



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

November 3, 2014

Mr. Joseph E. Pacher
Site Vice President
R.E. Ginna Nuclear Power Plant
Exelon Generation Company, LLC
1503 Lake Road
Ontario, NY 14519

**SUBJECT: R.E. GINNA NUCLEAR POWER PLANT, LLC - NRC INTEGRATED
INSPECTION REPORT 05000244/2014004**

Dear Mr. Pacher:

On September 30, 2014, the United States Nuclear Regulatory Commission (NRC) completed an inspection at your R.E. Ginna Nuclear Power Plant, LLC (Ginna). The enclosed inspection report documents the inspection results, which were discussed on October 15, 2014, with you 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.

This report documents one self-revealing finding of very low safety significance (Green). The finding was determined not to involve a violation of NRC requirements. If you disagree with the cross-cutting aspect assigned or this finding not associated with a regulatory requirement, 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 Inspectors at Ginna.

In accordance with Title 10 of the *Code of Federal Regulations* 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Daniel L. Schroeder, Chief
Reactor Projects Branch 1
Division of Reactor Projects

Docket No. 50-244
License No. DPR-18

Enclosure: Inspection Report 05000244/2014004
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No. 50-244

License No. DPR-18

Report No. 05000244/2014004

Licensee: Exelon Generation Company, LLC

Facility: R.E. Ginna Nuclear Power Plant, LLC

Location: Ontario, New York

Dates: July 1, 2014 through September 30, 2014

Inspectors: N. Perry, Senior Resident Inspector
D. Dodson, Resident Inspector
H. Anagnostopoulos, Health Physicist
E. Burket, Emergency Preparedness Inspector
N. Floyd, Reactor Inspector

Approved by: Daniel L. Schroeder, Chief
Reactor Projects Branch 1
Division of Reactor Projects

TABLE OF CONTENTS

SUMMARY.....	3
1. REACTOR SAFETY.....	4
1R01 Adverse Weather Protection	4
1R04 Equipment Alignment	4
1R05 Fire Protection	5
1R06 Flood Protection Measures	6
1R07 Heat Sink Performance	6
1R11 Licensed Operator Requalification Program & Licensed Operator Performance	9
1R12 Maintenance Effectiveness	10
1R13 Maintenance Risk Assessments and Emergent Work Control	10
1R15 Operability Determinations and Functionality Assessments.....	11
1R18 Plant Modifications	12
1R19 Post-Maintenance Testing.....	12
1R22 Surveillance Testing	13
1EP2 Alert and Notification System Evaluation	14
1EP3 Emergency Response Organization Staffing and Augmentation System	14
1EP4 Emergency Action Level and Emergency Plan Changes	14
1EP5 Maintenance of Emergency Preparedness	15
2. RADIATION SAFETY.....	16
2RS5 Radiation Monitoring Instrumentation.....	16
2RS6 Radioactive Gaseous and Liquid Effluent Treatment	18
4. OTHER ACTIVITIES	21
4OA1 Performance Indicator Verification	21
4OA2 Problem Identification and Resolution	23
4OA3 Follow-Up of Events and Notices of Enforcement Discretion	23
4OA5 Other Activities	26
4OA6 Meetings, Including Exit	27
ATTACHMENT: SUPPLEMENTARY INFORMATION.....	27
SUPPLEMENTARY INFORMATION	A-1
KEY POINTS OF CONTACT	A-1
LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED.....	A-1
LIST OF DOCUMENTS REVIEWED	A-2
LIST OF ACRONYMS.....	A-15

SUMMARY

IR 05000244/2014004; 07/01/2014 – 09/30/2014; R.E. Ginna Nuclear Power Plant, LLC; Follow-Up of Events and Notices of Enforcement Discretion.

This report covered a 3-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. The inspectors identified one finding of very low safety significance (Green). The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," issued December 19, 2013. All violations of United States Nuclear Regulatory Commission (NRC) requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated July 9, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

Cornerstone: Initiating Events

- Green. A self-revealing Green finding (FIN) was identified for inadequate development and maintenance of work packages as required by Exelon Generation Company, LLC (Exelon) procedure CNG-MN-4.01-1003, "Work Order Planning," Revision 00701. Specifically, the work packages associated with maintenance on the main generator exciter air cooler reversing head did not adequately incorporate and comply with vendor recommendations, which resulted in a service water (SW) leak on the reversing chamber of the generator exciter air cooler, a rapid downpower, and shutdown of the reactor.

This finding is more than minor because it is associated with the procedure quality attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the work packages associated with maintenance on the main generator exciter air cooler reversing head did not adequately incorporate and comply with vendor specifications, which resulted in a SW leak on the reversing chamber of the generator exciter air cooler, a rapid downpower, and shutdown of the reactor. Additionally, the finding is similar to Example 4.b of IMC 0612, "Power Reactor Inspection Reports," Appendix E, "Examples of Minor Issues," in that a performance deficiency caused a transient. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 2 of IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," the inspectors determined that this finding is of very low safety significance (Green), because the finding did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of a trip to a stable shutdown condition. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, 'Identification', because Exelon did not implement a corrective action program with a low threshold for identifying issues, and individuals did not identify issues completely, accurately, and in a timely manner in accordance with the program. Specifically, Exelon staff did not initiate condition reports and document reversing head material deficiencies identified by Exelon's vendor and recommended for repair in 2009, 2012, and 2014 [P.1]. (Section 4OA3)

REPORT DETAILS

Summary of Plant Status

R.E. Ginna Nuclear Power Plant, LLC (Ginna) began the inspection period operating at 100 percent power. On August 3, 2014, operators reduced power to approximately 2 percent to complete repairs of leaking instrument air supply piping to 'B' main steam isolation valve 3516. Following repairs, operators returned the unit to 100 percent on August 5. The unit remained at or near 100 percent 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 – 1 sample)

External Flooding

a. Inspection Scope

On August 15 and 26, 2014, the inspectors performed an inspection of the external flood protection measures for Ginna. The inspectors reviewed technical specifications (TSs), procedures, design documents, and Updated Final Safety Analysis Report (UFSAR) Sections 2.4, "Floods," and 3.4.1, "Flood Protection," which depicted the design flood levels and protection areas containing safety-related equipment, to identify areas that may be affected by external flooding. The inspectors conducted a general site walkdown of external areas of the plant, including the control building and auxiliary building to ensure that Exelon Generation (Exelon) erected flood protection measures in accordance with design specifications. The inspectors also reviewed procedures for mitigating external flooding during severe weather to determine if Exelon planned or established adequate measures to protect against external flooding events. Documents reviewed for each section of this inspection report are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment

Partial System Walkdowns (71111.04Q – 4 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- Boric acid system following planned maintenance on the emergency boric acid supply valve on July 22 and 23, 2014

- 'B' emergency diesel generator (EDG) while the 'A' EDG was out of service (OOS) on September 11, 2014
- 'A' EDG while the 767 offsite power circuit was OOS on September 23 and 25, 2014
- 'A' motor-driven auxiliary feedwater (AFW) while the 'B' motor-driven AFW pump was OOS on September 30, 2014

The inspectors selected these systems based on their risk-significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors reviewed applicable operating procedures, system diagrams, the UFSAR, TSs, condition reports (CRs), and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted system performance of their intended safety functions. The inspectors also performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether Exelon staff had properly identified equipment issues and entered them into the corrective action program (CAP) for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

1R05 Fire Protection

Resident Inspector Quarterly Walkdowns (71111.05Q – 6 samples)

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that Exelon controlled combustible materials and ignition sources in accordance with administrative procedures. The inspectors verified that fire protection and suppression equipment was available for use as specified in the area pre-fire plan, and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for OOS, degraded, or inoperable fire protection equipment, as applicable, in accordance with procedures.

- Auxiliary building operating floor on August 27, 2014
- Screen house building basement on September 2, 2014
- Cable tunnel on September 18, 2014
- Oil storage room on September 25, 2014
- HEMYC® fire wrap areas in the auxiliary building on September 26, 2014
- Control room on September 29, 2014

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 – 1 sample)Annual Review of Cables Located in Underground Bunkers/Manholesa. Inspection Scope

On September 3 and 4, 2014, the inspectors conducted an inspection of underground bunkers/manholes subject to flooding that contain cables whose failure could affect risk-significant equipment. The inspectors performed walkdowns of risk-significant areas, including manhole 1 in the transformer yard and other manholes containing offsite power circuits 7T and 767, to verify that the cables were not submerged in water, that cables appeared intact, and to observe the condition of cable support structures. When applicable, the inspectors verified proper sump pump operation and verified level alarm circuits were set in accordance with station procedures and calculations to ensure that the cables will not be submerged. The inspectors also ensured that drainage was provided and functioning properly in areas where dewatering devices were not installed.

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07).1 Annual Sample (71111.07A – 2 samples)a. Inspection Scope

The inspectors reviewed the following heat exchangers (HXs) to determine their readiness and availability to perform their safety functions. The inspectors reviewed the design basis for the components. The inspectors observed actual performance of HX inspections and the state of cleanliness of HX tubes. The inspectors discussed the results of the most recent inspections with engineering and maintenance staff and reviewed pictures of the as-found and as-left conditions. The inspectors verified that Exelon initiated appropriate corrective actions for identified deficiencies. The inspectors also verified that the number of tubes plugged within the HXs did not exceed the maximum amount allowed.

- Turbine-driven AFW lube oil cooler on August 18, 2014
- 'A' component cooling water (CCW) HX OOS on September 9, 2014

b. Findings

No findings were identified.

.2 Triennial Sample (71111.07T – 3 samples)

a. Inspection Scope

Based on Exelon's risk ranking of safety-related HXs, past triennial heat sink inspections, recent operational experience, and resident inspector input, the inspectors selected the following HXs for inspection:

- 'A' motor-driven AFW pump lube oil cooler
- 'A' containment recirculating fan cooler unit
- 'B' spent fuel pool (SFP) HX

The inspectors reviewed program and system health reports, self-assessments, and Exelon's methods (inspection, cleaning, maintenance, and performance monitoring) used to ensure heat removal capabilities for the safety-related HXs and compared them to Exelon's commitments made in response to NRC Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment." The inspectors verified that the methods and acceptance criteria were consistent with the accepted industry practices. The inspectors walked down and observed conditions of the associated system components including piping, pumps, valves, and HXs with the responsible system engineer.

'A' Motor-Driven AFW Pump Lube Oil Cooler

The inspectors reviewed the programs and procedures for maintaining the safety functions of the 'A' motor-driven AFW pump lube oil cooler (EAF02A), which is directly cooled by SW. The Ginna plant includes two motor-driven AFW pumps, each equipped with a speed increaser that is cooled by one lube oil cooler. The motor-driven AFW pump lube oil cooler is monitored by means of performance testing and supplemented with cleaning and inspection.

The inspectors reviewed the results from recent performance tests and engineering calculations for the 'A' lube oil cooler heat transfer design. Exelon monitors the lube oil cooler performance during quarterly surveillance tests of the motor-driven AFW pump and trends the data to detect any long-term degradation. The inspectors verified that the acceptance criterion was met and consistent with the design basis values. The inspectors also reviewed the most recently completed inspection and cleaning work order (WO) to verify that the as-found and as-left conditions of the lube oil cooler were acceptable and operation was consistent with the design and applicable engineering analyses.

'A' Containment Recirculating Fan Cooler Unit

The inspectors reviewed the programs and procedures for maintaining the safety functions of the 'A' containment recirculating fan cooler unit, which is directly cooled by SW. The containment building is cooled by four containment recirculating fan cooler units, each consisting of three cooling coils (ACA01A, ACA01E, and ACA01F) and one fan motor cooler where the cooling coils provide the containment heat removal function.

Enclosure

The containment recirculating fan cooler unit is monitored by means of cleaning and inspection.

The inspectors reviewed the results from the most recent inspection and cleaning of the 'A' containment recirculation fan cooler cooling coils as well as the supporting engineering calculations for tube plugging margin and heat transfer. Exelon inspects the containment recirculating fan cooler units on a 5-year periodicity and monitors differential pressure of the SW flow through the cooling coils every refueling outage. The inspectors verified that the as-found and as-left conditions of the cooling coils were acceptable and operation was consistent with the design and applicable engineering analyses.

'B' SFP HX

The inspectors reviewed the programs and procedures for maintaining the safety functions of the 'B' SFP HX (EAC13) which is directly cooled by SW. The SFP is cooled by two HXs with one HX in service during normal operations. The 'B' SFP HX is monitored by means of performance testing and supplemented with cleaning and inspection.

The 'B' HX was replaced in 2011 with a larger capacity HX for increased heat removal capability. The inspectors reviewed the results from the baseline thermal performance test conducted after installation and the associated engineering calculations for heat transfer design. The inspectors also reviewed the results from the visual inspection of the shell, which was the first inspection performed since installation. The inspectors verified that the as-found and as-left conditions of the HX were acceptable and operation was consistent with the design and applicable engineering analyses.

Review of Intake Structure

The inspectors performed a walkdown of the intake structure building including the traveling screens, SW pumps, structural supports, and the accessible portions of the SW piping to look for indications of piping leakage and/or degradation. The inspectors verified that the intake bay silt accumulation was monitored and maintained at an acceptable level and that level instruments were functional and routinely monitored.

Because Ginna is located in an area that is susceptible to frazil ice, the inspectors assessed Exelon staff's ability to detect and mitigate frazil ice conditions. The inspectors reviewed the procedural controls and interviewed Exelon staff on the operational strategy for mitigating frazil ice formation, which includes high-voltage bar heaters on the intake structure and reducing the intake water flow by recirculating the tempered discharge water.

Problem Identification and Resolution

The inspectors selected and reviewed a sample of CAP reports related to the heat sink and HX samples chosen for this inspection. The review verified that Exelon staff was appropriately identifying, characterizing, and correcting problems related to these

systems and components and that the planned or completed corrective actions for the reported issues were appropriate.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program and Licensed Operator Performance (71111.11Q – 2 samples)

.1 Quarterly Review of Licensed Operator Regualification Testing and Training

a. Inspection Scope

The inspectors observed licensed operator simulator training on September 16, 2014, which included a failed reactor coolant temperature channel, grid voltage fluctuations due to severe weather, loss of an emergency bus, loss of both CCW pumps, an automatic safety injection, and a loss-of-coolant accident. The inspectors evaluated operator performance during the simulated event and verified completion of risk-significant operator actions, including the use of abnormal and emergency operating procedures. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor. The inspectors verified the accuracy and timeliness of the emergency classifications made by the shift manager and the TS action statements entered. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

b. Findings

No findings were identified.

.2 Quarterly Review of Licensed Operator Performance in the Main Control Room

a. Inspection Scope

The inspectors observed and reviewed power ascension activities and the performance of AP-FW.1, "Abnormal [Main Feedwater] MFW Pump Flow," Revision 02000, on August 4 and 5, 2014. The inspectors observed pre-shift briefings and reactivity control briefings to verify that the briefings met the criteria specified in procedures CNG-OP-1.01-1000, "Conduct of Operations," Revision 01000, and CNG-OP-3.01-1000, "Reactivity Management," Revision 00802. Additionally, the inspectors observed operator performance to verify that procedure use, crew communications, and coordination of activities between work groups similarly met established expectations and standards.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 2 samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on structure, system, and component (SSC) performance and reliability. The inspectors reviewed system health reports, CAP documents, maintenance WOs, and maintenance rule basis documents to ensure that Exelon was identifying and properly evaluating performance problems within the scope of the maintenance rule. For each sample selected, the inspectors verified that the SSC was properly scoped into the maintenance rule in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 50.65 and verified that the (a)(2) performance criteria established by Exelon staff were reasonable. As applicable, for SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return these SSCs to (a)(2). Additionally, the inspectors ensured that Exelon staff was identifying and addressing common cause failures that occurred within and across maintenance rule system boundaries.

- Plant communications system (a)(1) evaluations, (a)(1) action plan, and goal setting for deficiencies that occurred on February 29, 2012, May 21, 2013, April 29, 2014, and May 2, 2014
- Microprocessor rod position indication system deficiencies on September 29 and 30, 2014

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 – 5 samples)

a. Inspection Scope

The inspectors reviewed station evaluation and management of plant risk for the maintenance and emergent work activities listed below to verify that Exelon performed the appropriate risk assessments prior to removing equipment from service. The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that Exelon personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When Exelon performed emergent work, the inspectors verified that operations personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work and discussed the results of the assessment with the station's probabilistic risk analyst to verify plant

conditions were consistent with the risk assessment. The inspectors also reviewed the TS requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- Planned maintenance on the diesel fire pump with the intermediate building east cable tray fire suppression system S15 OOS on August 6, 2014
- Planned maintenance on both fire pumps and nuclear instrument calibrations on September 4, 2014
- Planned maintenance on the 'A' containment spray system, 'C' safety injection system, 'A' CCW HX, 'A' battery room sump, and Bus 18 undervoltage testing on September 8, 2014
- Unplanned 'A' EDG Bus 14 supply breaker maintenance and 'A' EDG OOS on September 11, 2014
- Planned maintenance on offsite power circuit 7T on September 18, 2014

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 5 samples)

a. Inspection Scope

The inspectors reviewed operability determinations for the following degraded or non-conforming conditions:

- Microprocessor rod position indication system frequently alarming on July 14 and 15, 2014
- Unsealed battery room penetrations on July 18, 2014
- Intermediate building east cable tray fire suppression system S15 silting on August 6, 2014
- Screen house flood barrier degraded on August 20, 2014
- Residual heat removal (RHR) sub-basement penetration seal condition on August 25, 2014

The inspectors selected these issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the operability determinations to assess whether TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TSs and UFSAR to Exelon's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled by Exelon. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18Q – 2 samples)Permanent Modificationsa. Inspection Scope

The inspectors evaluated the following modifications:

- Engineering Change Package (ECP)-14-000512 – Install Connections for Flood Barriers in [Turbine Building] Basement and Design [All-Volatile Treatment] Door Flood Barrier.
- ECP-14-000593 – Eliminate Potential Water Intrusion Path into the Battery Room and Enhance Auxiliary Building Flood Protection.

The inspectors verified that the design bases, licensing bases, and performance capabilities of the affected systems were not degraded by the modifications. In addition, the inspectors reviewed modification documents associated with the upgrades and design changes including the installation of temporary external flood barriers in the turbine building and permanent hydrostatic seals for 'B' battery room penetrations. The inspectors also observed maintenance personnel install the temporary external flood barriers, observed maintenance personnel install the permanent 'B' battery room penetration seals, reviewed revisions to ER-SC.2, "High Water (Flood) Plan," Revision 01001, and reviewed GMM-23-99-FLOODBARRIER, "Flood Barrier Installation and Removal in Turbine Building Basement," Revision 00001. Additionally, the inspectors interviewed maintenance and engineering personnel to ensure the procedures could be reasonably performed.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 5 samples)a. Inspection Scope

The inspectors reviewed the post-maintenance tests for the maintenance activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedure to verify that the procedure adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure were consistent with the information in the applicable licensing basis and/or design basis documents, and that

the procedure had been properly reviewed and approved. The inspectors also witnessed the test or reviewed test data to verify that the test results adequately demonstrated restoration of the affected safety functions.

- Diesel fire pump following planned maintenance on August 8, 2014
- 'A' containment spray pump following planned maintenance on September 9, 2014
- 'A' EDG following unplanned maintenance on September 11, 2014
- Motor-driven fire pump following planned maintenance on September 23, 2014
- 'B' motor-driven AFW pump following planned maintenance on September 30, 2014

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 5 samples)

a. Inspection Scope

The inspectors observed performance of surveillance tests and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied TSs, the UFSAR, and Exelon procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied. Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following surveillance tests:

- STP-O-12.2, Emergency Diesel Generator 'B' on July 2, 2014
- CME-38-12-STABATTMON, Station Battery Monthly Performance Checks on August 25, 2014
- STP-O-2.8Q, Component Cooling Water Pump Quarterly Test on September 4, 2014 (inservice test)
- CPI-AXIAL-N44, Calibration of Nuclear Instrumentation System Power Range N44 Axial Offset on September 5, 2014
- STP-O-16QT, Auxiliary Feedwater Turbine Pump - Quarterly on September 10, 2014 (inservice test)

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness1EP2 Alert and Notification System Evaluation (71114.02 – 1 sample)a. Inspection Scope

An onsite review was conducted to assess the maintenance and testing of the Alert and Notification System (ANS). During this inspection, the inspectors conducted a review of the ANS testing and maintenance programs. The inspectors reviewed the associated alert and notification procedures and the Federal Emergency Management Agency approved ANS design report to ensure compliance with design report commitments for system maintenance and testing. The inspection was conducted in accordance with NRC Inspection Procedure 71114.02, 10 CFR 50.47(b)(5) and the related requirements of 10 CFR 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," were used as reference criteria.

b. Findings

No findings were identified.

1EP3 Emergency Response Organization Staffing and Augmentation System (71114.03 – 1 sample)a. Inspection Scope

The inspectors conducted a review of Ginna's emergency response organization (ERO) augmentation staffing requirements and the process for notifying and augmenting the ERO. The review was performed to verify the readiness of key Exelon staff to respond to an emergency event and to verify Exelon's ability to activate their emergency response facilities (ERFs) in a timely manner. The inspectors reviewed Ginna's Emergency Plan for ERF activation and ERO staffing requirements, the ERO duty roster, applicable station procedures, augmentation test reports, the most recent drive-in drill reports, and CAP reports related to this inspection area. The inspectors also reviewed a sample of ERO responder training records to verify training and qualifications were up-to-date. The inspection was conducted in accordance with NRC Inspection Procedure 71114.03, 10 CFR 50.47(b)(2) and the related requirements of 10 CFR 50 Appendix E were used as reference criteria.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04 – 1 sample)a. Inspection Scope

Exelon implemented various changes to Ginna's emergency action levels (EALs), Emergency Plan, and implementing procedures. Exelon had determined that, in

Enclosure

accordance with 10 CFR 50.54(q)(3), any change made to the EALs, Emergency Plan, and its lower-tier implementing procedures, had not resulted in any reduction in effectiveness of the Plan and that the revised Plan continued to meet the standards in 50.47(b) and the requirements of 10 CFR 50 Appendix E.

The inspectors performed an in-office review of all EAL and Emergency Plan changes submitted by Exelon as required by 10 CFR 50.54(q)(5), including the changes to lower-tier Emergency Plan implementing procedures, to evaluate for any potential reductions in effectiveness of the Emergency Plan. This review by the inspectors was not documented in an NRC Safety Evaluation Report and does not constitute formal NRC approval of the changes. Therefore, these changes remain subject to future NRC inspection in their entirety. The requirements in 10 CFR 50.54(q) were used as reference criteria.

b. Findings

No findings were identified.

1EP5 Maintenance of Emergency Preparedness (71114.05 – 1 sample)

a. Inspection Scope

The inspectors reviewed a number of activities to evaluate the efficacy of Exelon's efforts to maintain the emergency preparedness (EP) program. The inspectors reviewed: memorandums of agreement with offsite agencies; the 10 CFR 50.54(q) Emergency Plan change process and practices; Exelon's maintenance of equipment important to EP; records of evacuation time estimate population evaluation; and provisions for and implementation of primary, backup, and alternate ERF maintenance. The inspectors also verified Exelon's compliance with new NRC EP regulations regarding EALs for hostile action events, protective actions for on-site personnel during events, emergency declaration timeliness, ERO augmentation and alternate facility capability, evacuation time estimate updates, on-shift ERO staffing analysis, and alert and notification system back-up means.

The inspectors further evaluated Exelon's ability to maintain the EP program through identification and correction of EP weaknesses by reviewing a sample of drill reports, an actual event report, self-assessments, and 10 CFR 50.54(t) reviews. The inspectors reviewed a sample of EP-related CRs initiated from September 2012 through July 2014. The inspection was conducted in accordance with NRC Inspection Procedure 71114.05. 10 CFR 50.47(b) and the related requirements of 10 CFR 50 Appendix E were used as reference criteria.

b. Findings

Introduction. The inspectors identified an unresolved item (URI) during the inspection. The inspectors determined that additional NRC review and evaluation is required to determine whether Ginna's licensing basis relative to the Emergency Plan approval was adequate and met all NRC requirements and regulations. During the inspection, the

inspectors reviewed Exelon's protective action recommendation (PAR) procedure and strategy and determined that Exelon did not provide PARs for the entire plume exposure pathway emergency planning zone (EPZ). Specifically, Exelon did not provide PARs for the area over Lake Ontario at Ginna. The inspectors determined that Exelon's PAR procedure and process at Ginna may not be consistent with the intent of the regulations.

Description. 10 CFR 50.47(b)(10) states, in part, that a range of protective actions has been developed for the plume exposure pathway EPZ for emergency workers and the public. Appendix E to Part 50 states, in part, that generally, the plume exposure pathway EPZ for nuclear power plants shall consist of an area about 10 miles in radius. NUREG-0654/FEMA-REP-1, Supplement 3, "Guidance for Protective Action Strategies," Revision 1, provides an expectation that licensees are to provide a PAR with the General Emergency notification. The offsite response organizations responsible for implementing protective actions use the licensee's PARs to inform their decision making.

Ginna Station Nuclear Emergency Response Plan (NERP), Revision 0, dated August 9, 1984, included a map of the 10-mile plume exposure pathway, identified as Figure F-3, which illustrated emergency response planning areas (ERPAs) in the 10-mile EPZ land area surrounding Ginna. Additionally, Section 1.0 of the NERP states that Exelon will recommend to Federal, State, and local authorities specific protective actions to limit the danger to the public, including evacuation. The inspectors compared the latest revision of the NERP, Revision 03801, dated July 11, 2014, to Revision 0 and determined that no ERPAs have existed over Lake Ontario. Figure 5.3, "Scheme for Protective Action Recommendations," of the NERP provides shelter-in-place and evacuation PARs based on ERPAs, but does not include PARs for the potential transient population, such as boaters on Lake Ontario. Exelon provided documentation showing that Wayne County's Radiological EP Plan provides for evacuation of Lake Ontario at an Alert emergency classification level.

In response to the inspector's concern, Exelon entered the issue into the CAP as CR-2014-004538 for further evaluation. The inspectors will coordinate with NRC's Office of Nuclear Security and Incident Response to review the adequacy of Exelon's approved Emergency Plan to determine if this issue constitutes a violation and to ensure Exelon is meeting all NRC regulations and requirements. Pending resolution and determination of any potential enforcement actions, this issue is a URI. **(URI 05000244/2014004-02, Adequacy of Exelon's Protective Action Recommendation Strategy)**

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety and Occupational Radiation Safety

2RS5 Radiation Monitoring Instrumentation (71124.05 – 1 sample)

a. Inspection Scope

During the period of July 14 to 18 and August 24 to 29, 2014, the inspectors verified that Exelon was assuring the accuracy and operability of radiation monitoring instruments that were used to protect occupational workers and the public. The inspectors used the

Enclosure

requirements in 10 CFR 20, "Standards for Protection Against Radiation;" 10 CFR 50, Appendix A, "General Design Criteria for Nuclear Power Plants," Criterion 60, "Control of Release of Radioactivity to the Environment," and Criterion 64, "Monitoring Radioactive Releases;" 10 CFR 50 Appendix I, "Numerical Guides for Design Objectives and Limiting Conditions for Operations to Meet the Criterion 'As Low As Is Reasonably Achievable' for Radioactive Material in Light-Water-Cooled Nuclear Power Reactor Effluents;" Title 40 of the CFR (40 CFR) 190, "Environmental Radiation Protection Standards for Nuclear Power Operations;" NUREG-0737, "Clarification of TMI Action Plan Requirements;" TSs; Offsite Dose Calculation Manual (ODCM); applicable industry standards; and Exelon procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors performed an in-office review of the following:

- UFSAR to identify radiation instruments associated with monitoring process streams and effluents
- Effluent monitor alarm setpoint bases
- Calculation methods provided in the ODCM
- UFSAR to identify radiation instruments associated with monitoring radiation
- TS requirements for post-accident monitoring
- Listing of in-service survey instrumentation
- Audit reports of the radiation monitoring program since the last inspection
- Instrument calibration and source check procedures
- Area radiation monitor alarm setpoints

Walkdowns and Observations

During the period of July 14 to 18, the inspectors walked down three effluent radiation monitoring systems that included flow measurement instruments and performed the following:

- Evaluation of the effluent process monitor configuration alignment
- Documentation of channel calibration and functional tests
- Primary calibration traceability to National Institute of Standards and Technology Pedigree use of secondary calibration sources used
- Review of the range of channel calibrations with respect to the instrument's alarm setpoint
- Evaluation of effluent monitor setpoints

During the period of August 24 to 29, the inspectors reviewed the following:

- Calibration and source checks for 10 portable survey instruments
- Walked down five area radiation monitors and five continuous air monitors and their remote control room indications
- Source checks for three personnel contamination monitors, three portal monitors, and four small article monitors

Enclosure

- Calibration and performance checks of laboratory analytical instruments
- Calibration and performance checks of the whole body counter

Calibration and Check Sources

During the period of July 14 to 18, the inspectors reviewed plant waste stream characterization to assess whether calibration sources used were representative of radiation encountered in the plant.

During the period of August 24 to 29, the inspectors reviewed Exelon's source term or waste stream characterization data to assess whether calibration sources used were representative of the radiation encountered in the plant.

Post-Accident Monitoring Instrumentation

During the period of August 24 to 29, the inspectors reviewed the calibration documentation for the containment high-range monitors. The inspectors reviewed calibration and availability of two effluent/process monitors and Exelon's capability to collect high-range, post-accident effluent samples.

Instrument Calibrators

The inspectors reviewed the current primary calibration of the portable survey and area radiation monitor instrument calibrator units. The inspectors assessed whether these calibrators had been calibrated by a facility using National Institute of Standards and Technology traceable sources.

Problem Identification and Resolution

During the period of July 14 to 18 and August 24 to 29, the inspectors evaluated whether problems associated with radiation monitoring instrumentation were being identified by Exelon at an appropriate threshold and were properly addressed for resolution in the CAP. The inspectors assessed the appropriateness of the corrective actions for a selected sample of problems documented by Exelon that involved radiation monitoring instrumentation.

b. Findings

No findings were identified.

2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06 – 1 sample)

a. Inspection Scope

During the period of July 14 to 18, 2014, the inspectors verified that gaseous and liquid effluent processing systems were maintained so radiological discharges were properly reduced, monitored, and released. The inspectors also verified the accuracy of the calculations for effluent releases and public doses. The inspectors used the

Enclosure

requirements in 10 CFR 20; 10 CFR 50.35(a); 10 CFR 50, Appendix A, Criterion 60 and 64; 10 CFR 50, Appendix I; 10 CFR 50.75(g); 40 CFR 141, "Maximum Contaminant Levels for Radionuclides;" 40 CFR 190; Regulatory Guide (RG) 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR 50, Appendix I," Revision 1; RG 1.21, "Measuring, Evaluating, and Reporting Radioactive Material in Liquid and Gaseous Effluents and Solid Waste," Revision 2; RG 4.1, "Radiological Environmental Monitoring for Nuclear Power Plants," Revision 2; RG 4.15, "Quality Assurance for Radiological Monitoring Programs (Inception through Normal Operations to License Termination) -- Effluent Streams and the Environment," Revision 2; NUREG-1301, "Offsite Dose Calculation Manual Guidance: Standard Radiological Effluent Controls for Pressurized Water Reactors;" applicable industry standards; and Exelon procedures required by TSs/ODCM as criteria for determining compliance.

Inspection Planning

The inspectors conducted an in-office review of:

- 2012 and 2013 Ginna radioactive effluent release reports and identified effluent monitor operability issues for CAP follow-up
- UFSAR descriptions of the radioactive effluent monitoring and treatment systems
- Changes in the ODCM
- Effluent system 10 CFR 50.59 evaluations
- Groundwater monitoring results and any program changes
- Licensee event reports (LERs), event reports, and special reports related to the effluent program
- Effluent program procedures
- Effluent program audits since the last inspection

Walkdowns and Observations

The inspectors performed the following:

- Walked down the gaseous and liquid discharge systems to verify equipment configuration alignment and material condition
- Walked down building filtered ventilation systems to verify proper alignment and material condition
- Observed the routine processing and discharge of radioactive gaseous and liquid effluents to verify that appropriate treatment equipment were used and the processing activities aligned with discharge permits
- Verified that there have not been any changes to the effluent release paths since the last inspection

Sampling and Analyses

The inspectors performed the following:

- Observed three effluent sampling activities and assessed representative sampling
- Reviewed compensatory sampling of two effluent discharges made with inoperable effluent radiation monitors to verify compensatory sampling and associated release controls
- Reviewed the results of the inter-laboratory and the intra-laboratory comparison program to verify the quality of the radioactive effluent sample analyses

Instrumentation and Equipment

The inspectors performed the following:

- Reviewed the actual effluent stack and building vent flow rates to verify that the flow rates were consistent with TS requirements
- Reviewed ventilation effluent discharge system surveillance test results

Dose Calculations

The inspectors performed the following:

- Reviewed changes in effluent release dose values based on comparison of sequential radioactive effluent release reports
- Reviewed three radioactive liquid and three gaseous waste discharge permits to verify calculations of doses to members of the public
- Evaluated the current waste stream analyses to ensure hard-to-detect radionuclides were included in the effluent releases
- Reviewed changes in the ODCM since the last inspection
- Reviewed meteorological dispersion and deposition factors used in the ODCM
- Reviewed the latest land-use census to verify changes were evaluated
- Reviewed one abnormal radioactive effluent discharge to verify the discharge was monitored and the effluent release was included in the public dose calculations

Groundwater Protection Initiative Implementation

The inspectors performed the following:

- Reviewed groundwater monitoring results
- Reviewed leaks or spill events and entries made into Exelon's decommissioning files
- Determined if any required stakeholder notifications were conducted if required
- Assessed whether groundwater sample results were documented in the annual radioactive effluent release report

Problem Identification and Resolution

The inspectors assessed whether problems associated with the effluent monitoring and control program were being identified by Exelon at an appropriate threshold and were properly addressed for resolution in the CAP. In addition, the inspectors evaluated the appropriateness of the corrective actions for a selected sample of problems documented.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Mitigating Systems Performance Index (5 samples)

a. Inspection Scope

The inspectors reviewed Exelon's submittal of the mitigating systems performance index for the following systems for the period of July 1, 2013, through June 30, 2014:

- Emergency Alternating Current (AC) Power (MS06)
- High-Pressure Injection System (HPIS) (MS07)
- Heat Removal System (MS08)
- RHR System (MS09)
- Cooling Water Systems (MS10)

To determine the accuracy of the performance indicator (PI) data reported during those periods, the inspectors used definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7. The inspectors reviewed Exelon's operator narrative logs, CRs, mitigating systems performance index derivation reports, event reports, and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

.2 Emergency Preparedness (3 samples)

a. Inspection Scope

The inspectors reviewed data for the following EP PIs:

- Drill and Exercise Performance (EP01)
- ERO Drill Participation (EP02)

- ANS Reliability (EP03)

The last NRC EP inspection was conducted in the third quarter of 2013. Therefore, the inspectors reviewed supporting documentation from EP drills and equipment tests for the period of July 1, 2013, through June 30, 2014, to verify the accuracy of the reported PI data. The review of the PIs was conducted in accordance with Inspection Procedure 71151. The acceptance criteria documented in NEI 99-02, Revision 7, was used as reference criteria.

- b. Findings

No findings were identified.

- .3 Occupational Exposure Control Effectiveness (1 sample)

- a. Inspection Scope

During the period of August 24 to 29, 2014, the inspectors sampled Exelon's submittals for the occupational exposure control effectiveness (OR01) PI for the period of July 1, 2013, through June 30, 2014. The inspectors used the PI definitions and guidance contained in NEI 99-02, Revision 7, to determine the accuracy of the PI data reported.

The inspectors independently reviewed electronic personal dosimetry accumulated dose alarms, dose reports, and dose assignments for any intakes that occurred during the time period reviewed. The inspectors also conducted walkdowns of numerous locked high and very high radiation area entrances to determine the adequacy of the controls.

- b. Findings

No findings were identified.

- .4 Radiological Effluent TS/ODCM Radiological Effluent Occurrences (1 sample)

- a. Inspection Scope

During the period of August 24 to 29, 2014, the inspectors sampled Exelon's submittals for the radiological effluent TS/ODCM radiological effluent occurrences (PR01) PI for the period of July 1, 2013, through June 30, 2014. The inspectors used PI definitions and guidance contained in the NEI 99-02, Revision 7, to determine compliance.

The inspectors reviewed Exelon's corrective action report database to identify any potential unmonitored, uncontrolled, or improperly calculated effluent releases that may have impacted offsite dose. The inspectors reviewed gaseous and liquid effluent summary data and the results of associated offsite dose calculations for the selected dates to determine if indicator results were accurately reported.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)Routine Review of Problem Identification and Resolution Activitiesa. Inspection Scope

As required by Inspection Procedure 71152, "Problem Identification and Resolution," the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that Exelon entered issues into the CAP at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the CAP and periodically attended CR screening meetings.

b. Findings

No findings were identified.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153 – 3 samples).1 Plant Eventsa. Inspection Scope

For the plant events listed below, the inspectors reviewed and/or observed plant parameters, reviewed personnel performance, and evaluated performance of mitigating systems. The inspectors communicated the plant events to appropriate regional personnel and compared the event details with criteria contained in IMC 0309, "Reactive Inspection Decision Basis for Reactors," issued October 28, 2011, for consideration of potential reactive inspection activities. As applicable, the inspectors verified that Exelon made appropriate emergency classification assessments and properly reported the events in accordance with 10 CFR 50.72 and 50.73. The inspectors reviewed Exelon's follow-up actions related to the events to assure that Exelon implemented appropriate corrective actions commensurate with their safety significance.

- Unplanned downpower and reactor shutdown due to a SW leak on the reversing chamber of the generator exciter air cooler on May 24, 2014
- Unplanned downpower to 2 percent due to leaking instrument air supply piping to main steam isolation valve 3516 on August 3, 2014

b. Findings

Introduction. A self-revealing Green FIN was identified for inadequate development and maintenance of work packages as required by Exelon procedure CNG-MN-4.01-1003, "Work Order Planning," Revision 00701. Specifically, the work packages associated with maintenance on the main generator exciter air cooler reversing head did not adequately incorporate and comply with vendor recommendations, which resulted in a SW leak on the reversing chamber of the generator exciter air cooler, a rapid downpower, and shutdown of the reactor.

Description. At approximately 12:30 p.m. on May 24, 2014, during power ascension to 100 percent following a recent refueling outage, the plant stopped power ascension at approximately 91 percent after a SW leak on the main generator exciter air cooler occurred. At approximately 1:47 p.m., operators began a load reduction of approximately 10 percent per hour, and at approximately 2:00 p.m., station personnel determined that the SW leak was coming from an extruded gasket on the generator exciter air cooler reversing head and attempted to re-torque the head with no effect. At approximately 2:16 p.m., operators began a rapid load reduction of approximately 1 percent per minute, and the reactor was shut down at 3:56 p.m. The event was documented in the CAP as CR-2014-003254.

Exelon completed a root cause evaluation in order to determine the root and contributing causes and to propose corrective actions. Exelon identified two root causes—the cooler reversing head flatness was outside of specification, which caused excessive stresses on the gasket and resulted in localized compression failures; and the lack of clear guidance and acceptance criteria resulted in knowledge-based decision making that was predicated on successful historical performance.

The inspectors reviewed Exelon procedure CNG-MN-4.01-1003, "Work Order Planning," Revision 00701, which states, in part, the [work order] planner should ensure the work packages include administrative controls, specific work instructions, and post-maintenance testing requirements to provide instructions to plant personnel to ensure safe and efficient operation of the unit. Develop, maintain, and complete maintenance work packages...to comply with...vendor recommendations.

During interviews and reviews of the root cause evaluation, the inspectors noted that the exciter air cooler work package (WO C92106668) required an inspection of the cooler head surfaces to determine the need to perform machining. Work planning and execution in the turbine services organization had been historically performed by the original equipment manufacturer (OEM) using the OEM's procedures and processes. Ginna's WO did not give any guidance on what parameters to check or any acceptance criteria to evaluate the as-found condition. Instead of developing or incorporating this information into the site WOs, Ginna relied on the OEM's procedures and processes, including detailed acceptance criteria to maintain the turbine equipment. As a result of its inspection activities, the vendor recommended performing machining on the cooler heads to repair the surface finish during the 2014 outage, but the reversing head was not sent for machining, the flatness was not checked on either head, and no CR was initiated. The vendor stated "The inlet and reversing chamber gasket surfaces should be

Enclosure

checked for flatness each outage or each time the exciter air cooler is opened for cleaning. Along with flatness, the sealing surface finish should be checked and restored. This work is best performed in a machine shop.”

Similar recommendations were made by the vendor during previous outages. The 2012 outage report from the turbine vendor recommended performing machining on the cooler heads to repair the flatness and surface finish on both heads—a recommendation similar to the 2014 recommendations. Similarly, the 2009 outage report stated, “The exciter air cooler partitions will require re-surfacing during the next outage.” Neither the 2009, 2012, nor the 2014 recommendations to machine the cooler heads were completed; and CRs were not initiated in 2009, 2012, or 2014 to document these recommendations and deficiencies.

The inspectors also noted that procedure CNG-CA-1.01-1000, “Corrective Action Program,” Revision 00701, states, in part, that a CR “shall be initiated...whenever an individual identifies an event, condition, or problem [like] degraded equipment/material conditions found during the performance of preventive maintenance activities.”

Exelon’s corrective actions to prevent recurrence included establishing acceptance criteria in vendor work instructions and site work packages for cooler head flatness, surface finish, torque value, torque pattern, and gasket material; these new acceptance criteria were gathered from previously available vendor design drawings. Additional corrective actions included implementing OU-AA-3020, “Outage Turbine Services – Turbine – Generator,” Revision 006, with Exelon’s management oversight model and discovery and repair log, validating that vendor work instructions included acceptance criteria, and work steps requiring deficiencies to be documented in the CAP.

Analysis. The inspectors determined that the inadequate development and maintenance of work packages, as required by CNG-MN-4.01-1003, was a performance deficiency that was reasonably within Exelon’s ability to foresee and correct and should have been prevented. This finding is more than minor because it is associated with the procedure quality attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the work packages associated with maintenance on the main generator exciter air cooler reversing head did not adequately incorporate and comply with vendor specifications, which resulted in a SW leak on the reversing chamber of the generator exciter air cooler, a rapid downpower, and shutdown of the reactor. Additionally, the finding is similar to Example 4.b of IMC 0612, “Power Reactor Inspection Reports,” Appendix E, “Examples of Minor Issues,” issued August 11, 2009, in that a performance deficiency caused a transient.

In accordance with IMC 0609.04, “Initial Characterization of Findings,” issued June 19, 2012, and Exhibit 2 of IMC 0609, Appendix A, “The Significance Determination Process (SDP) for Findings At-Power,” issued June 19, 2012, the inspectors determined that this finding is of very low safety significance (Green), because the finding did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of a trip to a stable shutdown condition.

Enclosure

This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Identification, because Exelon did not implement a CAP with a low threshold for identifying issues, and individuals did not identify issues completely, accurately, and in a timely manner in accordance with the program. Specifically, Exelon staff did not initiate CRs and document reversing head material deficiencies identified by Exelon's vendor and recommended for repair in 2009, 2012, and 2014 [P.1].

Enforcement. This finding does not involve enforcement action because no violation of a regulatory requirement was identified. Because this finding does not involve a violation and is of very low safety significance, it is identified as a FIN. **(FIN 05000244/2014004-01, Inadequate Work Packages Associated with Maintenance on the Main Generator Exciter Air Cooler Reversing Head)**

- .2 (Closed) LER 05000244/2013-003-02: Unanalyzed Condition for Potential Floodwater Intrusion into Vital Battery Rooms

This revision to the LER describes two additional smaller conduit penetrations discovered that were not properly sealed. The two penetrations were identified during the extent-of-condition review. Exelon concluded that the impact of the additional penetrations was bounded by the potential consequence of the original unsealed penetrations from the cable vault. Exelon took immediate compensatory actions of initiating an operations monitoring plan and then promptly sealed the penetrations watertight. The inspectors reviewed Exelon's follow-up actions related to the events to assure they implemented appropriate corrective actions commensurate with their safety significance. There was no actual safety consequence associated with this event. The enforcement actions associated with this LER are discussed in NRC Supplemental Inspection Report 05000244/2014010 and Assessment Follow-up Letter. The inspectors did not identify any new issues during the review of the LER. This LER is closed.

4OA5 Other Activities

Institute of Nuclear Power Operations (INPO) Report Review

a. Inspection Scope

The inspectors reviewed the final report for the INPO accreditation team evaluation of the maintenance, chemistry, and radiological protection technical training programs conducted in August 2013. The inspectors evaluated this report to ensure that NRC perspectives of Exelon performance were consistent with any issues identified during the assessments. The inspectors also reviewed this report to determine whether INPO identified any significant safety issues that required further NRC follow-up.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

On October 15, 2014, the inspectors presented the inspection results to Mr. Joseph Pacher, Site Vice President, and other members of the Ginna staff. The inspectors verified that no propriety information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

J. Pacher, Site Vice President
W. Carsky, Plant Manager
J. Bowers, Manager, Site Radiation Protection
S. Doty, Manager, Site Maintenance
L. Edwards, Manager, Site Chem. Envir. & Radwaste
K. Garnish, Sr. Manager, Ops Support & Services
M. Geckle, Manager, Site Transition
T. Harding, Manager, Site Regulatory Assurance
J. Jackson, Site EP Manager
D. Markowski, Sr. Engineering Manager
T. Mogren, Manager, Site Engineering
T. Paglia, Manager, Site Operations
J. Scalzo, Manager, Site Security
J. Sperr, Manager, System Engineering
S. Wihlen, Director, Work Management

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED

Opened/Closed

05000244/2014004-01	FIN	Inadequate Work Packages Associated with Maintenance on the Main Generator Exciter Air Cooler Reversing Head (Section 4OA3)
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Opened

05000244/2014004-02	URI	Adequacy of Exelon's Protective Action Recommendation Strategy (Section 1EP5)
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Closed

05000244/2013-003-02	LER	Unanalyzed Condition for Potential Floodwater Intrusion into Vital Battery Rooms (Section 4OA3)
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LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedure

ER-SC.2 High Water (Flood) Plan, Revision 01001

Section 1R04: Equipment Alignment

Procedures

STP-O-30.4, Auxiliary Feedwater System Valve and Breaker Position Verification, Revision 00401

STP-O-30.10, Emergency Diesel Generator 'A' Pre-Startup Alignment, Revision 00501

STP-O-30.11, Emergency Diesel Generator 'B' Pre-Startup Alignment, Revision 00601

STP-O-R-5.0, Emergency Boration System, Revision 00101

Drawings

33013-1237, Auxiliary Feedwater Piping and Instrumentation Drawing (P&ID), Revision 68

33013-1239, Diesel Generator 'A' P&ID, Revision 27, Sheet 1

33013-1239, Diesel Generator 'B' P&ID, Revision 25, Sheet 2

33013-1266, Chemical Volume Control System Boric Acid, Revision 34

33013-1912, Condensate Demineralizer Regeneration Waste Handling P&ID, Revision 37

33013-2681, Sump Pumps, Drains, and Sewage Pumps P&ID, Revision 14

D215-0043, Electrical Conduit Layout Battery Relay and Control Room Transformer Area,
Revision 026

D215-0161, Electrical Emergency Diesel Generators Power Duct Run, Revision 7

Action Requests (ARs)/Condition Report

AR 02344915

AR 02344936

AR 02344942

AR 02386504

CR-2014-004121

Section 1R05: Fire Protection

Procedures

A-54.7, Fire Protection Tour, Revision 03500

FRP-6.0, Auxiliary Building Operating Floor, Revision 00800

FRP-15.0, Cable Tunnel, Revision 00801

FRP-20.0, Control Room, Revision 00801

FRP-26.0, Oil Storage Room, Revision 00601

FRP-30.3, Screen House Basement, Revision 00801

Drawings

21488-0107, Fire Barrier General Arrangement Sheet Control Room Floor Plan, West Wall
Penetration Locations Floor Elevation 289 feet 6 inches, Revision 6, Sheet 1

21488-0107, Fire Barrier General Arrangement Sheet Control Room Partial Floor Plan, Detail 1
Penetration Locations Floor Elevation 289 feet 6 inches, Revision 6, Sheet 2

21488-118, Fire Barrier General Arrangement Sheet Screen House North and East Walls

Attachment

Penetration Locations Floor Elevation 239 feet 6 inches, Revision 5, Sheet 1
21488-118, Fire Barrier General Arrangement Sheet Screen House Basement East Wall
Penetration Locations Floor Elevation 243 feet 6 inches, Revision 4, Sheet 2
21488-118, Fire Barrier General Arrangement Sheet Screen House South Wall Basement
Penetration Locations Floor Elevation 243 feet 6 inches, Revision 4, Sheet 3
21488-0119, Fire Barrier General Arrangement Sheet Turbine Building North and South Wall
Elevations Penetration Locations Floor Elevation 253 feet 6 inches, Revision 7
21488-0120, Fire Barrier General Arrangement Sheet Intermediate Building Clean Side Section
C-C North Wall, Section D-D East Wall Penetration and Pyrocrete Locations Floor
Elevation 253 feet 6 inches, Revision 10, Sheet 3
21488-0120, Fire Barrier General Arrangement Sheet Intermediate Building Clean Side Section
E-E, F-F Wall-to-Cable Tunnel Penetration Locations Floor Elevation 253 feet 6 inches,
Revision 6, Sheet 10
21488-0122, Fire Barrier General Arrangement Sheet Auxiliary Building Floor Plan – East
End Penetration Locations Floor Elevation 253 feet 0 inches, Revision 7, Sheet 4
33013-2544, Fire Response Plan Turbine Building Plan – Basement Floor Elevation 253 feet
6 inches, Revision 13
33013-2545, Fire Response Plan Containment Structure and Intermediate Building Plan –
Intermediate Floor Elevation 253 feet 3 inches, Revision 9
33013-2552, Fire Response Plan Auxiliary Building Plan – Operating Floor Elevation 271 feet
0 inches, Revision 11
33013-2559, Fire Response Plan Control Building, Revision 13
33013-2570, Fire Response Plan Screen House Plan – Elevation 212 feet 6 inches and 243 feet
6 inches, Revision 2

Condition Reports

CR-2014-004899
CR-2014-004900
CR-2014-004957

Miscellaneous

DA-ME-98-004, Combustible Loading Analysis, Revision 11
DA-ME-98-004, Combustible Loading Analysis, Revision 12
EPM-FPPR, Ginna Station Fire Protection Program Report Volumes 1, 2, and 3, Revision 009.0

Section 1R06: Flood Protection Measures

Procedure

IP-CON-9, Plant Barrier Control Program Implementation, Revision 002

Action Requests/Condition Reports

AR 01701703
AR 01701704
AR 02385670
CR-2014-003748
CR-2014-003751
CR-2014-005007

Work Order

WO C92368544

Section 1R07: Heat Sink PerformanceProcedures

CMP-10-04-EAC01A, Atlas Industrial manufacturing, Type NEN Heat Exchanger Maintenance for EAC01A, Revision 00502
 CMP-10-07-RECIRCFANA, Marlo, Model 12Q, Cooling Coil Inspection and Maintenance for ACA01A, ACA01E, and ACA01F, Revision 00800
 CNG-AM-1.01-1016, Heat Exchanger Program, Revision 00000
 CNG-EV-1.01-1002, Chemical Control Program, Revision 00401
 ER-SC.2, Low Screen House Water Level, Revision 02303
 IP-REL03, SW System Availability Optimization Program, Revision 00500
 M-110, Spent Fuel Pool Heat Exchangers EAC13/EAC14 Inspection and Refurbishment, Revision 00900
 MMP-GM011-00013, Turbine-Driven Auxiliary Feedwater Pump Lube Oil Cooler (EAF01) and SW Strainer (NFW03) Maintenance, Revision 00002
 STP-I-60.7, SFP Heat Exchanger 'B' Thermal Performance Test, Revision 00200
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Procedures

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Condition Report

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Section 1R12: Maintenance Effectiveness

Procedures

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Action Request/Condition Reports

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Procedures

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ATT-5.2, Attachment Alternate Cooling to TDAFW Pump, Revision 00601
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Drawing

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Action Requests/Condition Report

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Work Orders

WO C92254175
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Miscellaneous

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Maintenance and Operational Test
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Not Flood the Battery Room(s)

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

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Drawings

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Condition Reports

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Work Orders

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Miscellaneous

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Section 1R18: Plant Modifications

Procedures

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Work Order

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Miscellaneous

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Section 1R19: Post-Maintenance Testing

Procedures

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Drawings

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Action Requests

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Work Order

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Section 1R22: Surveillance Testing

Procedures

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Drawing

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Action Request/Condition Report

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Work Orders

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Section 1EP2: Alert and Notification System Evaluation

Procedure

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Miscellaneous

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Procedures

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Miscellaneous

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Procedures

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Miscellaneous

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Procedures

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Condition Reports

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- CH-EPIP-SPING-SAMP, SPING 4 Iodine and Particulate Sample Change and Grab Sample for Plant Vent or Containment Vent during Emergency Conditions, Revision 00502
- CH-PASS-ACCIDENT, Post-Accident Sampling at the PASS – Accident Conditions, Revision 00801
- CH-PASS-SAMP-ANAL, Analysis of Samples Taken at the PASS for Isotopic Analysis, Revision 00300
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- RP-2804, ACCUSCAN-II Calibration and Routine Operation, Revision 00001
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- RP-INS-C-451B, Calibration of the Fluke 451B Survey Meter, Revision 00001
- RP-INS-C-AMS4, Calibration of the Eberline AMS-4 Air Monitor, Revision 00901
- RP-INS-C-ARGOS, Calibration of the Canberra ARGOS-5 Contamination Monitor, Revision 00100

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Condition Reports

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Procedures

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 CH-ENV-LAND-USE, Land Use Census, Revision 00404
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Procedures

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Section 4OA3: Follow-Up of Events and Notices of Enforcement Discretion

Procedures

AP-TURB.4, Loss of Condenser Vacuum, Revision 02001
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CNG-MN-4.01-1003, Work Order Planning, Revision 00701
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Action Request/Condition Reports

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LIST OF ACRONYMS

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
40 CFR	Title 40 of the <i>Code of Federal Regulations</i>
AC	alternating current
AFW	auxiliary feedwater
AI	action item
ANS	alert and notification system
AR	action request
CAP	corrective action program
CCW	component cooling water
CR	condition report
EAL	emergency action level
ECP	engineering change package
EDG	emergency diesel generator
EP	emergency preparedness
EPZ	emergency planning zone
ERF	emergency response facility
ERO	emergency response organization
ERPA	emergency response planning area
FIN	finding
HPIS	high-pressure injection system
HX	heat exchanger
IMC	Inspection Manual Chapter
INPO	Institute of Nuclear Power Operations
LER	licensee event report
NEI	Nuclear Energy Institute
NERP	Nuclear Emergency Response Plan
NRC	Nuclear Regulatory Commission, U.S.
ODCM	offsite dose calculation manual
OEM	original equipment manufacturer
OOS	out of service
P&ID	pipng and instrumentation drawing
PAR	protective action recommendation
PI	performance indicator
RG	regulatory guide
RHR	residual heat removal
SDP	significance determination process
SFP	spent fuel pool
SSC	structure, system, and component
SW	service water
TS	technical specification
UFSAR	Updated Final Safety Analysis Report
URI	unresolved item
WO	work order