, Building and Equipment Drain Intake Structure

Notifications

20307655      20308577      20332172      20337045      20337309

Orders

30060394      60070323

Calculations

CALC. No. 24-4, Rev. 3, Flood Levels: Intake Structure

Completed Surveillances/Functional Tests

HC.RW-FT.HB-0001, dated 8/20/07, Sump Pump Status Check - Monthly

Operating Experience

NRC Information Notice 92-69: Water Leakage from Yard Area Through Conduits into Buildings, dated 9/22/92  
NRC Information Notice 2005-11: Internal Flooding/Spray-Down of safety-Related Equipment Due to unsealed Equipment hatch Floor Plugs and/or Blocked Floor Drains, dated 5/6/05

Other Documents

Hope Creek Generating Station Individual Plant Examination, dated April 1994  
WCDs 4205611, 4205658, & 4208667

**Section 1R11: Licensed Operator Regualification Program**

Procedures

HC.OP-EO.ZZ-0101 series, ATWS-RPV Control procedures & flowcharts

Notifications

20333873

Other Documents

Simulator Scenario Guide for the Licensed Operator Regualification Annual Examination

**Section 1R12: Maintenance Effectiveness**

Procedures

HC.MD-CM.EP-0001, Rev. 8, Traveling Screens Spray Water Pump Overhaul and Repair  
HC.MD-PM.PB-0001, Rev. 22, 4.16 KV Breaker Cleaning and PM

HC.OP-IS.EG-0004, Rev. 32, 'D' SACS Pump – DP210 – Inservice Test  
 HC.MD-CM.EG-0003, Rev. 3, SACS Pump Motor Removal  
 HC.OP-IS.BJ-0101, Rev. 52, High Pressure Coolant Injection System Valves – Inservice Test  
 HC.OP-IS.BD-0101, Rev. 48, Reactor Core Isolation Cooling System Valves – Inservice Test  
 HC.ER-DG.ZZ-0002, Rev. 3, System Function Level Maintenance Rule Scoping Vs. Risk Reference  
 HC PRA-005.06, Rev. 2, PRA System Notebook High Pressure Coolant Injection System  
 HC.OP-ST.BJ-0002, Rev. 31, HPCI System Function Test (Low Pressure) – 18 Months and HPCI System Response Time Test (High Pressure)  
 HC.OP-EO.ZZ-0322, Rev. 1, Core Spray Injection Valve Override  
 HC.OP-EO.ZZ-0101A, Rev. 2, ATWS – RPV Control

Drawings

M-55-1, Sh. 1, Rev. 39, High Pressure Coolant Injection System P&ID  
 M-41-1, Sh. 1, Rev. 35, Nuclear Boiler System P&ID  
 VTD PP302Q-0439, Sh. 0, Rev. 6, Anchor / Darling 8”-900 Weld Ends Carbon Steel Flex Wedge Gate Valve With SMB-0-25 Limitorque Actuator

Notifications

20333385	20333391	20333468	20333531	20041987	20331042
20331273	20331274	20206078	20206876	20330712	20321570
20331410	20332565	20332582	20334099	20331508	20143746
20048405	20331299	20327642	20328261	20334607	20337490
20337648					

Orders

30124662	60071042	60012463	70071847	70071848	30096485
70068320	70041887	30127369	50106145	70069878	60068976
60071032	50105485	80093351	50104895	50103575	50102695
50100581	50078422	50096345	50093848	50091817	70071884
70072388	70071901	30123522	30115856	70031552	80020613
60071086					

Other Documents

Technical Specification Action Statement Log Item # 07-238  
 VTD 320209, Hayward Tyler, Inc. Pump Maintenance Manual  
 VTD 320040, Sectional Arrangement 3x4x12 N3 Bare Pump  
 VTD 320041, General Arrangement 3x4x12 N3 Bare Pump  
 VTD PM082Q-0121, Bill of Material - Screen Spray Pump  
 VTD PM082Q-0105, Pump N3 Size Outline Arrangement  
 VTD PM082Q-0116, Sectional Arrangement Spray Booster  
 Work Order 00960131145, May 1996, 10A404-01 Breaker Replacement Package  
 Failure Mode/Cause Table for July, 2007 10A404-01 Breaker Failure  
 PSEG Calculation No. E-7.4, Class 1E 4.16 KV System Protective Relay Settings  
 Troubleshooting Astro-Med Recorder Data From April, 2007 and July, 2007 10A404 Bus Loss Events  
 VTD PE112AQ-0008, Instructions For Large AC Motors - Life Line SACS Pump Motors 'D' SACS Pump and Motor Historical Vibration Data

NRC Generic Letter (GL) 95-07, Pressure Locking and Thermal Binding of Safety-Related Power-Operated Gate Valves Dated August 17, 1995  
PSEG Response to GL 95-07 Dated February 13, 1996  
NRC Request For Additional Information (RAI) Dated May 17, 1996  
PSEG Response to May 17, 1996 RAI Dated July 10, 1996  
NRC Information Notice 96-08, Thermally Induced Pressure Locking of a High Pressure Coolant Injection Gate Valve Dated February 5, 1996  
HCGS MSPI Data For HPCI System  
H-1-ZZ-MEE-0864, Motor Operated Gate Valve Pressure Locking / Thermal Binding Review Dated March 22, 1995  
VTD 320869, Final Report Thermal Binding and Hydraulic Locking of Gate Valves For Hope Creek Generating Station Dated January 31, 1996  
General Electric Transient Analysis Recording System (GETARS) Data From The May 29, 2007 HPCI Injection

**Section 1R13: Maintenance Risk Assessments and Emergent Work Control**

Procedures

HC.ER-DG.ZZ-0002, Rev. 3, System Function Level Maintenance Rule Scoping Vs. Risk Reference  
SH.OP-AP.ZZ-0027, Rev. 13, On-Line Risk Assessment

Notifications

20333482      20333820      20336524      20336772      20337176      20337200  
20337730

Orders

30134420

Other Documents

HCGS MSPI Data For HPCI System  
DE-CB.BH-0079, Rev. 0, Configuration Baseline Documentation For Standby Liquid Control System  
HCGS PRA Risk Assessment Forms  
Equipment Out Of Service Risk Tool  
WCD 4210548

**Section 1R15: Operability Evaluations**

Procedures

HC.OP-SO.GJ-0001, Rev. 44, Control Area Chilled Water System Operation  
HC.MD-PM.EA-0002, Rev. 13, Service Water Intake Bay Silt Survey and Silt Removal  
MA-AA-716-008, Rev. 2, Foreign Material Exclusion Program

Notifications

20331898      20184417      20164263      20228274      20331998      20333925  
20324756      20326039      20207271      20324701      20321593

Orders

60071213      70035290      70045560      70070358      70041889      70046179  
 70046504      70068578

Other Documents

Technical Specification Action Statement Log 07-263  
 'A' Control Room Chiller Trip Complex Troubleshooting Data Sheet  
 'A' Control Room Chiller Trip Technical Evaluation  
 VTD PM076Q, Strain-O-Matic Instruction Manual  
 Q-13,928 LEEM calculation relating

**Section 1R17: Permanent Plant Modifications**Procedures

HC.IC-LC.BD-0002, RCIC Turbine Controller Tuneup, Rev. 7  
 HC.MD-AP.ZZ-0101, Controls and Guidelines for Heavy Loads and Lifting and Rigging,  
 Rev. 23  
 HC.MD-PM.KF-0004, Polar Crane Annual Preventive Maintenance, Rev. 17  
 HC.OP-DL.ZZ-0004, Log 4 Reactor Building Log, Rev. 35  
 HC.OP-IS.BD-0001, Reactor Core Isolation Cooling Pump- OP203- Inservice Test,  
 Rev. 36  
 HC.OP-IS.BD-0001, Reactor Core Isolation Cooling Pump- OP203- Inservice Test,  
 Rev. 42  
 HC.OP-SO.GT-0001, Drywell Ventilation System Operation, Rev. 9  
 MA-AA-716-021, Rigging and Lifting Program, Rev. 8  
 MA-HC-716-021, Hope Creek Rigging and Lifting Program, Rev. 2  
 NC.WM-AP.ZZ-0003, Regular Maintenance Process, Rev. 5  
 SH.OP-DD.ZZ-0065, Key Control, Rev. 16

Modifications

07-097, Drywell Ventilation System Operation, Rev. 9  
 80065876, Replace GE AKR AC Breakers, Rev. 3  
 80067811, Moisture Separator and FW Heater Relief Valve Set Point Changes, Rev. 1  
 80076874, RCIC Turbine Speed Increase Modification, Rev. 0  
 80079630, 'D' Station Service Water Strainer Motor Modification, Rev. 0  
 80082831, Hope Creek Polar Crane Design Resolutions, Rev. 0  
 80083515, EDG Fuel Injector Cooling Water System Removal, Rev. 0  
 80091864, RHR Hydraulic Analysis, Rev. 0

Completed Tests

HC.IC-LC.BD-0002, RCIC Turbine Controller Tuneup, 1/19/05  
 HC.MD-PM.ZZ-0006, General PM for Distribution Panels, Motor Control Centers, Unit  
 Substations, and Switchgear, 11/11/04  
 HC.MD-ST.ZZ-0012, Low Voltage Air Circuit Breaker Inspection and PM, 9/27/04  
 SH.MD-CM.ZZ-0031, Pressure Relief Device Removal and Installation, 5/1/06

Calculations / Evaluations

CALC BD-0001, Net Positive Suction Head for RCIC System Pump, Rev. 3  
 H-1-KB-MDC-1007, Backup Pneumatic Supply for 1GSHV-4964 and -11541 Valves,  
 Rev. 1

Drawings

M-10-1, Service Water, Sh. 1, Rev. 49  
 M-10-1, Service Water, Sh. 2, Rev. 39  
 P-0047-1, HCGS Equipment Location Reactor Building, Sh. 1, Rev. 16

Vendor Information

325871, Square-D Masterpact Breaker Qualification, Rev. 4  
 GE SIL No. 351, HPCI and RCIC Turbine Control System Calibration, Rev. 2  
 GE SIL No. 475, RCIC and HPCI High Steam Flow Analytic Limit, Rev. 2  
 VTD 327450, Reactor Core Isolation Cooling System (RCIC) Turbine Steam RCIC  
 Turbine Speed Increase, dated 5/23/05  
 VTD PN1-E51-C002-0054, Turbine Governor Control System, RCIC GS-1 and GS-2,  
 Rev. 2

Notifications

20221432	20240726	20264728	20279232	20297424	20323997
20225625	20248163	20266926	20280662	20306732	20326641
20228940	20248336	20269485	20282182	20310974	20329692
20230210	20248517	20271007	20282959	20311623	20329986*
20237722	20249194	20271690	20287223	20314378	20330014*
20238969	20249526	20272234	20289565	20315046	20330229*
20239671	20251908	20276240	20294358	20319572	20330295*
20240044	20260740				

\*NRC Identified During Inspection

Orders

30027851	60043315	60047663	60050331	60053262	60060699
60068352	70065684	70066614	70066938	80087547	80092408

Other Documents

Letter, Fairbanks Morse to PSEG, "Un-cooled Fuel Injector Safety Analysis," dated  
 3/1/07  
 NFS-0252, HCGS Nuclear Fuel Related Safety Analysis Information Report, Rev. 0

**Section 1R19: Post-Maintenance Testing**

Procedures

HC.OP-IS.BH-0004, Rev. 1, Standby Liquid Control Pump – BP208 – Inservice Test  
 HC.MD-CM.BH-0001, Rev. 8, Standby Liquid Control (SLC) Injection Pump Overhaul  
 HC.MD-PM.PH-0001, Rev. 23, 480 Volt MCC Starter Preventive Maintenance 60 Month  
 Tech. Spec. Inspection  
 HC.MD-ST.ZZ-0011, Rev. 19, Low Voltage Molded Case Circuit Breaker Overcurrent  
 Trip Testing  
 HC.MD-ST.ZZ-0009, Rev. 17, Motor Operated Valve Thermal Overload Protection  
 Surveillance  
 HC.MD-PM.EP-0001, Rev. 17, Service Water Traveling Screen Inspection  
 HC.MD-CM.EP-0003, Rev. 15, Service Water Traveling Screen Overhaul and Repair  
 HC.MD-CM.EP-0002, Rev. 13, Service Water Traveling Screen Removal and  
 Replacement  
 HC.MD-CM.EA-0001, Rev. 25, Service Water Pump & Motor Removal & Replacement

Drawings

E-0164-0, Sh. 1, Rev. 6, Electrical Schematic Diagram Feedwater Heater 3, 4, 5 & 6  
Drain Valve Control

VTD PM003-TP-0180, Sh. 0, Rev. 3, Outline – Diaphragm Actuated Drain Valve

Notifications

20330263	20321192	20309075	20312220	20322447	20322894
20327174	20328021	20329337	20331505	20332175	20335737
20324189					

Orders

50104428	60069055	50039314	30145840	30143874	30130789
30153629	60070753	70071889	60070298	60067435	60071157
70068915	60069911				

Other Documents

VTD PN1-C41-C001-0029, Union Triplex & Quintuplex Power Pumps

**Section 1R22: Surveillance Testing**Procedures

HC.OP-GP.ZZ-0005, Rev. 6, Drywell Leakage Source Detection

HC.OP-DL.ZZ-0026, Rev. 110, Surveillance Log

HC.MD-ST.PB-0003, Rev. 23, Class 1E 4.16KV Feeder Degraded Voltage Monthly  
Instrumentation Channel Functional Test

HC.IC-FT.SA-0001, Rev. 9, Redundant Reactivity Control System - Division 1 Channel  
A, C22-N403A, N402A ATWS Recirculation Pump Trip

Completed Surveillances

HC.OP-ST.BB-0001, dated 9/24/07, Recirculation Jet Pump Operability - Daily

HC.OP-IS.BC-0004, dated 8/2/07, DP202, D Residual Heat Removal Pump Inservice  
Test

HC.OP-IS.BJ-0001, dated 9/7/07, HPCI Main and Booster Pump Set - 0P204 and 0P217  
- Inservice Test

HC.OP-IS.BJ-0001, dated 9/8/07, HPCI Main and Booster Pump Set - 0P204 and 0P217  
- Inservice Test

Drawings

E-0106-0, Sh. 3, Rev. 11, Electrical Schematic Diagram Class 1E 4.16KV Station Power  
System

E-0068-0, Sh. 1, Rev. 10, Electrical Schematic Diagram Class 1E 4.16KV Station Power  
System Switchgear Main Circuit Breaker (1)52-40108

E-0069-0, Sh. 1, Rev. 8, Electrical Schematic Diagram Class 1E 4.16KV Station Power  
System Switchgear Main Circuit Breaker (1)52-40101

M-56-1, Sh. 1, Rev. 16, HPCI Pump Turbine

M-55-1, Sh. 1, Rev. 24, High Pressure Coolant Injection

Notifications

20335497	20329942	20331891	20336646	20336658	20337377
20331913	20335486	20335497			

Orders

50105787      50105788      70072387      80093708

Other Documents

HCGS UFSAR Section 8.2

**Section 2OS1: Access Control to Radiologically Significant Areas**Other Documents

Human Performance Investigation of Condition Report 20326812

Focused Area Self-Assessments: 80088012-0120; 70065723

Survey Maps

4102	4107	4109	4102	4208	4214	4319	4113	4320	4321	4326	4328
4329	4402	4405	4410	4331	4502	4503	4504	4505	4506	4513	4607
4401-B		4600-B		4600-C							

Condition Reports

20310120	20310863	20311157	20311484	20311551	20312705
20313103	20313396	20313960	20314307	20318732	20319154
20320250	20320416	20321659	20322707	20324175	20324802
20325229	20325935	20327217	20327760	20327750	20328416
20328657					

**Section 2OS2: ALARA Planning and Controls**Other Documents

Informal Benchmarking Report, Limerick Outage 2R09

**Section 2PS3: Radiological Environmental Monitoring Program**Other Documents

Offsite Dose Calculation Manual

2006 Annual Radiological Environmental Operating Report Salem and Hope Creek  
Generating Stations

Maplewood Testing Services Analytical Results, January - July 2007, Air Iodine

Maplewood Testing Services Analytical Results, January - July 2007, Air Particulate

Maplewood Testing Services Analytical Results, January - July 2007, Surface Water;  
Fish/Crab; SedimentsMaplewood Testing Services Analytical Results, January - July 2007, Milk; Game;  
Vegetables; Fodder CropsMaplewood Testing Services Analytical Results, January - July 2007, Potable Water;  
Well Water

Maplewood Testing Services Work Instructions (MTSWI):

MLKSA-1.1.2, Collection of Raw Milk Samples

NASSV-1.2.2NS, Servicing of Low Volume Air Particulate Samples

ECAL-3.5.3, Multipoint Energy/Shape Calibration

3PT-G-3.5.4A, System QC Using a 500ml Marinelli Three Nuclide Check Source

GAMMCAL-3.5.5, Efficiency Calibrations of Gamma Counting Systems Using  
Current Ortec Hardware and Software Packages

G-REVIEW.PRO-3.5.6, Detailed Review of Gamma Reports Generated Using the Ortec Gammavision (Windows 2000 Based) Data Acquisition Software Package  
MILKRES-1.3.3.6, Gamma Analysis of Raw Milk for I-131  
MLKG-1.3.3.1, Preparation of Raw Milk for Gross Gamma Analysis  
AIOG-1.3.1.3, Preparation of Air Iodine for Gamma Analysis  
AQUACOLL-1.1.10, Collection of Aquatic Media Samples (Sediment, Fish, Crab, Surface Water)  
Maplewood Testing Services Hi-Q Air Samplers Maintenance Log  
Maplewood Testing Services:  
    Nearest Resident Survey for 2006 & 2007  
    Census of Milk Animals for 2006 & 2007  
    Vegetable Garden Survey for 2006 & 2007  
Environmental Supply Company Dry Gas Meter Calibration Report  
Check-In Self-Assessment of REMP Compliance with Reg. Guide 4.15 (Report # 70066305)

**Section 40A2: Identification and Resolution of Problems**

Procedures

HC.OP-AP.ZZ-0030, Rev. 2, Operator Burden Program  
OP-AA-102-103, Rev. 1, Operator Work-Around Program

Notifications

20263903

Orders

80087548

**Section 40A3: Event Followup**

Orders

70072268

Other Documents

ER 2007-002-00

**LIST OF ACRONYMS**

ALARA	As Low As Is Reasonably Achievable
CAP	Corrective Action Program
CFR	Code of Federal Regulations
ECCS	Emergency Core Cooling Systems
EDG	Emergency Diesel Generator
FRVS	Filtration, Recirculation, and Ventilation System
HCGS	Hope Creek Generating Station
HPCI	High Pressure Coolant Injection
IMC	Inspection Manual Chapter
LCO	Limiting Condition for Operation
LERs	Licensee Event Reports
LOOP	Loss of Offsite Power

MCC	Motor Control Center
MSPI	Mitigating System Performance Index
NCO	Nuclear Controls Operator
NCV	Non-cited Violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
PIs	Performance Indicators
PSEG	Public Service Enterprise Group Nuclear LLC
QA	Quality Assurance
RCA	Radiologically Controlled Area
RCIC	Reactor Core Isolation Cooling
REMP	Radiological Environmental Monitoring Program
RHR	Residual Heat Removal
RSP	Remote Shutdown Panel
SACS	Safety Auxiliaries Cooling System
SDP	Significance Determination Process
SJAE	Steam Jet Air Ejector
SLC	Standby Liquid Control
SR	Surveillance Requirement
SSCs	Structures, Systems, and Components
SSFF	Safety System Functional Failure
SSWS	Station Service Water System
TLD	Thermoluminescent Dosimeter
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
WCD	Work Clearance Document