



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

January 26, 2010

Mr. Charles G. Pardee  
Senior Vice President, Exelon Generation Company, LLC  
President and Chief Nuclear Officer, Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: OYSTER CREEK GENERATING STATION - NRC INTEGRATED INSPECTION  
REPORT 05000219/2009005

Dear Mr. Pardee:

On December 31, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Oyster Creek Generating Station. The enclosed integrated inspection report documents the inspection findings, which were discussed on January 26, 2010, with Mr. P. Orphanos, Plant Manager, 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 one self-revealing finding of very low safety significance (Green) that was determined to involve a violation of NRC requirements. However, because of the very low safety significance and because it is entered into your corrective action program, the NRC is treating the finding as a non-cited violation (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest any NCV, 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 Oyster Creek Generating Station. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Resident Inspector at Oyster Creek Generating Station. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

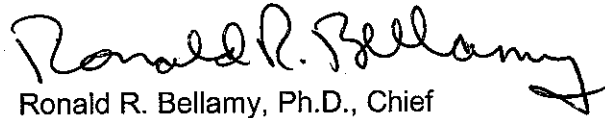
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C. Pardee

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We appreciate your cooperation. Please contact me at (610) 337-5200 if you have any questions regarding this letter.

Sincerely,



Ronald R. Bellamy, Ph.D., Chief  
Projects Branch 6  
Division of Reactor Projects

Docket No. 50-219  
License No. DPR-16

Enclosure: Inspection Report 05000219/2009005  
w/Attachment: Supplemental Information

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We appreciate your cooperation. Please contact me at (610) 337-5200 if you have any questions regarding this letter.

Sincerely,  
/RA/  
Ronald R. Bellamy, Ph.D., Chief  
Projects Branch 6  
Division of Reactor Projects

Docket No. 50-219  
License No. DPR-16

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**U. S. NUCLEAR REGULATORY COMMISSION****REGION I**

Docket No.: 50-219

License No.: DPR-16

Report No.: 05000219/2009005

Licensee: Exelon Nuclear

Facility: Oyster Creek Generating Station

Location: Forked River, New Jersey

Dates: October 1, 2009 – December 31, 2009

Inspectors: J. Kulp, Senior Resident Inspector  
J. Ambrosini, Resident Inspector  
J. Schoppy, Senior Reactor Inspector  
R. Nimitz, Senior Health Physicist  
E. Gray, Senior Reactor Inspector  
C. Newport, Acting Resident Inspector  
J. Greives, Acting Resident Inspector

Approved By: Ronald R. Bellamy, Ph.D., Chief  
Projects Branch 6  
Division of Reactor Projects

Enclosure

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## SUMMARY OF FINDINGS

IR 05000219/2009005; 10/01/2009 - 12/31/2009; Exelon Energy Company, LLC, Oyster Creek Generating Station; Identification and Resolution of Problems.

The report covered a 3-month period of inspection by resident inspectors, a project engineer, and regional reactor inspectors. One Green non-cited violation (NCV) was identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). The cross-cutting aspect was determined using IMC 0305, "Operating Reactor Assessment Program." 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.

### Cornerstone: Barrier Integrity

- Green. A Green, self-revealing non-cited violation (NCV) was identified of 10CFR50 Appendix B, Criterion XVI, "Corrective Action" was identified when Exelon did not take timely corrective action to address an identified degrading trend in the performance of the 'B' spent fuel pool cooling pump, resulting in the pump's performance falling below the required action criteria of its in-service test and being declared inoperable. Exelon repaired the pump by replacing the impeller and performed a satisfactory in-service test (IST) on December 8, and entered the issue into the corrective action program.

The NCV was not similar to the examples cited in IMC 0612 Appendix E, but the inspectors determined it was more than minor because it was associated with the Structures, Systems and Components (SSC) performance attribute of the barrier integrity cornerstone objective to provide reasonable assurance that the physical design barriers protect the public from radionuclide releases caused by accidents or events by maintaining the functionality of the spent fuel pool cooling system. The inspectors determined this issue was of very low safety significance (Green) because the issue did not result in a loss of cooling to the spent fuel pool where operator or equipment failures could preclude restoration of cooling prior to pool boiling, did not result from fuel handling errors that caused damage to fuel clad integrity or a dropped assembly, and did not result in a loss of spent fuel pool inventory greater than ten percent of the fuel pool volume. The performance deficiency had a cross-cutting aspect in the area of human performance, work control [H.3(b)] because Exelon did not effectively coordinate work activities by implementing actions to communicate, coordinate and cooperate with each other during activities in which interdepartmental coordination is necessary to assure plant and human performance. (4OA2)

## REPORT DETAILS

### Summary of Plant Status

The Oyster Creek Generating Station (Oyster Creek) began the inspection period operating at full power.

On October 4, operators performed a planned downpower to 85% to recover control rods following hydraulic control unit maintenance. The plant returned to full power on October 4.

On October 18, operators performed a planned downpower to 98% to recover control rods following hydraulic control unit maintenance. The plant returned to full power on October 18.

On October 21, operators performed a planned downpower to 90% to recover control rods following hydraulic control unit maintenance. The plant returned to full power on October 21.

On October 24, operators performed a planned downpower to 70% to recover control rods following hydraulic control unit maintenance, to perform a rod pattern adjustment and to perform scram time testing. The plant returned to full power on October 25.

On December 7, operators performed a planned downpower to 98% to insert control rods to perform hydraulic control unit maintenance. The plant returned to full power on December 7.

On December 12, operators performed a planned downpower to 83% to recover control rods and perform turbine control valve testing. The plant returned to full power on December 13.

Oyster Creek operated at 100% (full) power for the remainder of the inspection period.

### 1. REACTOR SAFETY

#### **Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**

#### 1R01 Adverse Weather Protection (71111.01)

##### a. Inspection Scope (2 samples)

The inspectors performed one adverse weather preparation and one site specific weather-related condition inspection.

The inspectors reviewed Exelon's activities associated with seasonal readiness for cold weather conditions. The inspectors reviewed the updated final safety analysis report (UFSAR) for Oyster Creek to identify risk significant systems that require protection from cold weather conditions. The inspectors assessed the readiness of the emergency service water, isolation condenser, and fire protection systems to seasonal susceptibilities (extreme cold weather). The inspectors performed a walkdown of the emergency service water, isolation condenser, and fire protection systems and also reviewed applicable corrective action program condition reports to assess system reliability and material condition. The inspectors also reviewed Exelon's cold weather preparation activities to assess their adequacy and to verify they were completed in accordance with procedure requirements.

The inspectors reviewed Exelon's preparations for and response to the issuance of a winter storm warning and heavy accumulation of snow from December 18 through December 20. The inspectors verified that operators properly monitored important plant equipment that could have been affected by the winter storm weather conditions. The inspectors ensured that temperatures for equipment and areas in the plant were maintained within procedural limits and that risk significant areas of the plant remained accessible. The inspectors performed walkdowns of areas that could be potentially impacted by the heavy snow, such as the intake structure and emergency diesel generator complex.

Documents reviewed for this inspection activity are listed in the Supplemental Information attachment to this report.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

a. Inspection Scope (4 samples; 3 partial, 1 complete)

The inspectors performed three partial and one complete system alignment inspections. The partial equipment alignment inspections were completed during conditions when the equipment was of increased safety significance such as would occur when redundant equipment was unavailable during maintenance or adverse conditions, or after equipment was recently returned to service after maintenance. The inspectors performed a partial walkdown of the following systems, and when applicable, the associated electrical distribution components and control room panels, to verify the equipment was aligned to perform its intended safety functions:

- Containment spray system #2 on October 13;
- Emergency diesel generator #1 on October 20; and
- Core spray system #1 on November 5.

On November 24, the inspectors performed a complete system alignment inspection on the 'B' Isolation Condenser system to determine whether the system was aligned and capable of providing emergency cooling in accordance with design basis requirements. The inspectors reviewed operating procedures, surveillance test procedures, pipe and instrument drawings, and the system equipment lineup, to determine that the equipment was aligned to perform its safety function upon actuation.

Documents reviewed for this inspection activity are listed in the Supplemental Information attachment to this report.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope (71111.05Q 5 samples)



The inspectors performed a walkdown of five plant areas to assess their vulnerability to fire. During plant walkdowns, the inspectors observed combustible material control, fire detection and suppression equipment availability, visible fire barrier configuration, and the adequacy of compensatory measures (when applicable). The inspectors reviewed "Oyster Creek Fire Hazards Analysis Report" and "Oyster Creek Pre-Fire Plans" for risk insights and design features credited in these areas. Additionally, the inspectors reviewed corrective action program condition reports documenting fire protection deficiencies to verify that identified problems were being evaluated and corrected. The following plant areas were inspected:

- Shutdown cooling, 38' elevation and 51' elevation (RB-FZ-1G) on October 19;
- Cable spreading room (OB-FZ-4) on October 26;
- A/B 4160V switchgear (TB-FZ-11C) on October 27;
- 480V Switchgear room (OB-FZ-6B) on November 2; and
- Reactor Building, 95' elevation (RB-FZ-1B) on November 16.

Documents reviewed for this inspection activity are listed in the Supplemental Information attachment to this report.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope (2 samples)

The inspectors performed two internal flood protection inspection activities.

The inspectors performed an internal flood protection inspection activity in the A/B 4160V switchgear room of the turbine building which contains the non-vital 4160V electrical bus, the safety related 'C' battery and battery chargers, and the safety related 125VDC switchgear. The inspectors performed a walkdown of the flood barriers and floor drains. The inspectors evaluated these items to determine if internal flood vulnerabilities existed and to assess the physical condition of the equipment and components in the switchgear room. The inspectors reviewed preventive maintenance activities associated with flood protection equipment. The inspectors also reviewed Exelon's procedures related to flooding of the A/B 4160V switchgear room.

The inspectors performed an internal flood protection inspection activity in the A/B 460V switchgear room of the turbine building which contains vital and non-vital 460VAC electrical busses, 125VDC electrical distribution panels and remote shutdown panels. The inspectors performed a walkdown of the flood barriers, floor drains, and potential flood sources. The inspectors evaluated these items to determine if internal flood vulnerabilities existed and to assess the physical condition of the equipment and components in the switchgear room. The inspectors also reviewed Exelon's procedures related to flooding of the A/B 460V switchgear room.

Documents associated with these reviews are listed in the Supplemental Information attachment to this report.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Regualification Program (71111.11)

a. Inspection Scope (1 sample)

The inspectors observed one simulator training scenario to assess operator performance and training effectiveness on November 6. The inspectors observed training scenario "2612.CREW.08-041." The inspectors assessed whether the simulator adequately reflected the expected plant response, operator performance met Exelon's procedural requirements, and the simulator instructor's critique identified crew performance problems.

Documents reviewed for this inspection activity are listed in the Supplemental Information attachment to this report.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope (2 samples)

The inspectors performed two maintenance effectiveness inspection activities. The inspectors reviewed the following degraded equipment issues in order to assess the effectiveness of maintenance by Exelon:

- Station air compressor #2 (IR 983867) on October 24; and
- V-26-18, Reactor building to torus vacuum breaker (IR 913746) on November 18.

The inspectors also verified that the systems or components were being monitored in accordance with Exelon's maintenance rule program requirements. The inspectors compared documented functional failure determinations and unavailable hours to those being tracked by Exelon. The inspectors reviewed completed maintenance work orders and procedures to determine if inadequate maintenance contributed to equipment performance issues. The inspectors also reviewed applicable work orders, corrective action program condition reports, operator narrative logs, and vendor manuals.

Documents reviewed for this inspection activity are listed in the Supplemental Information attachment to this report.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope (4 samples)

The inspectors reviewed four on-line risk management evaluations through direct observation and document reviews for the following plant configurations:

- Q-121 offsite power line and core spray system 1 unavailable due to planned maintenance on November 10;
- 'A' control rod drive pump and 'B' spent fuel pool cooling pump unavailable for planned maintenance on December 7;
- Combustion turbine #2 unplanned unavailability on December 18; and
- Standby gas treatment system #2 unplanned unavailability on December 20.

The inspectors reviewed the applicable risk evaluations, work schedules, and control room logs for these configurations to verify the risk was assessed correctly and reassessed for emergent conditions in accordance with Exelon's procedures. Exelon's actions to manage risk from maintenance and testing were reviewed during shift turnover meetings, control room tours, and plant walkdowns. The inspectors also used Exelon's on-line risk monitor (Paragon) to gain insights into the risk associated with these plant configurations. Additionally, the inspectors reviewed corrective action program condition reports documenting problems associated with risk assessments and emergent work evaluations.

Documents reviewed for this inspection activity are listed in the Supplemental Information attachment to this report.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope (3 samples)

The inspectors reviewed three operability evaluations for degraded or non-conforming conditions associated with:

- Unexpected core spray cross-channel inhibit alarm (B-7-D) on October 10, 2009 (IR 975998);
- 'B' Containment spray pump on October 16 (IR 980138); and
- Standby gas treatment system #2 on December 20 (IR 1007954).

The inspectors reviewed the technical adequacy of the operability evaluations to ensure the conclusions were technically justified. The inspectors also walked down accessible portions of equipment to corroborate the adequacy of Exelon's operability evaluations.

Documents reviewed for this inspection activity are listed in the Supplemental Information attachment to this report.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)a. Inspection Scope (4 samples)

The inspectors observed portions of and/or reviewed the results of four post-maintenance tests for the following equipment:

- '1-2' Emergency service water pump on October 16 (WO R2118337);
- #2 Emergency diesel generator on October 26 (WO R2151437);
- '1-1' Reactor building closed cooling water pump on October 29 (WO R2148195);  
and
- V-14-32, 'B' Isolation condenser steam isolation valve on November 12 (WO M2236563).

The inspectors verified that the post-maintenance tests conducted were adequate for the scope of the maintenance performed and that they ensured component functional capability.

Documents reviewed for this inspection activity are listed in the Supplemental Information attachment to this report.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)a. Inspection Scope (1 IST sample and 3 routine surveillance samples)

The inspectors observed portions of and/or reviewed the results of four surveillance tests:

- Isolation condenser isolation test and calibration on October 1;
- Main steam isolation valve 10% closure test on October 26;
- 'C' Battery weekly surveillance on October 27; and
- Core spray system 1 quarterly surveillance and IST on November 10.

The inspectors verified that test data were complete and met procedural requirements to demonstrate the systems and components were capable of performing their intended function. The inspectors also reviewed corrective action program condition reports that documented deficiencies identified during these surveillance tests.

Documents reviewed for this inspection activity are listed in the Supplemental Information attachment to this report.

b. Findings

No findings of significance were identified.

### **Cornerstone: Emergency Preparedness [EP]**

#### 1EP6 Drill Evaluation (71114.06)

##### a. Inspection Scope (1 sample)

The inspectors observed one operator requalification activity on November 6, which counted as an input into the NRC's emergency response drill and exercise performance indicator (PI). The inspectors observed Exelon's critique of the training activity to verify that weaknesses and deficiencies were adequately identified. The inspectors specifically focused on ensuring Exelon identified operator performance issues associated with event classification, notification, and protective action recommendations.

Documents reviewed for this inspection activity are listed in the Supplemental Information attachment to this report.

##### b. Findings

No findings of significance were identified.

## **2. RADIATION SAFETY**

### **Cornerstone: Public Radiation Safety [PS]**

#### 2PS3 Radiological Environmental Monitoring Program and Radioactive Material Control Program (71122.03)

##### a. Inspection Scope (8 Samples)

The inspectors reviewed the implementation of Exelon's Radiological Environmental Monitoring Program (REMP). The review consisted of verifying Exelon's compliance with requirements contained in technical specifications (TS), site and corporate procedures, the REMP program requirements outlined in the Offsite Dose Calculation Manual (ODCM), and NUREG-1302, Offsite Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Boiling Water Reactors.

The inspectors reviewed the 2007 and 2008 Annual Environmental Monitoring Reports and Exelon assessment results to verify that the REMP was implemented as required by TS and the ODCM. The inspectors reviewed the reports for changes to the ODCM with respect to environmental monitoring, commitments in terms of sampling locations, monitoring and measurement frequencies, land use census, inter-laboratory comparison program, and analysis of data.

The inspectors walked down 4 air sampling stations (Stations 71, 73, 66, and 111) and 3 thermoluminescent dosimeter (TLD) monitoring stations (Stations 71, 73, 66) and reviewed their calibration and maintenance records to determine whether they were located as described in the ODCM and to evaluate their material condition.

The inspectors observed the collection of four particulate and iodine samples from environmental monitoring stations (71, 73, 66, and 111), the collection of two drinking water samples (Stations 37 and 39), and the collection of one surface water sample

(Station 33). The inspectors verified that the environmental sampling was representative of the release pathways as specified in the ODCM and that sampling techniques were in accordance with applicable procedures.

The inspectors reviewed calibration testing records for the meteorological tower to verify that meteorological instruments were operable, calibrated, and maintained in accordance with guidance contained in the UFSAR, NRC Regulatory Guide 1.23, and Exelon procedures. The inspector compared meteorological instrument readouts in the control room and Technical Support Center (plant process computer) and at the tower for operability, and evaluated readout data to identify if there were line loss differences from the control room and meteorological towers. The inspector observed portions of the on-going calibrations in the tower building.

The inspectors conducted a review of Exelon's assessment of positive sample results (i.e., licensed radioactive material detected above the lower limits of detection (LLDs)). The inspector reviewed the associated radioactive effluent release data.

The inspectors reviewed the results of Exelon's vendor laboratory to analyze the REMP samples and reviewed the results of the vendor's quality control program, including the inter-laboratory comparison program, to verify the adequacy of the vendor's program.

The inspectors reviewed REMP related event reports, special reports, audits, and self-assessments completed since the previous inspection to determine if identified problems are entered into the corrective action program for resolution commensurate with their importance to safety and risk.

b. Findings

No findings of significance were identified

4. **OTHER ACTIVITIES [OA]**

4OA1 Performance Indicator (PI) Verification (71151)

a. Inspection Scope (5 samples)

The inspectors reviewed Exelon's program to gather, evaluate, and report information on five performance indicators (PIs) associated with the mitigating systems performance index (MSPI). The inspectors used the guidance provided in Nuclear Energy Institute (NEI) 99-02, Revision 5, "Regulatory Assessment Performance Indicator Guideline" to assess the accuracy of Exelon's collection and reporting of PI data. The inspectors reviewed operating logs and corrective action program condition reports. The inspectors verified the accuracy and completeness of the reported data from October 1, 2008 through September 30, 2009 for the following PIs:

- Emergency AC power system;
- High pressure injection system;
- Heat removal system;
- Residual heat removal system; and
- Cooling water systems.

Documents reviewed for this inspection activity are listed in the Supplemental Information attachment to this report.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Review of Items Entered Into the Corrective Action Program

The inspectors performed a daily screening of items entered into Exelon's corrective action program to identify repetitive equipment failures or specific human performance issues for follow-up. This was accomplished by reviewing hard copies of each condition report, attending daily screening meetings, and accessing Exelon's computerized database.

.2 Semi-Annual Review to Identify Trends

a. Inspection Scope (1 sample)

The inspectors performed one semi-annual trend review. The inspectors reviewed Exelon's corrective action program documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors also performed a walkdown of equipment important to safety to ensure issues were being properly identified and corrected in the corrective action program. The inspectors review was focused on repetitive equipment problems, human performance issues, and program implementation issues. The results of the trend review by the inspectors were compared with the results of normal baseline inspections. The review included issues documented outside the normal corrective action system, such as in system health reports and Oyster Creek monthly management reports. The review considered a six-month period of June through November 2009.

b. Assessment and Observations

No findings of significance were identified.

.3 Annual Sample Review (1 operator work around sample, 2 annual samples)

The inspectors reviewed Exelon's evaluation and corrective actions associated with the following issues. Documents reviewed for this inspection activity are listed in the Supplemental Information attachment to this report.

Operator Work Around

a. Inspection Scope

An operator work-around (OWA) is an equipment or program deficiency that provides an obstacle to safe plant operations by requiring operations personnel to take compensatory actions to comply with procedures, design requirements, or technical specifications. The inspectors assessed the cumulative impact of identified OWAs,

operator challenges, and control room deficiencies by performing a detailed document review and interviewing operations personnel during the week of November 16. In addition, the inspectors conducted several walkdowns of the main control room panels and risk significant plant areas to independently assess if identified deficiencies adversely affected the ability of operators to implement emergency operating procedures or respond to plant transients and to ensure that Exelon identified potential OWAs and challenges at an appropriate threshold. The inspectors reviewed corrective action issue reports, operator logs, and instrument panel status to evaluate potential impacts on the operators' ability to implement abnormal or emergency operating procedures. The inspectors evaluated the cumulative effects of operator workarounds as related to (1) the reliability, availability, and potential for improper operation of plant systems; (2) the potential to increase an initiating event frequency or to affect multiple mitigating systems; and (3) operator ability to respond in a correct and timely manner to plant transients and accidents. The inspectors reviewed equipment issues identified as OWAs and operator challenges to ensure that Exelon adequately prioritized, tracked, and resolved these deficiencies in accordance with Exelon procedure OP-AA-102-103, "Operator Work-Around Program."

b. Findings and Observations

No findings of significance were identified.

'B' Spent Fuel Pool Pump Differential Pressure Below the Low Action Level during IST

a. Inspection Scope

The inspectors reviewed Exelon's evaluation and corrective actions associated with the 'B' spent fuel pool pump differential pressure degrading trend (IR 989639). The inspectors reviewed relevant corrective action program condition reports to ensure that the full extent of the issue was identified, appropriate evaluations were performed, and corrective actions were specified and prioritized. The inspectors discussed this issue with engineering and operations personnel and reviewed relevant procedures.

b. Findings and Observations

Introduction. A Green self-revealing NCV of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action", was identified when Exelon did not take timely corrective actions to address an identified degrading trend in the performance of the 'B' spent fuel cooling pump. Specifically, a corrective action identified in June 2009 to repair the pump was not accomplished as scheduled and resulted in the pump failing its IST and being declared inoperable on November 5.

Discussion. On November 5, during a review of the results of the 'B' spent fuel pool cooling pump IST performed on September 25, the surveillance coordinator identified that the 'B' pump differential pressure measurement fell below the IST specified required action criteria and that no corrective actions had been taken. The surveillance coordinator documented this in IR 989639 and the pump was declared inoperable as of September 25 failure of the IST.



During the subsequent review of the pump's performance, the surveillance coordinator noted that the degradation in performance was first identified in December 2008 when the differential pressure of the pump fell below the IST alert level (IR 859527). Prior to the June 2009 quarterly IST, the system manager identified an adverse trend in the pump's performance and identified that there was a potential for reaching the lower action limit during the performance of the June IST (IR 935760). The system manager recommended that the pump be repaired during the 'B' spent fuel pool cooling system outage window scheduled for September 2009 (IR 935760) prior to the scheduled September IST. The work was scheduled but not accomplished due to a tube leak on the 'A' spent fuel pool cooling heat exchanger. The quarterly IST for the 'B' spent fuel pump was performed on September 25<sup>th</sup>, and the pump failed the IST because differential pressure measurement fell below the specified required action criteria. Although the IST failure was noted in the work package, the pump was not declared inoperable nor entered into the corrective action program until November 5 when the surveillance coordinator identified that no actions had been taken (IR 989639). On November 5, Exelon declared the 'B' spent fuel pool cooling pump inoperable as of September 25.

Exelon repaired the pump by replacing the impeller and performing a satisfactory IST on December 8.

Analysis. The performance deficiency associated with this self-revealing finding involved a failure to take timely corrective actions to address a condition adverse to quality. Exelon identified a degrading performance trend for the 'B' spent fuel pool cooling pump and did not repair the pump prior to the pump failing the quarterly IST on September 25 and being declared inoperable.

The finding was not similar to the examples cited in IMC 612, Appendix E. The finding was more than minor because it was associated with the SSC performance attribute of the barrier integrity cornerstone objective to provide reasonable assurance that the physical design barriers protect the public from radionuclide releases caused by accidents or events by maintaining the functionality of the spent fuel pool cooling system.

In accordance with IMC 0609.04 (Table 4a), "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to be of very low safety significance (Green) because the finding affected the barrier integrity cornerstone and was a spent fuel pool issue that did not result in loss of cooling to the spent fuel pool where operator or equipment failures could preclude restoration of cooling prior to pool boiling, did not result from fuel handling errors that caused damage to fuel clad integrity or a dropped assembly, and did not result in a loss of spent fuel pool inventory greater than 10% of the spent fuel pool volume.

The performance deficiency had a cross-cutting aspect in the area of human performance, work control [H.3(b)], because Exelon did not effectively coordinate work activities by implementing actions to communicate, coordinate and cooperate with each other during activities in which interdepartmental coordination is necessary to assure plant and human performance.

Enforcement. 10CFR50, Appendix B, Criterion XVI, "Corrective Action", requires, in part, that conditions adverse to quality, such as failures, malfunctions, deficiencies,

deviations, defective material and equipment, and nonconformance are promptly identified and corrected.

Contrary to the above, Exelon personnel did not take timely corrective actions to correct a condition adverse to quality associated with a non-conforming condition on the 'B' spent fuel pool pump. Specifically, a corrective action identified in June 2009 to repair the pump was not completed as scheduled and resulted in the pump failing the IST and being declared inoperable as of September 25.

However, because the finding was of very low safety significance (Green) and has been entered into their corrective action program in condition report IR 1011073, this violation is being treated as an NCV, consistent with section IV.A of the NRC Enforcement Policy. **(NCV 05000219/2009005-01, Untimely Corrective Action for the 'B' Spent Fuel Pool Cooling Pump)**

#### Spent Fuel Pool Boraflex Panel Degradation

##### a. Inspection Scope

The inspectors reviewed Exelon's actions associated with the recent operating experience described in NRC Information Notice 2009-26, "Degradation of Neutron-Absorbing Materials in the Spent Fuel Pool." The inspectors reviewed system IRs and procedures, criticality analysis, and corporate audits to ensure that Exelon's evaluation of the issue and corrective actions were appropriate and informed by industry operating experience.

##### b. Findings and Observations

No findings of significance were identified.

#### 4OA3 Event Followup (71153) (4 samples)

The inspectors performed four event followup inspection activities. Documents reviewed for this inspection activity are listed in the Supplemental Information attached to this report.

##### .1 Loss of Indication on 29 Control Room Annunciators

##### a. Inspection Scope

On October 14, control room operators noted that 29 control room annunciators on five different annunciator panels did not light up during a control panel alarm and light check. The control room operators responded by replacing 58 light bulbs in the 29 annunciators, documenting the issue in the corrective action program and conducting a satisfactory alarm and light check. The shift manager reviewed the Emergency Action Levels (EALs) and technical specifications and determined that no thresholds or action requirements were met. Exelon conducted troubleshooting to attempt to identify the cause of the loss of the annunciators. Exelon determined that the alarm function of the annunciators was not affected and that the fault only affected the lighting function. No cause for the loss of lighting was identified.

The inspectors verified that operations personnel responded in accordance with procedures by reviewing the control room narrative logs, corrective action program condition reports, and through interviews of operation personnel. The inspectors reviewed technical specification requirements to ensure that Oyster Creek was operated in accordance with its operating license. The inspectors reviewed the Oyster Creek Emergency Plan and verified that no thresholds were met requiring entry into an emergency action level. The inspectors monitored Exelon's troubleshooting efforts, reviewed applicable plant drawings, interviewed control room operators, reviewed work control documents and walked down the internals of the affected control panels to evaluate Exelon's response to this issue. This event is described and evaluated in corrective action program condition report IR 979382.

b. Findings

No findings of significance were identified.

2. (Closed) LER 05000219/2009-004-01

a. Inspection Scope

This LER discussed the establishment of secondary containment boundary contrary to technical specification requirements on October 25, 2008. The inspectors reviewed this LER and no new issues were identified. This LER is closed.

b. Findings

No findings of significance were identified.

4OA5 Other

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors performed observations of security force personnel and activities to ensure that the activities were consistent with site security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours. These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings of significance were identified.

.2 (Closed) Temporary Instruction 2515/173, Review of the Implementation of the Voluntary Industry Groundwater Protection Initiative

a. Inspection Scope

An NRC assessment was performed of Exelon Oyster Creek's Ground Water Protection Program to determine whether Exelon implemented the voluntary Industry Groundwater Protection Initiative, dated August 2007 (Nuclear Energy Institute 07-07, ADAMS Accession Numbers ML072610036 and ML072600292). Inspectors interviewed personnel, performed walk-downs of selected areas as needed, and reviewed the following items:

- Records of the site characterization of geology and hydrology,
- Evaluations of systems, structures, and or components that contain or could contain licensed material and evaluations of work practices that involved licensed material for which there is a credible mechanism for the licensed material to reach the groundwater,
- Implementation of an onsite groundwater monitoring program to monitor for potential licensed radioactive leakage into groundwater,
- Procedures for the decision making process for potential remediation of leaks and spills, including consideration of the long term decommissioning impacts,
- Records of leaks and spills recorded, if any, in Exelon's decommissioning files in accordance with 10 CFR 50.75(g),
- Exelon briefings of local and state officials on Exelon's groundwater protection initiative,
- Protocols for notification to the local and state officials, and to the NRC regarding detection of leaks and spills,
- Protocols and/or procedures for thirty-day reports if an onsite groundwater sample exceeds the criteria in the radiological environmental monitoring program
- Groundwater monitoring results as reported in the annual effluent and/or environmental monitoring report, and
- Exelon and industry assessments of implementation of the groundwater protection initiative.

b. Findings

No findings of significance were identified. Implementation of the Industry Groundwater Protection Initiative (GPI) is voluntary. Under the final Initiative, each site was to have developed an effective, technically sound ground water protection program by August 2008. Exelon completed its Industry Groundwater Protection Initiative self-assessment in December 2008. The inspector identified that, at the time of this inspection, Exelon had not taken action on all ground water initiative objectives (as outlined in the Temporary Instruction) as follows:

- GPI Objective 1.2 g - A frequency had been established for periodic reviews of structures, systems, and components and work practices. However, the frequency had not yet been placed in a procedure. Exelon placed this matter into its corrective action system (IR 924237).
- GPI Objective 1.3 f. - A long term program had not been established for preventative maintenance of ground-water wells. Exelon placed this matter into its corrective action program (IR 924237).
- GPI Objective 1.4 a.- Written procedures had not been established outlining the decision making process for remediation of leaks, spills or other instances of inadvertent releases, including consideration of migration pathways. Exelon placed this matter into its corrective action program (IR 924237).
- GPI Objective 1.4 b. - An evaluation had not been made of the potential for detectable levels of licensed material from planned releases of liquids and or airborne materials (e.g., rainout and condensation). Exelon placed this matter into its corrective action program (IR 708870-08).
- GPI Objective 1.4 c.- An evaluation had not been performed and documented on the decommissioning impacts resulting from remediation activities or the absence thereof (e.g., do Exelon procedures include a decision making process to evaluate prompt remediation or delayed remediation and its impact on decommissioning). Exelon placed this matter into its corrective action program (IR 983400).
- GPI Objective 3.1 a. – Although Exelon conducted an initial self-assessment of the Ground Water Protection Initiative by a knowledgeable individual no later than December 31, 2008, the self-assessment was conducted by an individual who was not independent of the program as required by the GPI. Exelon placed this matter into its corrective action program (IR 987696).
- GPI Objective 3.2 a. – An initial review of the initial self assessment, conducted by an independent, knowledgeable individual under the auspices of NEI, had not been performed within one year of the completion of the initial self assessment as required by GPI Objective 3.1.a. The review was scheduled to be completed by the end of November 2009, and is discussed in station implementing procedures. Exelon placed this matter into its corrective action program (IR 987696)

### .3 Independent Spent Fuel Storage Installation (ISFSI) (60855.1)

#### a. Inspection Scope

The inspector reviewed routine operational surveillance data, including radiological surveillances, for the ISFSI facility. The data was evaluated against requirements contained in 10 CFR Part 20, applicable Exelon procedures and the Certificate of Compliance.

#### b. Findings

No findings of significance were identified.

### .4 (Closed) URI 05000219/2009004-02 – Condensate Transfer Pipe Leak

This unresolved item was opened in NRC inspection report 05000219/2009004, dated October 28 and allowed the inspectors to review Exelon's root cause investigation, repairs, and environmental sampling activities associated with a leaking condensate transfer system pipe.

On August 24, 2009, operations personnel noted increasing turbine building sump water levels and performed a walkdown of the turbine building to identify potential sources of water entering the sump. On August 25, operations personnel identified an 8 to 12 gpm leak from the CH-5, six inch diameter aluminum condensate transfer system pipe that penetrates through the turbine building foundation. On August 29, Exelon completed replacement of the portion of the condensate transfer pipe including the leaks that penetrated through the pipe at the turbine building foundation. Exelon entered this issue into the corrective action program as IR 956614 and performed a root cause evaluation to determine the circumstances that allowed the degradation to occur.

The inspectors also reviewed and discussed the licensee's preliminary bounding radiological public dose calculations, and bases associated with leakage of condensate transfer system water to the soil area outside the turbine building. The bounding calculations indicated that there was no radiological impact to members of the public.

Exelon's root cause report identified the root cause, preventive actions to prevent recurrence, the contributing causes and the history of the CH-5 line from construction to the present, including the pre-leak ultrasonic evaluation of the pipe conducted in April 2009. No performance deficiency was identified. URI 05000219/2009004-02 is closed.

#### 40A6 Meetings, Including Exit

Resident Inspector Exit Meeting: On January 26, 2009, the inspectors presented their overall findings to members of Exelon's management led by Mr. P. Orphanos, Plant Manager, and other members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information reviewed during the inspection period was returned to Exelon.

#### 40A7 Licensee-Identified Violations

None.

ATTACHMENT: SUPPLEMENTAL INFORMATION

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

M. Massaro, Site Vice-President  
 P. Orphanos, Plant Manager  
 D. Dicello, Director, Work Management  
 J. Dostal, Director, Operations  
 R. Peak, Director, Engineering  
 R. Reiner, Director, Training  
 P. Colgan, Director, Maintenance  
 J. Barstow, Manager, Regulatory Assurance  
 T. Keenan, Manager, Security  
 G. Malone, Senior Manager, System Engineering  
 R. Skelsky, Senior Manager, Design Engineering  
 M. McKenna, Shift Operations Superintendent  
 C. Rocha, Manager, Nuclear Oversight  
 J. Kerr, Manager, Corrective Action Program  
 J. Kandasamy, Manager, Environmental/Chemistry Manager  
 J. Renda, Manager, Radiation Protection  
 S. Dupont, Regulatory Assurance Specialist  
 D. Benson, Site Communicator  
 L. Felleppi, Effluent/Environmental Chemist  
 M. Nixon, Chemistry Supervisor  
 J. Renda, Manager, Radiation Protection  
 C. Rocha, Manager, Nuclear Oversight  
 S. Sklenar, Environmental Manager, Mid-Atlantic

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

05000219/2009005-01	NCV	Untimely Corrective Action for the 'B' Spent Fuel Pool Cooling Pump (Section 4OA2)
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Closed

05000219/2009-004-01	LER	Establishment of Secondary Containment Boundary Contrary to Technical Specification Requirements (Section 4OA3)
05000219/2009004-02	URI	Condensate Transfer Pipe Leak (Section 4OA5)

## LIST OF DOCUMENTS REVIEWED

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

### **Section 1R01: Adverse Weather Protection**

#### Procedures

OP-OC-108-109-1001, "Preparation for Severe Weather T&RM for Oyster Creek"

OP-AA-108-111-1001, "Severe Weather and Natural Disaster Guidelines"

WC-AA-107, "Seasonal Readiness"

OP-OC-108-1001, "Preparation for Severe Weather T&RN for Oyster Creek"

OP-OC-108-109-1002, "Cold Weather Freeze Inspection"

OP-OC-108-109-1003, "Winter Readiness"

#### Condition Reports (IR)

975292	998623	998761	998776	999099	998760
894103	935669	939995	961880	901283	913518
916810					

#### Work Orders (AR)

A2227636	A2226200	A2204139	A2228206	A2233052	A2221116
A2233272	R2137873	R2150774	R2153249		

### **Section 1R04: Equipment Alignment**

#### Procedures

308, "Emergency Core Cooling System Operation"

310, "Containment Spray System Operation"

341, "Emergency Diesel Generator Operation"

307, "Isolation Condenser System"

#### Condition Reports (IR)

9971278	884853	901479	951601	977549	878594
940999	942384	917655	993703	911572	937434
941395	941442	941878			

#### Work Orders (AR)

A2222974	A2228384
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#### Drawings

GE148F740, "Containment Spray System"

3E-532-A1-001, "Emergency Service Water System"

GE148F262, "Emergency Condenser Flow Diagram"

BR2004, "Condensate Transfer System Flow Diagram"

GE112C2827, "Rack (RK03, Recirc Pump- Reactor Prot & NSS- System"

BR2013, "Instrument (Control) Air System Flow Diagram"

#### Other

Oyster Creek Updated Final Safety Analysis Report, 6.3, "Emergency Core Cooling System"

Oyster Creek System Health Report, "Emergency Isolation Condensers"



**Section 1R05: Fire Protection**Procedures

ABN-29, "Plant Fires"

101.2, "Oyster Creek Site Fire Protection Program"

CC-AA-211, "Fire Protection Program"

333, "Plant Fire Protection System"

Drawings

3D-911-02-017, "Fire Area Layout Reactor Bldg. Plan Floor Elevation 95'3" "

Other Documents

Oyster Creek Generating Station Pre-Fire Plan, "Shutdown cooling, 38' Elevation and 51' elevation (RB-FZ-1C)"

Oyster Creek Generating Station Pre-Fire Plan, "4160V Switchgear Room, "C" Battery Room (TB-FZ-11C, TB-FA-26)"

Oyster Creek Generating Station Pre-Fire Plan, "Reactor Building 95' Elevation (RB-FZ-1B)"

Oyster Creek Generating Station Fire Hazards Analysis Report

**Section 1R06: Flood Protection**Procedures

RAP-N2a, "Fire Pump 1 Running"

RAP-N2b, "Fire Pump 2 Running"

Condition Reports (IR)

988219          999057          987637          813797

Work Orders (AR)

A2237505          C2015931

Other Documents

Oyster Creek Nuclear Generating Station Internal Flood Evaluation Summary and Notebook, April 2008

Oyster Creek Nuclear Generating Station Internal Flood Walkdown Notebook, April 2008

NRC Information Notice 2005-30, "Safe Shutdown Potentially Challenged by Unanalyzed Internal Flooding Events and Inadequate Design"

NRC Information Notice 2007-01, "Recent Operating Experience Concerning Hydrostatic Barriers

TB-FZ-11C, TB-FA-26, Oyster Creek Generating Station Pre-fire Plan: "4160V Switchgear Room, "C" Battery Room"

VM-OC-0138, "Metal Clad Switchgear Types M-26 and M-36"

TB-FA-3A, TB-FA-3B, Oyster Creek Generating Station Pre-fire Plan: "4160V "C" &amp; "D" Vaults"

**Section 1R11: Licensed Operator Requalification Program**Procedures

EP-AA-1010, "Radiological Emergency Plan Annex for Oyster Creek Station"

Other Documents

EOP User's Guide (2000-BAS-3200.02)

2612.CREW.08-041, Drill Scenario

OP-OC-101-111-1001, "Strategies for Successful Transient Mitigation"

**Section 1R12: Maintenance Effectiveness**Procedures

ER-AA-310, "Implementation of Maintenance Rule"

ER-AA-310-1004, "Maintenance Rule – Performance Monitoring"

ER-AA-310-1005, "Maintenance Rule - Disposition Between (a)(1) and (a)(2)"

LS AA-125-1003, "Apparent Cause Evaluation Manual"

334, "Instrument and Service Air System"

Condition Reports (IR)

860216	915696	948113	974209	983867	989405
852339	853007	866213	950428	951252	953624
973549	987704	839166	873482	913746	914218
917484	916654				

Work Orders (AR)

A2213842	A2212435	A2223478	R2094400	A2216191	A2223274
C2021164	A2223149	C2021154			

Drawings

3E-851-21-1000, "Air Compressors for Service Air System and TBCCW System Flow Diagram"

BR 2013, "Service/Instrument (Control) Air System Flow Diagram"

Other Documents

NEI 93-01, "Industry Guideline for monitoring the Effectiveness of Maintenance at Nuclear Power Plants"

Oyster Creek System Health Report, "Instrument and Control Air System"

Oyster Creek System Health Report, "Containment"

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

ER-AA-600-1042, "On-line Risk Management"

ER-AA-600-1021, "Risk Management Application Methodologies"

ER-AA-600-1014, "Risk Management Configuration Control"

ER-AA-600-1011, "Risk Management Program"

WC-OC-101-1001, "On-line Risk Management and Assessment"

Condition Report (IR)

991291	1007161	1007954
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**Section 1R15: Operability Evaluations**Procedures

OP-AA-108-115, "Operability Determination"

ER-AA-321-1007, "Inservice Testing (IST) Program Corporate Technical Positions"

ER-AA-321, "Administrative Requirements for Inservice Testing"

SAM-3200.01, "RPV &amp; Primary Containment Flooding"

CC-AA-309-101, "Engineering Technical Evaluations"

Drawings

NU 5060E6003, Sheet 4, "Core Spray/RBCCW Drywell Isolation Electrical Elementary Diagram"

Condition Reports (IR)

975998	976479	980138	980309	980361	1007954
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Work Orders (AR)

A2186765	R2118337	R2147017	R2153869
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Other Documents

NRC Inspection Manual - Part 9900 Technical Guidance, "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety"

Instrument Calibration Sheet for FI-IP0004A, dated 10/12/2009

Instrument Calibration Sheet for FI-IP0004A, dated 10/15/2008

Instrument Calibration Sheet for FI-IP0004A, dated 1/24/2007

Oyster Creek Inservice Testing Program Bases Document: Containment Spray System, dated 3/16/2007

607.4.004, "Containment Spray and Emergency Service Water Pump System 1 Operability and Comprehensive/Preservice/Post-Maintenance Inservice Test", dated 10/16/2009

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

MA-AA-716-012, "Post Maintenance Testing

OP-MA-109-101, "Clearance and Tagging"

607.4.004, "Containment Spray and Emergency Service Water Pump System 1 Operability and Comprehensive/Preservice/Post-Maintenance Inservice Test"

MA-OC-861-101, "Diesel Generator Inspection (24 month) – Mechanical"

636.4.013, "Diesel Generator #2 Load Test"

624.4.001, "RBCCW Inservice Test"

2400-SME-3922.01, "Control Relay Replacement, Adjustments and Tests"

609.4.001, "Isolation Condenser Valve Operability and In Service Test"

MA-AA-723-300, "Diagnostic Testing of Motor Operated Valves"

Drawings

148F262, "Emergency Condenser Flow Diagram"

Condition Report (IR)

982572	979481	984516
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Work Order (AR)

A2186765	R2118337	R2151437	R2101642	M2236563	A2236563
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**Section 1R22: Surveillance Testing**Procedures

SA-AA-129, "Electrical Safety"

MA-AA-1000, "Conduct of Maintenance"

609.3.002, "Isolation Condenser Isolation test and Calibration – A1/B1 Sensors First"

602.4.004, "Main Steam Isolation Valve 10% Closure Test"

634.2.002, "Main Station Battery Weekly Test"

610.4.021, "Core Spray System 1 Pump Operability and Quarterly In-Service Test"

Drawings

3E-211-A1-001, "Emergency Condenser ISI Boundary Drawing"  
 237E566, "Reactor Protection System Electrical Elementary Diagram"  
 886D301, "Selected Inputs to Plant Computer"  
 3E-611-17-011, "Electrical Elementary Diagram, Control Panel 5F/6F Annunc. J"  
 718E644, "Electrical Elementary Diagram, Core Spray System"  
 885D781, Flow Diagram, Core Spray System"  
 3E-212-A1-001, "Core Spray ISI Boundary Drawing"

Condition Reports (IR)

984562	984533	881403	912695	959034	963388
985475	991732	991827			

Work Orders (AR)

R2146447	R2151900	R2149458
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Other Documents

ASME OM Code 1995 w/ 1996 Addenda, "Code for Operation and Maintenance of Nuclear Power Plants"  
 NRC Inspection Manual Part 9900 Technical Guidance, "Maintenance- Preconditioning of Structures, Systems, and Components Before Determining Operability"  
 VM-OC-0227, "Main Station 125V "C" Battery Manual"  
 Oyster Creek Technical Specification, 4.7.C, "Auxiliary Electrical Power, Station Batteries"  
 Oyster Creek Updated Final Safety Analysis Report, 6.3, "Emergency Core Cooling System"  
 Oyster Creek Technical Specification, 3.4 and 4.4, "Emergency Cooling"  
 Information Notice 97-16, "Preconditioning of Plant Structures Systems and Components Before ASME Code In-service Testing or Technical Specification Surveillance Testing"

**Section 1EP6: Drill Evaluation**Procedures

EP-AA-1010, "Radiological Emergency Plan Annex for Oyster Creek Station"

Other Documents

2612.CREW.08-041, Drill Scenario  
 OP-OC-101-111-1001, "Strategies for Successful Transient Mitigation"

**Section 4OA1: Performance Indicator Verification**Other Documents

MSPI Review Report (October 1, 2008 through September 30, 2009)  
 Train Unavailability Report (October 1, 2008 through September 30, 2009)  
 ER-AA-2008, Revision 1, Mitigating Systems Performance Index (MSPI) Failure Determination Evaluation  
 ER-AA-600-1047, Revision 3, Mitigating Systems Performance Index Basis Document  
 LS-AA-2200, Revision 2, Mitigating Systems Performance Index Data Acquisition and Reports  
 NEI 99-02 Rev 5, Regulatory Assessment Performance Indicator Guideline  
 OC-2006-01, Oyster Creek MSPI Basis Document

**Section 4OA2: Identification and Resolution of Problems**Procedures

OP-AA-102-103, "Operator Work-Around Program"

OP-AA-102-103-1001, "Operator Burden and Operationally Significant Decisions Impact Assessment Program"  
 OP-AA-108-101, "Control of Equipment and System Status"  
 CC-AA-309-101, "Engineering Technical Evaluations"  
 LS-AA-125, "Corrective Action Program Procedure"  
 1002.6, "Oyster Creek Spent Fuel Rack In-Service Surveillance and Management Program for Boraflex Racks"

Condition Reports (IR)

944447	941146	930271	949855	949314	949219
948969	948779	941016	940989	955503	954061
943619	942339	967299	960565	978099	972196
969682	969515	967389	943372	939553	937424
928435	974539	948624	985475	976544	975317
975312	960565	954108	936040	936031	952184
855412	889278	914199	932508	941395	951573
961176	993484	998775	989639	935760	859527
651716	927824	735010	1011073	981410	996745
933991	896540	980735	787313	983375	700351
787385	983385	983388	983392	983400	983404
983406	983410				

Work Orders (AR)

R2092632 R2130876 C2021543 R2145822 C2021841

Other Documents

Oyster Creek Inservice Testing Program Bases Document, "Fuel Pool Cooling System"  
 Oyster Creek Generating Station Updated Final Safety Analysis Report, Section 9.1.2, "Spent Fuel Storage"  
 Oyster Creek Generating Station Updated Final Safety Analysis Report, Section 9.1.3, "Spent Fuel Pool Cooling System"  
 Oyster Creek Nuclear Generating Station Fuel Strategy Plan, Revision 0  
 NRC Information Notice 2009-26, "Degradation of Neutron-Absorbing Materials in the Spent Fuel Pool"  
 NET-289-01, Criticality Analysis of the Oyster Creek Spent Fuel Racks for GE-11 Fuel with Boraflex Panel Degradation Projected Through 2014  
 Oyster Creek Technical Specification, 5.3, "Auxiliary Equipment"  
 Oyster Creek Inservice Testing Program Bases Document, "Fuel Pool Cooling System"  
 OP-AA-102-103-1001 Attachment 1, Operator Burden Aggregate Assessment, dated 11/16/09  
 OP-AA-106-101-1006 Attachment A, IR# 914199 Issue Resolution Documentation, dated 5/1/09  
 OP-AA-108-101 Attachment 3, Abnormal Component Position Log, dated 11/19/09  
 OP-AA-108-111 Attachment 1, Bank 6 Phase C Regulators Adverse Condition Monitoring and Contingency Plan, dated 9/3/09  
 OP-AA-108-111 Attachment 1, Pressure Oscillations on Lube Oil System Adverse Condition Monitoring and Contingency Plan, dated 7/7/09  
 OP-AA-108-111 Attachment 1, Trending of "A" Isolation Condenser High Flow D/P Indicating Switches Adverse Condition Monitoring and Contingency Plan, dated 7/15/09  
 Lit Alarms & Nuisance Alarms Logs, dated 11/18/09  
 LS-AA-105-1001, Supporting Operability Documentation Log, dated 11/19/09  
 Main Control Room Deficiencies Lists, dated 11/18/09  
 Main Control Room Distractions Log, dated 11/18/09

Oyster Creek Generating Station Annual Effluent Release Reports - 2007, 2008  
Oyster Creek Generating Station Annual Radiological Environmental Monitoring Report - 2007  
Oyster Creek Generating Station Annual Radiological Environmental Monitoring Report - 2008  
Oyster Creek Generating Station Annual Radiological Groundwater Protection Program Report, 2008  
Oyster Creek Generating Station Intra and Inter Laboratory Cross-Check Analysis Results, 2008  
Oyster Creek Generating Station Offsite Dose Calculation Manual  
Oyster Creek Generating Station Environmental Airborne Radioactivity Sampler Calibration Data  
Oyster Creek Generating Station 10 CFR 50.75(g) history file record summary  
Audit NOSA-OYS-08-05: "ODCM, REMP, Effluent and Environmental Monitoring Audit Report", April 2, 2008  
Audit NOSA-OS-08-05, "Scoping Document and Sampling Plan"  
Audit NOSA-OS-08-05, "Objective Evidence"  
825808, "RGPP Check-in Assessment"  
867606, "Chemistry Equipment Reliability Assessment"  
846634, "ODCM Assessment"  
916837, "Records Management Assessment"

**Section 40A3: Event Followup**

Procedures

EP-AA-1010, "Exelon Nuclear Radiological Emergency Plan Annex for Oyster Creek Station"

Drawings

3E-611-17-001, 'Elec. Elementary Diagram Annunciator – Ack, Test, Reset'  
3E-611-17-002, 'Elec. Elementary Diagram, Annun. Power Supply & Horns'  
3E-611-17-016, 'Elec. Elementary Diagram Control Panel 7F-Anunnun. P'

Condition Reports (IR)

979382

Work Orders (AR)

A2235140

Other Documents

NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73"

**Section 40A5: Other**

Procedures

CY-AA-130-200, "Quality Control"  
CY-AA-170-1000, "Radiological Environmental Monitoring Program and Meteorology Program Implementation"  
CY-AA-170-400, "Radiological Groundwater Protection Program"  
CY-OC-130-2000, "Chemistry Quality Control: Vendor Laboratories"  
CY-OC-170-3010, "Cross Reference of Technical Specification, ODCM Requirements, and Compliance Requirements"  
CY-OC-170-201, "Compliance with Technical Specification 6.8.4, Radioactive Effluent Control Program"  
LS-AA-1120, "Section 1.34, Industry Ground Water Protection Initiative"

EN-AA-407. "Response to Unplanned Discharge of Licensed Radioactive Material to Ground Water, Surface Water, or Soil"

Condition Reports (IR)

713365

**LIST OF ACRONYMS**

AC	Alternating Current
ADAMS	Agencywide Documents Access and Management System
Exelon	Exelon Energy Company, LLC
CFR	Code of Federal Regulations
EAL	Emergency Action Level
GPI	Groundwater Protection Initiative
IMC	Inspection Manual Chapter
IR	Issue Report
IST	Inservice Test
LER	License Event Report
LLC	Limited Liability Corporation
LLD	Lower Limits of Detection
MSPI	Mitigating Systems Performance Index
NEI	Nuclear Energy Institute
NCV	Non-cited Violation
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
OWA	Operator Workarounds
Oyster Creek	Oyster Creek Generating Station
PARS	Publicly Available Records
PCP	Process Control Program
PI	Performance Indicator
PI&R	Problem Identification and Resolution
RCA	Radiological Controlled Area
REMP	Radiological Environmental Monitoring Program
RP&C	Radiological Protection and Chemistry
SDP	Significance Determination Process
SSC	Structures, Systems and Components
TLD	Thermoluminescent Dosimeter
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
V	Volts
VAC	Volts – Alternating Current
VDC	Volts – Direct Current
WO	Work Order