



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

October 28, 2009

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 05000219/2009004**

Dear Mr. Pardee:

On September 30, 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 October 15, 2009, with Mr. M. Massaro, Site Vice President, 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). This finding 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.

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

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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

Enclosure: Inspection Report 05000219/2009004
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U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 50-219

License No.: DPR-16

Report No.: 05000219/2009004

Licensee: Exelon Nuclear

Facility: Oyster Creek Generating Station

Location: Forked River, New Jersey

Dates: July 1, 2009 – September 30, 2009

Inspectors: M. Ferdas, Senior Resident Inspector
J. Kulp, Senior Resident Inspector
R. Nimitz, Senior Health Physicist
H. Gray, Senior Reactor Inspector
T. Wingfield, Reactor 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 05000219/2009004; 07/01/2009 - 09/30/2009; Exelon Energy Company, LLC, Oyster Creek Generating Station; Event Followup.

The report covered a 3-month period of inspection by resident inspectors, a regional health physicist 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: Initiating Events

- Green. A self-revealing NCV of Oyster Creek Technical Specification 6.8.1, "Procedures and Programs," occurred when Exelon did not properly implement procedures to transfer the "D" reactor recirculation pump from local manual to remote manual control which resulted in an unplanned reduction in reactor power on August 6. Operations personnel misread the scoop tube position indicator on "D" reactor recirculation pump motor generator set and did not properly match it with the speed indicated on the remote controller in the control room as required by the procedure, resulting in a reduction in recirculation flow and a reduction in reactor power. Exelon's corrective actions included restoring "D" reactor recirculation pump speed, replacement of the existing unmarked scoop tube position indicators with numbered position indicators and a revision of the procedure 301.2 "Reactor Recirculation System" to include cautions and additional information on how to read the scoop tube position indicators. This issue has been entered into Exelon's corrective action program.

This finding was more than minor because it was similar to example 4.b in Inspection Manual Chapter 0612, Appendix E and resulted in a power reduction of 3%. Additionally, the finding was more than minor in accordance with IMC 0612, Appendix B (Section 1-3), "Issue Screening," because it was associated with the human performance attribute of the initiating events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. 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 initiating events cornerstone and was a transient initiator contributor that did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. The performance deficiency had a cross-cutting aspect in the area of human performance, work practices [IMC 0305, Aspect H.4.(a)], because Exelon did not effectively implement human error prevention techniques, such as self and peer checking. Specifically, Exelon did not effectively use peer checking when determining the position of the reactor recirculation pump motor generator set scoop tube and the operators proceeded in the face of uncertainty when faced with poorly marked scoop tube position indicators. (Section 4OA3)

REPORT DETAILS

Summary of Plant Status

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

On several occasions during the summer months (July 28, 29, 31, August 1, 4, 6, 17, 18, 19, 20, 21, and 22) operators performed unplanned power reductions in accordance with operating procedures to maintain the plant's circulating water discharge temperatures below Oyster Creek's environmental discharge permit requirements.

On July 7, operations personnel performed an unplanned downpower to 80% due to a condenser tube leak on the 'A' south condenser. The operators subsequently reduced power to 60% for as low as reasonably achievable (ALARA) occupational dose considerations for personnel performing repairs. The plant returned to full power on July 9.

On July 12, the plant experienced an automatic reactor scram with a loss of offsite power (LOOP) event during adverse weather (electrical storms) conditions in the area. Exelon reported this event to the NRC in Event Notification 45196, "Unusual Event Declared Due to A Loss of Offsite Power." During the plant shutdown, Exelon personnel performed testing on main generator and transformers, and performed repairs on electrical switchyard equipment, #1 emergency diesel generator (EDG), 'B' isolation condenser (IC) level instrument, and control rod drive (CRD) flow control valve. Operators commenced a reactor startup on July 15 and established the reactor critical and synchronized the main generator to the grid on July 16. The plant remained at 90% power until Exelon completed repairs on the #1 circulating water pump and returned to full power on July 30. Additional information on this event is contained in section 4OA3 of this report and NRC Inspection Report 05000219/2009009, dated September 26, 2009 (Special Inspection Team Report).

On August 6, an unplanned down power to 97% occurred when 'D' reactor recirculation pump flow unexpectedly dropped when operators transferred control from local manual to automatic control. Additional information on this event is contained in section 4OA3 of this report.

On August 25, operations personnel performed an unplanned down power to 60% to perform repairs on a condensate transfer system pipe after it was discovered to be leaking. Exelon subsequently lowered reactor power to 50% for ALARA occupational dose considerations during repairs to the pipe. Exelon reported the leak to the NRC in Event Notification 45299, "Offsite Notification Due to a Water Leak Containing Tritium." The plant returned to full power on August 29 after completion of repairs to the condensate transfer system. Additional information on this issue is contained in section 4OA3 of this report.

Oyster Creek operated at 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)

Enclosure

a. Inspection Scope (1 sample)

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

The inspectors reviewed Exelon's response to a declaration of a tornado watch and high intake level conditions on September 11. The inspectors verified that operators properly monitored important plant equipment that could have been affected by the adverse weather conditions. The inspectors also verified that the licensee entered the applicable abnormal procedures and took the prescribed preparatory and compensatory actions as required. The inspectors performed walkdowns of areas that could be potentially impacted by the adverse weather conditions, such as the intake structure and the external portions of the protected area. 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)

The inspectors performed four partial equipment 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 system, associated electrical distribution components and control room panels, to verify the equipment was aligned to perform its intended safety functions. Documents reviewed for this inspection activity are listed in the Supplemental Information attachment to this report. The following plant systems were inspected:

- Containment spray system #2 on July 6;
- Emergency diesel generator #2 on August 3;
- 'A' and 'B' Isolation Condenser (fire water aligned as makeup source) on August 27; and
- Core spray system #2 on August 31.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope (71111.05A 1 sample; 71111.05Q 5 samples)

The inspectors performed a walkdown of five plant areas to assess their vulnerability to fire and observed one plant fire drill. The inspectors observed an unannounced fire drill on September 10, 2009, to assess the readiness of Exelon's fire brigade to respond to fires within the plant. The drill scenario involved a simulated fire on the 23 foot level of

the reactor building. The inspectors attended Exelon's drill critique to evaluate its adequacy in assessing personnel performance in responding to the postulated 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. Documents reviewed for this inspection activity are listed in the Supplemental Information attachment to this report. The following plant areas were inspected:

- Turbine Building Basement South (TB-FZ-11D) on July 9;
- Reactor Building 75' Level (RB-FZ-1C) on July 15;
- 'A/B' Battery Room (OB-FZ-8C) on August 10;
- 480V switchgear room 'B' (OB-FZ-6B) on September 1; and
- 23 Foot Reactor Building (RB-FZ-1E) on September 9.

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 July 27. The inspectors observed training scenario "OBE 09-5.1." 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 (1 samples)

The inspectors performed one maintenance effectiveness inspection activity. The inspectors reviewed the following degraded equipment issue in order to assess the effectiveness of maintenance by Exelon:

- Instrument air system (IR 954212) on September 21.

The inspectors 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 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 (5 samples)

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

- Service air compressor #1 unavailable due to planned maintenance and containment spray system #1 unavailable due to corrective maintenance on July 6;
- Emergency diesel generator #1 unplanned inoperability and #2 service air compressor unavailable due to unplanned corrective maintenance on August 4;
- Emergency diesel generator #1, #1 service water pump and #1 turbine building closed cooling water heat exchanger unavailable due to planned maintenance on September 16;
- #1 service water pump, 'B' control rod drive pump unavailable due to planned maintenance on September 22; and
- Unplanned loss of both credited sources of shell makeup water to 'A' and 'B' Isolation Condensers on September 25.

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 (4 samples)

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

- Increased leakage and elevated temperatures on control rod drive 14-27 on August 10 (IR 951573);
- #1 EDG abnormal sounds during start on August 19 (IR 955503);
- ASME code class 3 condensate transfer pipe leak on August 25 (IR 957052); and
- Bank 6 startup transformer "C" phase voltage regulator on September 3 (IR 961176).

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.

1R18 Plant Modifications (71111.18)

a. Inspection Scope (3 temporary modification samples)

The inspectors reviewed three temporary plant modifications that were implemented by Exelon personnel at Oyster Creek. The inspectors reviewed the following modifications:

- Temporary 24V battery charger (temporary modification OC-04-00304-006);
- Temporary hose connection to condensate transfer system (temporary modification ECR-09-00648); and
- Temporary leak repair on service water piping downstream of RBCCW heat exchanger (temporary modification C2021823).

The inspectors reviewed the engineering/procedure change packages, design basis, and licensing basis documents associated with each of the modifications to ensure that the systems associated with each of the modifications would not be adversely impacted by the change. The inspectors walked down portions of the systems associated with the modification when applicable and prudent. The inspectors reviewed the modifications to ensure they were performed in accordance with Exelon's modification process. The inspectors also ensured that revisions to licensing/design basis documents and operating procedures were properly revised to support implementation of the modification. The inspectors also reviewed Exelon's 10 CFR 50.59 screening for each of the modifications. 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' condensate transfer pump on August 15 (WO C2021550);
- '1C' core spray pump on September 2 (WO C2020551);
- Bank 6 startup transformer 'C' phase voltage regulator on September 3 (WO C2021875);
- #1 fire diesel on September 17 (WO R2144264).

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.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope (1 sample)

The inspectors monitored Exelon's activities associated with the one forced outage.

On July 12, operators initiated and completed a plant shutdown following an automatic reactor scram and LOOP event. The inspectors observed portions of the shutdown from the control room, and reviewed plant logs to ensure that technical specification requirements were met for placing the reactor in "hot shutdown" and "cold shutdown." The inspectors also monitored Exelon's controls over outage activities to determine whether they were in accordance with procedures and applicable technical specification requirements.

The inspectors verified that cool down rates during the plant shutdown were within technical specification requirements. The inspectors verified that Exelon assessed and managed the outage risk. The inspectors confirmed on a sampling basis that tagged equipment was properly controlled and that equipment was configured to safely support maintenance and plant operations. During control room tours, the inspectors verified that operators maintained reactor vessel level and temperature within the procedurally required ranges for the operating condition. The inspectors also verified that the decay heat removal function was maintained through monitoring shutdown cooling (SDC) parameters from the control room. The inspectors observed Oyster Creek's plant operations review committee (PORC) startup reviews which were performed on July 14.

The inspectors monitored restart activities that began on July 15, to ensure that required equipment was available for operational condition changes, including verifying technical specification requirements, license conditions, and procedural requirements. Portions of the startup activities were observed from the control room to assess operator and equipment performance. The inspectors also verified that unidentified leakage and

identified leakage rate values were within expected values and within technical specification requirements. 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 (2 in-service test (IST) samples and 2 routine surveillance samples)

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

- Containment spray system IST on July 7;
- Reactor coolant system (RCS) leakage on July 29;
- #2 EDG surveillance test on August 3; and
- Service water pump 1-2 comprehensive surveillance and IST on September 28.

The inspectors verified that test data was 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.

4. OTHER ACTIVITIES [OA]

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope (2 samples)

The inspectors reviewed performance indicator (PI) data associated with two PIs. The inspectors used the guidance provided in Nuclear Energy Institute (NEI) 99-02, Revision 5, "Regulatory Assessment Performance Indicator Guideline" to assess the accuracy and completeness of the PI data reported by Exelon between July 1, 2008 and June 30, 2009. The inspectors reviewed the following PIs:

- Reactor Coolant System Activity; and
- Reactor Coolant System Leakage.

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, or accessing Exelon's computerized database.

.2 Annual Sample Review

a. Inspection Scope

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

Safety Culture Assessment The inspectors reviewed Exelon's identification of employee concerns through various processes (Corrective Action Program (CAP), Employee Concerns Program (ECP), etc.) that may have an impact on site safety culture and evaluation of those issues through the Site Employee Issues Advisory Committee (SEIAC). The inspectors selected a number of CAP Issue Reports (IRs) from a list of all IRs generated since January 1, 2008 for detailed review. The inspectors reviewed Exelon procedures and processes associated with the CAP, ECP, and safety culture. In addition, the inspectors conducted a limited number of interviews with personnel from Operations, Radiation Protection, Work Management, and Regulatory Assurance.

b. Findings and Observations

Safety Culture Assessment

No findings of significance were identified.

Oyster Creek uses the SEIAC to evaluate current issues and trends that might impact the health of the site's safety culture. The SEIAC evaluates issues from the CAP, department managers, and outside agencies. The Station Ownership Committee (SOC) flags potential safety culture-related issues with a special code during the CAP IR screening process to allow for additional review and focused follow-up if necessary.

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

Observations:

- SOC member qualification requirements are not formalized.

Enclosure

- The SOC process for coding potentially safety culture related IRs is captured in a short statement in LS-AA-120 and may not be detailed enough to ensure consistency of application throughout the organization.
- Exelon provides basic safety conscious work environment (SCWE) training to new supervisors as part of its Supervisory Development Program.
- The SEIAC has recommended SCWE refresher training for management personnel.
- The SEIAC identified CAP IR initiator feedback mechanisms as minimally successful and a potential area for improvement.

4OA3 Event Followup (71153) (6 samples)

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

.1 Condenser Tube Leak

a. Inspection Scope

On July 7, operations personnel responded to a condenser hot well high conductivity alarm and determined that a condenser tube leak had developed in the "A" south condenser. Operations personnel initially reduced power to 80% to assess the condition, and subsequently reduced power to 60% for as low as reasonably achievable (ALARA) occupational dose considerations for personnel performing repairs on the condenser. The plant returned to full power on July 9 after Exelon identified and plugged the leaking tubes within the condenser.

The inspectors verified that operations personnel responded in accordance with plant procedures and equipment responded as intended by reviewing control room narrative logs, corrective action program condition reports, and through discussions with operations, engineering, and chemistry personnel.

The condenser tube leak is described and evaluated in corrective action program condition report IR 939512.

b. Findings

No findings of significance were identified.

.2 Automatic Reactor Scram and Unusual Event Due to a Loss of Offsite Power (LOOP)

a. Inspection Scope

On July 12 (0135), operations personnel in the control room responded to an automatic reactor scram with a LOOP event during adverse weather (electrical storms) conditions in the area. In accordance with Oyster Creek's Generating Station's emergency action

level (EAL) matrix, an Unusual Event (UE) was declared at 0148, due to a loss of offsite power to the plant's startup transformers for greater than fifteen minutes. Offsite power was subsequently restored at 0305 and the UE was terminated at 0405 after offsite power was restored and operations personnel determined that the offsite power grid would remain stable.

The inspectors responded to the control room following notification of the reactor scram and UE and observed the response of Exelon personnel to the event. At the time of the event, the inspectors verified that conditions were met for a UE as described in the Oyster Creek EAL matrix. In addition, the inspectors reviewed 10 CFR 50.72, "Immediate Notification Requirements for Operating Nuclear Power Reactors," to verify that Exelon properly notified the NRC during the event. The inspectors reviewed technical specification requirements to ensure that Oyster Creek operated in accordance with its operating license during the course of the event. The inspectors provided NRC regional management with periodic status during the course of the event after arriving onsite.

The inspectors reviewed plant process computer (PPC) data, control room logs, and discussed the event with Exelon personnel to gain an understanding of how operations personnel and plant equipment responded during the event. The information gathered during these reviews was provided to regional management to determine the appropriate NRC response to this event.

The inspectors evaluated Exelon's program and process associated with event response to ensure they adequately implemented station procedures OP-AA-108-114, "Post Transient Review" and OP-AA-106-101-1001, "Event Response Guidelines." The inspectors observed the plant operations review committee (PORC) meeting prior to plant startup to evaluate whether Exelon understood the cause of the event and appropriately resolved issues identified during the event. The inspectors reviewed Exelon's post-trip review report (IR 940992) to gain additional information pertaining to the event, and ensure that human performance and equipment issues were evaluated prior to plant startup.

Additional information on this event is contained in NRC Special Inspection Team (SIT) report 05000219/2009009, dated September 26.

b. Findings

The NRC SIT report details the chronology of the event, equipment and human performance, emergency communications, and the risk significance of the event.

.3 'D' Reactor Recirculation Speed Control Change

a. Inspection Scope

On August 6, control room and field operators were transferring 'D' reactor recirculation pump from the local manual to the automatic mode of operation. The field operators at the motor generator (MG) set misread the local position indicator for the 'D' recirculation pump MG set. This resulted in the operators not properly matching the actual scoop tube position to the position demanded by the automatic controller in the control room.

When the automatic controller was placed in control, the mismatch caused the automatic controller to move the scoop tube in a manner which lowered flow in the 'D' loop and resulted in an unplanned downpower of approximately 3%. The control room operator noticed that flow was lowering in the 'D' loop, and took immediate actions to return the 'D' pump speed to match the other pumps.

Exelon entered this issue into the corrective action program as IR 950748. The inspectors reviewed PPC data, control room logs and the licensee's prompt and root cause evaluations to evaluate operator actions, plant response and the adequacy of the corrective actions specified by the licensee.

b. Findings

Introduction. A self revealing GREEN NCV of TS 6.8.1, "Procedure and Programs" occurred when Exelon did not properly implement procedures to transfer the "D" reactor recirculation pump from local manual to remote manual control which resulted in an unplanned reduction in reactor power on August 6.

Discussion. On August 6, operations personnel were making preparations to transfer the mode of control of the "D" reactor recirculation pump from local manual to automatic control. Exelon procedure 301.2, "Reactor Recirculation System", prescribes a two step process to transfer control of a reactor recirculation pump. The first step transfers control from local manual (at the MG set) to remote manual (in the control room). The second step directs the reactor operator to transfer control from the remote manual to the automatic mode. During the process of transferring control from local manual to remote manual, reactor recirculation flow decreased in the "D" loop and resulted in an unexpected 3% reduction in reactor power.

Exelon's investigation into this event determined that operations personnel incorrectly read the scoop tube position indicator and did not properly match the demand signal of the remote manual controller to the actual scoop tube position prior to transferring the mode of control from local manual to remote manual. Two operations personnel read the local scoop tube position indicator as 32% flow while the actual position was 56% flow, despite the use of peer checking techniques. The remote manual controller (in the control room) was indicating a demand of approximately 32%. When operations personnel transferred control to the remote manual controller, the controller saw a demand of 32% and an actual scoop tube position of 56% and subsequently drove the scoop tube position to match the demand signal, causing reactor recirculation flow to decrease in the "D" loop.

Exelon's corrective actions included restoring reactor recirculation flow in the "D" loop to match flow with the other loops, conducting prompt and root cause evaluations, conducting human performance stand downs and crew briefs, replacement of the existing unmarked scoop tube position indicators with numbered position indicators and a revision of the procedure 301.2 "Reactor Recirculation System" to include cautions and additional information on how to read the scoop tube position indicators.

Analysis. The performance deficiency associated with this self-revealing finding involved Exelon not implementing procedures properly when transferring control of the "D" reactor recirculation pump from local manual to remote manual control. This finding was more

than minor because it was similar to example 4.b in Inspection Manual Chapter (IMC) 0612, Appendix E and resulted in a power reduction of 3%. Additionally, the finding was more than minor in accordance with IMC 0612, Appendix B (Section 1-3), "Issue Screening," because it was associated with the human performance attribute of the initiating events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations.

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 initiating events cornerstone and was a transient initiator contributor that did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available.

The performance deficiency had a cross-cutting aspect in the area of human performance, work practices [IMC 0305, Aspect H.4.(a)], because Exelon did not effectively implement human error prevention techniques, such as self and peer checking. Specifically, Exelon did not effectively use peer checking when determining the position of the reactor recirculation pump motor generator set scoop tube and the operators proceeded in the face of uncertainty when faced with poorly marked scoop tube position indicators.

Enforcement. Oyster Creek Nuclear Generating Station Technical Specification 6.8.1, "Procedures and Programs," states in part, that written procedures shall be established, implemented and maintained covering the items referenced in Appendix "A" of Regulatory Guide 1.33, of which operation of the recirculation system is one of the items mentioned. Contrary to the above, Exelon personnel did not properly implement written procedures when transferring the mode of control for the "D" reactor recirculation pump motor generator set from local manual to remote manual which resulted in an unexpected power reduction to 97%. However, because the finding was of very low safety significance (Green) and has been entered into their corrective action program in condition report IR 950478, this violation is being treated as an NCV, consistent with section IV.A of the NRC Enforcement Policy. **(NCV 05000219/2009004-01, Unexpected power drop when transferring mode of control of recirculation pump)**

.4 Condensate Transfer Pipe Leak

a. Inspection Scope

On August 24, operations personnel noted increased turbine building sump levels (IR 956614) and performed a walk down of various turbine building areas to identify potential sources of water entering the sump. On August 25, operations personnel identified a leak from a condensate transfer system pipe that penetrates through the turbine building foundation. Operations personnel observed approximately an 8-12 gpm leak from the penetration. Exelon performed a chemistry sample of the water and identified that it contained approximately 10 million pCi/L of tritium.

Exelon developed and executed plans to excavate the buried portion of the condensate transfer pipe to determine if the pipe was also leaking into the soil outside of the turbine building. Exelon completed excavation activities on August 25 and identified that the

pipe was also leaking to outside of the turbine building. Exelon notified the New Jersey Department of Environmental Protection, Bureau of Nuclear Engineering (BNE) and the NRC (NRC Event Notification 45299, "Offsite Notification Due to a Water leak Containing Tritium"). Exelon documented this issue in corrective action program condition report IR 957052.

On August 26, Exelon implemented temporary modification ECR 09-00648 which installed temporary hose connections from the demineralized water system to provide a source of water to plant equipment normally supplied by the condensate transfer system. Installation of this temporary modification allowed the condensate transfer system to be removed from service, stopping the leak. Additional information on this modification is contained in section 1R18 of this report.

On August 29, Exelon completed replacement of the condensate transfer pipe (the portion of the pipe that penetrated through the turbine building foundation). The inspectors observed portions of the replacement activities and reviewed the work order instructions.

Regional inspectors, with assistance from the resident inspectors, monitored Exelon's investigation, repairs, and environmental sampling activities associated with the leaking condensate transfer system pipe. 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 no radiological impact to members of the public.

b. Findings

Introduction. An unresolved item (URI) was identified to review Exelon's root cause evaluation regarding the leak in the condensate transfer pipe to determine whether a performance deficiency existed which allowed the pipe to degrade. The inspectors will review Exelon's root cause evaluation after it is completed, which had not occurred by the end of this inspection period.

Description. On August 24, operations personnel noted increased turbine building sump levels and performed a walk down of various turbine building areas to identify potential sources of water entering the sump. On August 25, operations personnel identified a 8-12 gpm leak from a condensate transfer system pipe that penetrates through the turbine building foundation. On August 29, Exelon completed replacement of the condensate transfer pipe (the portion of the pipe that penetrated through the turbine building foundation). Exelon entered this issue into the corrective action program as IR 956614 and is performing a root cause evaluation to determine the circumstances that allowed the degradation to occur. **(URI 05000219/2009004-02: Condensate Transfer Pipe Leak)**

.5 (Closed) LER 05000219/2009-004-00, Establishment of Secondary Containment Boundary Contrary to Technical Specification Requirements.

This LER discussed how Exelon established secondary containment boundary contrary to technical specification 3.5.B, "Secondary Containment," requirements during their Fall

2008 refueling outage at Oyster Creek. A temporary modification was performed which allowed a secondary containment door (the access door to the trunnion room) to be left open during maintenance activities. The inspectors reviewed this LER and identified that the incorrect technical specification violation was referenced in the LER. Exelon documented this issue in corrective action program condition report IR 947771. The enforcement aspects of the issue discussed in the LER are discussed in NRC Inspection Report 05000219/2009007, dated June 29, 2009. This LER is closed.

.6 Loss of both credited sources of shell makeup water to both isolation condensers

a. Inspection Scope

On September 25, while finishing the fire water makeup to isolation condensers in-service test, the bonnet on V-11-49 "fire protection supply to emergency condenser system" isolation valve failed while the valve was being placed in the closed position. Leakage from the failed bonnet became progressively worse. Operators shut V-11-41, "emergency condensers supply isolation valve" to stop the leakage, which resulted in both the technical specification required sources of isolation condenser shell side makeup water, being isolated from both isolation condensers. Exelon staffed the Outage Control Center to coordinate repair efforts. Exelon replaced the failed valve bonnet and restored full capability of both sources of makeup water to the isolation condenser within the time limitations imposed by technical specifications.

The inspectors responded to the control room and the outage control center to observe the Exelon's response to the event, including operator actions in the control room. The inspectors walked down the affected portions of the system, reviewed the control room and outage control center logs, condition reports, the prompt investigation, technical specification requirements and conducted interviews to evaluate Exelon's response to the failed valve bonnet. Exelon entered this issue into their corrective action program as IR 970238.

b. Findings

No findings of significance were identified.

On September 25, while finishing the fire water makeup to isolation condensers in-service test, the bonnet on V-11-49 "fire protection supply to emergency condenser system" isolation valve failed while the valve was being placed in the closed position. Leakage from the failed bonnet became progressively worse. Operators shut V-11-41, "emergency condensers supply isolation valve" to stop the leakage, which resulted in both of the technical specification required sources of isolation condenser shell side makeup water being isolated from both isolation condensers. Exelon staffed the Outage Control Center to coordinate repair efforts. Exelon replaced the failed valve bonnet and restored full capability of both sources of makeup water to the isolation condenser within the time limitations imposed by technical specifications.

The inspectors responded to the control room and the outage control center to observe Exelon's response to the event, including operator actions in the control room. The inspectors walked down the affected portions of the system, reviewed the control room and outage control center logs, condition reports, the prompt investigation, technical

specification requirements and conducted interviews to evaluate Exelon's response to the failed valve bonnet. Exelon entered this issue into their corrective action program as IR 970238.

b. Findings

No findings of significance were identified.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel Activities

a. Inspection Scope

During the inspection period, the inspectors conducted the following observations of security force personnel and activities to verify that the activities were consistent with Exelon security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

- Multiple tours of operations within the central and secondary security alarm stations;
- Explosive detector equipment testing;
- Owner controlled area and protected area access control posts; and
- Other security officer posts including the ready room and compensatory posts.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. These observations were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

Resident Inspector Exit Meeting. On October 15, 2009, the inspectors presented their overall findings to members of Exelon's management led by Mr. M. Massaro, (Site Vice President), 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.

4OA7 Licensee-Identified Violations

None.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

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
 R. Wiebenga, Senior Manager, System Engineering
 H. Ray, 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
 J. Renda, Manager, Radiation Protection
 S. Dupont, Regulatory Assurance Specialist

Others:

State of New Jersey, Bureau of Nuclear Engineering

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSEDOpened

05000219/2009004-02	URI	Condensate Transfer Pipe Leak (Section 4OA3)
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Opened/Closed

05000219/2009004-01	NCV	Unexpected power drop when transferring mode of control of recirculation pump (Section 4OA3)
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Closed

05000219/2009-004-00	LER	Establishment of Secondary Containment Boundary Contrary to Technical Specification Requirements (Section 4OA3)
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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.

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"

Section 1R04: Equipment Alignment

Procedures

310, "Containment Spray System Operation"
341, "Emergency Diesel Generator Operation"
307, "Isolation Condenser System"
308, "Emergency Core Cooling System Operation"

Drawings

885D781, "Core Spray System Flow Diagram"

Condition Reports (IR)

958342

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"
OP-AA-201-003, "Fire Drill Performance"
EP-AA-1010, "Radiological Emergency Plan Annex for Oyster Creek Station"

Condition Reports (IR)

963259 967787

Other Documents

Oyster Creek Generating Station Pre-Fire Plan, "Reactor Building (75' Elevation) (RB-FZ-1C)"
Oyster Creek Generating Station Pre-Fire Plan, "Turbine Building Basement South (TB-FZ-11D)"
Oyster Creek Generating Station Pre-Fire Plan, "A/B Battery Room, Tunnel and Electric Tray Room (OB-FZ-8C)"
Oyster Creek Generating Station Pre-Fire Plan, "Reactor Building (23' Elevation) (RB-FZ-1E)"
Shift Coverage Log dated September 10, 2009
OCNGS Technical Specification 6.2.2, "Facility Staff"
OCNGS Fire Drill Record dated September 10, 2009
OCNGS Fire Drill Scenario, "RX 23 MCC1A21B-V-21-11"

Section 1R11: Licensed Operator Requalification ProgramOther Documents

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

OBE 09-5.1, "Licensed Operator Requal Training Simulator Exercise Guide"

Section 1R12: Maintenance EffectivenessProcedures

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

ER-AA-310-1001, "Maintenance Rule – Scoping"

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

ER-AA-310-1007, "Maintenance Rule – Periodic (a)(3) Assessment"

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

Condition Reports (IR)

954212	954628	947689	896575	905661	903350
730201	731707	753907	744688	754392	754755
783963	790294	801557	802638	814499	859669
882946	966576	964046	953624	947689	951252
950428					

Work Orders (AR)

M2231214 A2231214 A2230245

Other Documents

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

Oyster Creek Maintenance Rule Scope and Performance Monitoring for Instrument & Control air system (SSC 852)

Section 1R13: Maintenance Risk Assessments and Emergent Work ControlProcedures

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"

LS-AA-120, "Issue Identification and Screening Process"

OP-AA-108-105, "Equipment Deficiency Identification and Documentation"

OP-AA-101-111, "Roles and Responsibilities of On-shift Personnel"

WC-AA-101, "On-line Work Control Process"

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

Condition Report (IR)

948779 948113 970238

Other Documents

Technical Specification 3.7, "Auxiliary Electrical Power"

Technical Specification 3.8, "Isolation Condenser"

Oyster Creek Control Room logs dated September 25, 2009

Oyster Creek Outage Control Center logs dated September 25, 2009

Email from Michael Godknecht, "Plant Risk with IC Makeup from Normal Fire Water and Condensate Transfer Unavailable", dated September 25, 2009
 Inspection Manual Part 9900: Technical Guidance, "Operability Determination & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety"

Section 1R15: Operability Evaluations

Procedures

OP-AA-108-115, "Operability Determinations"
 OP-AA-108-115-1002, "Supplemental Consideration for On-Shift Immediate Operability Determination"
 CC-AA-309-101, "Engineering Technical Evaluations"
 ER-AB-331-1006, "BWR Reactor Coolant System Leakage Monitoring and Action Plan"

Condition Reports (IR)

951573	951647	955796	957052	957347	961176
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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"
 Adverse Conditioning Monitoring and Contingency Plan, "CRD 14-27 Temperature"
 OCNGS Technical Specification 3.2, "Reactivity Control"
 951573-01, Equipment Prompt Investigation, "CRD Hi Temp Alarm"
 951573-03, Technical Evaluation, "CRD Hi Temp Alarm"
 GE SIL 173, "Control Rod Drive High Operating Temperature"
 OCNGS Technical Specification 3.7, "Auxiliary Power"
 OCNGS Technical Specification 3.8, "Isolation Condenser"
 NRC Technical Guidance 9900, "Operability Determination Process"

Section 1R18: Plant Modifications

Procedures

LS-AA-104, "Exelon 50.59 Review Process"
 LS-AA-104-1001, "Exelon 50.59 Resource Manual"
 340.2, "24VDC Distribution System"
 CC-AA-404, "Application Selection, Evaluation and Control of Temporary Leak Repairs"

Drawings

BR 2005, "Reactor & Turbine Building Service Water System Flow Diagram"
 BR 3028, "24V Station DC System One Line Diagram"
 GU 3C-736-11-001, "24/48V Instrument Power DC System Panel Schedule"

Condition Report (IR)

952154	957894	956355	956031
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Work Order (AR)

A2228182	C2021567	A2231694	C2021831	C2021823
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Other

OC-04-00304-006, "MTCE Support TCCP, Install temporary 24V Battery Charger"
 2611-PGD-2621, Nuclear Plant Operator Initial Course "DC Distribution"

OCNGS UFSAR Section 8.3.2.2, "24/48 VDC Power System"
 OC-2005-S-0045, 50.59 Screening form for ECR OC-04-00304
 OCNGS Technical Specifications, Section 3.7.A.1
 Adverse Condition Monitoring Plan (IR957052), "Condensate Transfer Leak In Condenser Bay"
 Clearance Number 09501390 – "Repair Pipe Leak In Condensate Transfer Piping Down Stream
 of Isolation Valve"
 OCNGS Technical Specification 3.8, "Isolation Condenser"
 OCNGS UFSAR Section 9.2.3.2, "Demineralized Water Transfer Systems"
 OCNGS UFSAR Section 10.4.7, "Condensate and Feedwater System"
 NDE Data Report (Ultrasonic Thickness) 2009-002-019, "Service Water Discharge Piping"
 C-1302-736-5350-001, "OCNGS- 24/48V Battery Capacity Calculation"

Section 1R19: Post-Maintenance Testing

Procedures

MA-AA-716-012, "Post Maintenance Testing"
 OP-MA-109-101, "Clearance and Tagging"
 644.4.002, "Condensate Transfer Pump Operability and In-service Test"
 610.4.021, "Core Spray System 1 Pump Operability and Quarterly In-service Test"
 2400-SMM-3900.04, "System Pressure Test Procedure (ASME XI)"
 645.4.001, "Fire Pump #1 Operability Test"

Condition Report (IR)

953986	953986	881403	564126	961176
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Work Order (AR)

C2021550	C2020551	R2147887	A2232403	C2021875	R2144364
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Other

Control Room Narrative Log, dated August 15-16, 2009
 VM-OC-5134, "JFR Distribution Step voltage Regulator and MJ-XL Voltage Regulator Control
 Panel"

Section 1R20: Refueling and Outage Activities

Procedures

201, "Plant Startup"
 203, "Plant Shutdown"
 305, "Shutdown Cooling System Operation"
 OP-AA-108-108, "Unit Restart Review"

Condition Report (IR)

958488

Section 1R22: Surveillance Testing

Procedures

SA-AA-129, "Electrical Safety"
 MA-AA-1000, "Conduct of Maintenance"
 607.4.014, "Containment Spray and ESW System 1 Pump Operability, IST and Containment
 Spray Pumps Trip"
 636.4.013, "Diesel Generator #2 Load Test"
 641.1.001, Rev 63, "Service Water Pump Operability and In-Service Test"
 681.4.004, "Technical Specification Log Sheet"

312.9, "Primary Containment Control"
 351.1, "The Chemical Waste/Floor Drain System Operating Procedure"
 351.2, "High Purity Waste System"
 ER-AB-331-1006, "BWR Reactor Coolant System Leakage Monitoring and Action Plan"

Condition Reports (IR)

939386 939164 953996

Work Orders (AR)

R2126805

R2103594

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"

C-1302-532-E540-036, "ESW System Maximum Heat Differential Pressure with Containment Spray"

Technical Specification 3.3, "Reactor Coolant"

Technical Specification 4.3, "Reactor Coolant"

VM-OC-0096, "Engine Maintenance Manual – 645E4 Turbo Charge Engine (Diesel Generator)"

Section 40A2: Identification and Resolution of Problems

Procedures

EI-AA-1, "Safety Conscious Work Environment"

EI-AA-101, "Employee Concerns Program"

EI-AA-101-1001, "Employee Concerns Program Process"

EI-AA-101-1002, "Employee Concerns Program Trending and Reporting Tools"

LS-AA-1012, "Safety Culture Monitoring"

LS-AA-120, "Issue Identification and Screening Process"

LS-AA-125, "Corrective Action Procedure"

LS-AA-125-1001, "Root Cause Analysis Manual"

LS-AA-125-1002, "Common Cause Analysis Manual"

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

LS-AA-125-1004, "Effectiveness Review Manual"

LS-AA-125-1005, "Coding and Analysis Manual"

Issue Reports (IR)

757754	757755	757761	797892	807516	812587
813984	833493	840141	844913	844982	848077
855021	868426	868430	868679	877245	894755
915246	815438	919437	979438	919896	930529
930878	931796	941998	942336	942339	942344
942359	944387	944663	948948	960422	962049

Other Documents

ECP Communication Plan

ECP Communication Material

ECP Training Material

SEIAC Meeting Minutes, Action Plans and Associated Documentation

Section 40A3: Event FollowupProcedures

ABN-15, "Condensate High Conductivity Saltwater"
 OP-OC-108-104-1001, "Guidance for limiting and Administrative Conditions for Operations"
 OP-AA-108-104, "Technical Specification Compliance"
 307, "Isolation Condenser System"
 HU-AA-1081-F-05, "Operations Fundamentals"
 OP-AA-300, "Reactivity Management"
 301.2, "Reactor Recirculation System"
 HU-AA-101, "Human Performance Tools and Verification Practices"
 OP-AA-101-111-1001, "Operations Philosophy Handbook"
 LS-AA-125-1001, "Root Cause Analysis Manual"

Drawings

3E-424-A1-001, "Condensate Transfer System Flow Diagram"

Condition Reports (IR)

939512	939556	961301	970238	973767	950478
950405	952714	952716			

Work Orders (AR)

A223761

Other Documents

NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73"
 NRC Inspection Report 05000219/2009007, dated June 29, 2009
 939512, "Prompt Investigation: Saltwater Leak into "A" South Hotwell"
 Technical Specification 3.8, "Isolation Condenser"
 Oyster Creek Control Room logs dated September 25, 2009
 Oyster Creek Outage Control Center logs dated September 25, 2009
 Email from Michael Godknecht, "Plant Risk with IC Makeup from Normal Fire Water and
 Condensate Transfer Unavailable", dated September 25, 2009
 Inspection Manual Part 9900: Technical Guidance, "Operability Determination & Functionality
 Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to
 Quality or Safety"
 950478, Root Cause Investigation: "Unexpected reduction in "D" Reactor Recirculation Pump
 Speed"
 Technical Specification 6.8, "Procedures and Programs"
 Regulatory Guide 1.33, "Quality Assurance Program Requirements"

LIST OF ACRONYMS

ADAMS	Agency-wide Documents Access and Management System
ALARA	As Low As Reasonably Achievable
ASME	American Society of Mechanical Engineers
BNE	Bureau of Nuclear Engineering
Exelon	Exelon Energy Company, LLC
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CRD	Control Rod Drive
EAL	Emergency Action Level
ECP	Employee Concerns Program
ECR	Engineering Change Request
EDG	Emergency Diesel Generator
GPM	Gallons per minute
IC	Isolation Condenser
IR	Issue (Condition) Report
IST	Inservice Test
IMC	Inspection Manual Chapter
LER	License Event Report
LOOP	Loss of Off-site Power
MG	Motor Generator
NEI	Nuclear Energy Institute
NCV	Non-cited Violation
NRC	Nuclear Regulatory Commission
Oyster Creek	Oyster Creek Generating Station
PARS	Publicly Available Records
pCi/L	picocuries per liter
PI	Performance Indicator
PORC	Plant Operations Review Committee
PPC	Process Plant Computer
RBCCW	Reactor Building Closed Cooling Water
RCS	Reactor Coolant System
SCWE	Safety Conscious Work Environment
SDC	Shutdown Cooling
SDP	Significance Determination Process
SEIAC	Site Employee's Issues Advisory Committee
SOC	Station Ownership Committee
SIT	Special Inspection Team
UE	Unusual Event
URI	Unresolved Item
WO	Work Order