



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

July 24, 2014

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

**SUBJECT: R.E. GINNA NUCLEAR POWER PLANT, LLC - NRC INTEGRATED  
INSPECTION REPORT 05000244/2014003**

Dear Mr. Pacher:

On June 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 July 11, 2014, with Mr. Michel Philippon, Plant General Manager, and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents one violation of NRC requirements which was of very low safety significance (Green). Additionally, a licensee-identified violation, which was determined to be of very low safety significance, is listed in this report. However, because of the very low safety significance, and because they are entered into your correction action program, the NRC is treating these findings as non-cited violations (NCVs), consistent with Section 2.3.2.a of the NRC Enforcement Policy. If you contest the NCVs in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the United States 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 Inspectors at Ginna. In addition, if you disagree with the cross-cutting aspect assigned to any finding, or a finding not associated with a regulatory requirement 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 Inspectors at Ginna.

J. Pacher

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In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC'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 No. 05000244/2014003  
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

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Sincerely,

*/RA/*

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

Docket No. 50-244

License No. DPR-18

Report No. 05000244/2014003

Licensee: Exelon Generation

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

Location: Ontario, NY

Dates: April 1, 2014, through June 30, 2014

Inspectors: N. Perry, Senior Resident Inspector  
D. Dodson, Resident Inspector  
H. Anagnostopoulos, Health Physicist  
A. Bolger, Emergency Response Coordinator  
E. Burket, Emergency Preparedness Inspector  
T. Burns, Reactor Inspector  
J. Furia, Senior Health Physicist  
S. Horvitz, Reactor Engineer  
J. Nicholson, Health Physicist  
A. Rosebrook, Senior Project Engineer

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

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## SUMMARY

IR 05000244/2014003; 04/01/2014 – 06/30/2014; R.E. Ginna Nuclear Power Plant, LLC (Ginna); Refueling and Other Outage Activities.

This report covered a 3-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. Inspectors identified one finding of very low safety significance (Green) which was a non-cited violation (NCV). A finding's significance is indicated by a 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 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 NCV of Technical Specification (TS) 5.4.1, "Procedures," was identified for failure to perform maintenance as required by Exelon Generation (Exelon) procedure STP-I-9.1.16, "Undervoltage Protection – 480 Volt Safeguard Bus 16," Revision 01001. Specifically, while performing step 6.4.2.1 to place the BX1/16 relay toggle switch in the trip position, an incorrect switch manipulation by an instrumentation and control (I&C) technician resulted in an engineered safety feature (ESF) actuation, which included the automatic start of the 'B' emergency diesel generator (EDG) and the de-energization of a safety-related bus. Immediate corrective actions included restoring Bus 16 to its normal power supply and entering this issue into the corrective action program (CAP) as condition report (CR)-2014-002741.

The finding was more than minor, because it is associated with the human performance 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, due to a personnel error, an incorrect switch was manipulated during Bus 16 undervoltage testing. This resulted in the automatic start of the 'B' EDG, the de-energization of Bus 16, and the transition of the outage defense-in-depth from a Green to a Yellow risk condition. The inspectors evaluated the finding using IMC 0609, Attachment 0609.04, "Initial Characterization of Findings." This attachment directed the inspectors to evaluate the finding using IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process." However, IMC 0609, Appendix G, directed the inspectors to contact the senior risk analyst for assistance as it does not apply when there are no fuel assemblies in the reactor vessel. The senior risk analyst directed the inspectors to evaluate the finding using Appendix M, "Significance Determination Process Using Qualitative Criteria," which directed the inspectors to consider a bounding case. For this instance, if the bus had not been recovered with the fuel in the spent fuel pool (SFP), the only significant system lost would have been the redundant SFP cooling system. Therefore, the inspectors determined the finding to be of very low safety significance (Green). This finding has a cross-cutting aspect in the area of Human Performance, Avoid Complacency, because Exelon personnel did not recognize and plan for the possibility of

mistakes, latent issues, and inherent risk, even while expecting successful outcomes. Specifically, Exelon personnel did not implement appropriate error reduction tools or consider the potential undesired consequence of an ESF actuation before performing work [H.12]. (Section 1R20)

### **Other Findings**

A violation of very low safety significance that we identified by Exelon was reviewed by the inspectors. Corrective actions taken or planned by Exelon have been entered into Exelon's corrective action program. This violation and corrective action tracking number are listed in Section 4OA7 of this report.

## REPORT DETAILS

### Summary of Plant Status

R.E. Ginna Nuclear Power Plant, LLC (Ginna) began the inspection period operating at 100 percent power. On April 27, 2014, operators commenced a shutdown for a planned refueling and maintenance outage (1R38). The station reached Mode 6 (refueling) on April 30. Following the completion of refueling and maintenance activities, operators commenced a reactor startup on May 20. Operators returned the unit to approximately 91 percent power on May 24, but rapidly shut down the unit following the discovery of a main generator exciter service water (SW) leak on May 24. Following repairs, operators commenced a reactor startup on May 25 and returned the unit to 100 percent power on May 27. 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 – 2 samples)

.1 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

The inspectors performed a review of Exelon's readiness for the onset of seasonal high temperatures. The review focused on the relay room, control room, battery rooms, EDG rooms, intermediate building, auxiliary building, screen house, standby auxiliary feedwater (AFW) pump room, and turbine building. The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), TSs, control room logs, and the CAP to determine what temperatures or other seasonal weather could challenge these systems and to ensure Exelon personnel had adequately prepared for these challenges. The inspectors reviewed station procedures, including Exelon's seasonal weather preparation procedure and applicable operating procedures. The inspectors performed walkdowns of the selected systems to ensure station personnel identified issues that could challenge the operability of the systems during hot weather conditions. Documents reviewed for each section of this inspection report are listed in the attachment.

b. Findings

No findings were identified.

.2 Summer Readiness of Offsite and Alternate Alternating Current (AC) Power Systems

a. Inspection Scope

The inspectors performed a review of plant features and procedures for the operation and continued availability of the offsite and alternate AC power systems to evaluate readiness of the systems prior to seasonal high grid loading. The inspectors reviewed Exelon's procedures affecting these areas and the communications protocols between



the transmission system operator and Exelon. This review focused on changes to the established program and material condition of the offsite and alternate AC power equipment. The inspectors assessed whether Exelon established and implemented appropriate procedures and protocols to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system. The inspectors evaluated the material condition of the associated equipment by observing auxiliary operators performing weekly 13A substation checks and by walking down portions of the offsite and AC power systems including the 115 kilovolt switchyard and the transformer yard.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04Q – 4 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- 'B' residual heat removal (RHR) during planned maintenance on 'A' RHR on April 15, 2014
- 'B' motor-driven AFW during planned maintenance on 'A' motor-driven AFW on April 24, 2014
- Valve alignment for reactor head lift, core component movement, and periodic status checks on April 29 and 30, 2014
- Turbine-driven AFW during planned maintenance on 'D' standby AFW on May 29, 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, work orders (WOs), 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 CAP for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

.2 Full System Walkdown (71111.04S – 1 sample)

a. Inspection Scope

On May 7, 2014, the inspectors performed a complete system walkdown of accessible portions of the SFP cooling system to verify the existing equipment lineup was correct. The inspectors reviewed operating procedures, drawings, equipment lineup check-off lists, and the UFSAR to verify the system was aligned to perform its required safety functions. The inspectors also reviewed electrical power availability, component lubrication and equipment cooling, hanger and support functionality, and operability of support systems. The inspectors performed field walkdowns of accessible portions of the system to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. Additionally, the inspectors reviewed a sample of related CRs to ensure Exelon appropriately evaluated and resolved any deficiencies.

b. Findings

No findings were identified.

1R05 Fire Protection

Resident Inspector Quarterly Walkdowns (71111.05Q – 8 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 out of service (OOS), degraded, or inoperable fire protection equipment, as applicable, in accordance with procedures.

- Intermediate building basement (radiological-controlled side) on April 1, 2014
- Technical support center on April 10, 2014
- Reactor containment building mezzanine floor on May 12, 2014
- Reactor containment building basement floor on May 12, 2014
- Reactor containment building operating floor on May 14, 2014
- Water treatment room on June 13 and 16, 2014
- Air handling room on June 23, 2014
- Auxiliary building basement (zone 01) on June 27, 2014

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)Internal Flooding Review (2 samples)a. Inspection Scope

The inspectors reviewed the UFSAR, the site flooding analysis, and plant procedures to assess susceptibilities involving internal flooding. The inspectors also reviewed the CAP to determine if Exelon identified and corrected flooding problems and whether operator actions for coping with flooding were adequate. The inspectors also focused on the EDG rooms and the intermediate building to verify the adequacy of equipment seals located below the flood line, floor and water penetration seals, watertight door seals, common drain lines and sumps, sump pumps, level alarms, control circuits, and temporary or removable flood barriers.

b. Findings

No findings were identified.

1R08 Inservice Inspection Activities (71111.08P – 1 sample)a. Inspection Scope

From May 5 to 16, 2014, the inspectors conducted a review of Exelon's inservice inspection (ISI) program activities for monitoring degradation of the reactor coolant system (RCS), risk-significant piping, components, and containment systems during the refueling outage (RFO).

The sample selection for nondestructive examination (NDE) was based on the inspection procedure objectives and risk priority of those pressure-retaining components in the systems where degradation would result in a significant increase in risk. The inspectors observed in-process NDEs, reviewed documentation, and interviewed Exelon personnel to verify that NDE activities performed in accordance with the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI, 2004 Edition, No Addenda.

NDE and Welding Activities (IMC Section 02.01)

The inspectors performed direct observation of NDE activities in process and reviewed documentation of NDEs listed below. Activities included observation of in-process ultrasonic testing (UT) and visual testing of safety-related components piping and structures. The inspectors verified that examinations performed by test examiners observed in the field were appropriately qualified to the requirements specified in ASME Section XI. Also, the inspectors verified that test procedures used by Exelon examiners were reviewed in accordance with ASME Section XI requirements.

The inspectors reviewed work instruction packages, interviewed Exelon personnel, and reviewed welding procedure and welder performance qualifications to verify that welding and examiner NDE activities were performed in accordance with the requirements of the ASME Section XI as follows:

### ASME Code Required Examinations

- Observation of the visual examination of the primary liner that was performed per the requirements of the ASME Code Section XI, IWE. The area covered during this inspection included the accessible portions of the containment liner and penetrations to confirm the integrity of the containment. The inspectors selected accessible locations at containment elevations of 235', 253', and 278' for examination during this inspection to confirm the integrity of the protective coating applied.
- Observation of the UT examination of pipe-to-elbow weld of the feedwater nozzle N1 (system 052). The inspectors reviewed instructions provided in WO C2178790 including surface preparation, profile measurement axial, and circular examination of the weld crown. Inspectors observed the performance of the UT and reviewed the acquired test data with the examiners to confirm absence of rejectable indications in the base and weld material.
- Record review of the visual inspection (VT-2) of the 36 vessel bottom-head penetrations for evidence of leakage. The inspectors reviewed the procedure (EP-VT-116, "Visual Examination of Reactor Vessel Head," Revision 00200) used for this inspection and verified the examiners were trained and qualified to perform this test. The inspectors reviewed the test data summary confirming the absence of leakage in the entire population of reactor pressure vessel bottom-mounted instrument penetrations.
- Record review of the liquid penetrant test of the integral attachment (dwg B-25) to RHR system using procedure EP-PT-106, "Liquid Penetrant Examinations," Revision 00303. The inspectors reviewed WO C2218399 for the welding of the attachment and reviewed the work scope, material, and weld parameters for comparison to the ASME Code fabrication requirements.
- UT examination of the pipe to elbow in system 052 (feedwater) observed by the inspectors to verify test examiners achievement of required weld inspection coverage of greater than 90 percent with single-side access. Test procedure NDE-5449-CC and WO C91997733 were used to control, track, and document this ASME Section XI examination.

The inspectors sampled NDE examiners qualification certifications, written test examinations, and vision test results. The inspectors verified that examinations performed by test examiners interviewed and observed in the field were appropriately qualified to the requirements specified in ASME Section XI.

### Review of Previous Indications

The inspectors reviewed the results of the liquid penetrant examination (report 14GP003) of the cap-to-elbow attachment weld which had been examined during the previous outage where indications were identified and characterized as acceptable porosity. The liquid penetrant examination during this RFO revealed that there has been no change in the size, orientation, and character of the original rounded indications.

### Boric Acid Corrosion Control Inspection Activities

The inspectors reviewed the boric acid corrosion control program which was performed in accordance with Exelon procedures and discussed the program requirements with the boric acid program owner. The NRC resident inspectors accompanied, observed, and interviewed Exelon examiners during the performance of the boric acid leakage identification process. The inspectors also reviewed photographic inspection records of several samples of both active and inactive boric acid leakage. The samples selected were of leakage on safety-significant piping and components. Inspections were conducted by Exelon inspection personnel who were trained in the visual assessment of boric acid deposits. The inspectors reviewed a sample of boric acid leakage initial investigation reports and CRs for evaluation and disposition within the CAP. The samples selected were based on component function and their location where direct leakage or impingement on adjacent locations could cause degradation of safety system function.

### Steam Generator (SG) Tube Inspection Activities (IMC Section 02.04)

The inspectors reviewed the examination results of a sample of SG tubes acquired during this outage using techniques and equipment that were capable of detecting degradation to which the SG tubes were potentially susceptible.

The inspectors reviewed technical assessments made at the conclusion of the previous outage (1R37) in the development of the current SG inspection plan. The SG tube inspection data evaluation made during 1R37 provided test data that enabled verification of tube and internal structural integrity. The inspectors reviewed the degradation, operating, and condition monitoring assessments developed following 1R37. The review of these assessments provided data that was considered by the inspectors to verify compliance with the inspection recommendations of Nuclear Energy Institute (NEI) 97-06, "Steam Generator Program Guidelines," Revision 3, and the Electric Power Research Institute (EPRI) SG examination guidelines.

The inspectors reviewed a sample of the SG eddy current tube examination results to confirm tube integrity. The tube inspection consisted of full-length bobbin inspection of all active (open) tubes in each of the two SGs. Also, a sample population of SG tubes was examined using a rotating plus-point coil probe. The inspectors reviewed the inspection techniques and test methods used in the visual examination of internal tube support structures and reviewed the results of identification and characterization of possible loose parts. The inspectors reviewed the test data which indicated minimal corrosive tube attack and an absence of structural deterioration of SG internals.

The inspectors verified that current tube examinations were performed in accordance with portions of NEI 97-06 and EPRI SG examination guidelines. The inspectors reviewed the SG tube eddy current test results to verify that no in-situ pressure testing was required, and no primary-to-secondary leakage had occurred over the operating cycle. The inspectors verified that the SG tube examination screening criteria was in accordance with the EPRI SG guidelines and flaw sizing was in accordance with EPRI guidelines.

Also, the inspectors reviewed foreign object search-and-retrieval results on the secondary side of the SGs and reviewed corrective actions to remove the foreign objects.

Identification and Resolution of Problems (IMC Section 02.05)

The inspectors reviewed a sample of Exelon's CRs which identified NDE indications and other nonconforming conditions issued since the previous RFO and during the current RFO. The inspectors verified the conditions were properly identified, characterized, and evaluated for disposition within the CAP.

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 May 27, 2014, which included a main feed regulating valve drifting closed, a reactor coolant pump seal failure, a stuck-open steam dump valve, and a loss-of-coolant accident outside containment. 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 classification 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 the shutdown of the unit on April 27, 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 turbine over-speed trip testing 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, and maintenance rule basis documents to ensure that Exelon was identifying and properly evaluating performance problems within the scope of the maintenance rule. For the samples selected, the inspectors verified that the SSCs were 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 deficiencies on May 2 and May 16, 2014
- 'B' safety injection (SI) pump deficiencies on June 26, 2014

b. Findings

No findings were identified.

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

- Lowered RCS operations on April 30, 2014
- Reduced RCS inventory operations on May 13, 2014

- Planned maintenance on the 'D' standby AFW and SFP time to boil less than 72 hours on May 28, 2014
- Elevated risk for relay room halon suppression system (S08) OOS during emergent maintenance on the public address inverter on May 29, 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:

- 'A' motor-driven AFW outboard bearing oil particulate above specification on March 20, 2014
- 'A' motor-driven AFW SW piping voiding on April 17, 2014
- 'A' and 'B' motor-driven AFW lube oil cooler reduced flow on April 25, 2014
- 'A' EDG fuel oil transfer pump lowering discharge pressure on April 25, 2014
- SW flow instruments out of calibration on June 18, 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 (71111.18 – 1 sample)

Permanent Modification

a. Inspection Scope

The inspectors evaluated a modification to the EDGs heating, ventilation, and air conditioning system implemented by engineering change package 14-000037, "Add Thermostats to 1/DSF1A2 and 1/DSF1B2 Logic." The inspectors verified that the design bases, licensing bases, and performance capability of the affected systems were not degraded by the modification. In addition, the inspectors reviewed modification



documents associated with the upgrade and design change that included the installation of four thermostat switches to eliminate the EDG rooms' potential vulnerability to freezing jacket water sensing lines during limiting EDG loading and cold weather scenarios. The inspectors also reviewed revisions to the EDG monthly testing procedure and interviewed maintenance and operations personnel to ensure the procedure could be reasonably performed.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 6 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.

- Source range nuclear instrument N-32 planned maintenance on May 1, 2014
- 'A' RHR planned maintenance on May 9, 2014
- 'B' SI pump repairs on May 15 and 16, 2014
- 'B' RHR pump repairs on May 18, 2014
- SI check valve and motor-operated valve (MOV) planned maintenance on May 19, 2014
- 'D' standby AFW planned maintenance on May 29 and 30, 2014

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20 – 2 samples)

.1 Refueling Outage

a. Inspection Scope

The inspectors reviewed the station's work schedule and outage risk plan for the maintenance and RFO, which was conducted April 27 through May 21, 2014. The inspectors reviewed Exelon's development and implementation of outage plans and schedules to verify that risk, industry experience, previous site-specific problems, and defense-in-depth were considered. During the outage, the inspectors observed portions

of the shutdown and cooldown processes and monitored controls associated with the following outage activities:

- Configuration management, including maintenance of defense-in-depth, commensurate with the outage plan for the key safety functions and compliance with the applicable TSs when taking equipment OOS
- Implementation of clearance activities and confirmation that tags were properly hung and that equipment was appropriately configured to safely support the associated work or testing
- Installation and configuration of reactor coolant pressure, level, and temperature instruments to provide accurate indication and instrument error accounting
- Status and configuration of electrical systems and switchyard activities to ensure that TSs were met
- Monitoring of decay heat removal operations
- Impact of outage work on the ability of the operators to operate the SFP cooling system
- Reactor water inventory controls, including flow paths, configurations, alternative means for inventory additions, and controls to prevent inventory loss
- Activities that could affect reactivity
- Maintenance of containment as required by TSs
- Refueling activities, including fuel handling and fuel receipt inspections
- Fatigue management
- Tracking of startup prerequisites, walkdown of the containment building to verify that debris had not been left which could block the emergency core cooling system suction strainers, and startup and ascension to full power
- Identification and resolution of problems related to RFO activities

b. Findings

Introduction. A self-revealing Green NCV of TS 5.4.1, "Procedures," was identified for failure to perform maintenance as required by procedure STP-I-9.1.16, "Undervoltage Protection – 480 Volt Safeguard Bus 16," Revision 01001. Specifically, while performing step 6.4.2.1 to place the BX1/16 relay toggle switch in the trip position, an incorrect switch manipulation by an I&C technician resulted in an ESF actuation which included the automatic start of the 'B' EDG and the de-energization of a safety-related bus.

Description. On May 8, 2014, with the plant shut down and defueled, Exelon credited the 'B' EDG, Bus 16, and all spent fuel cooling pumps as being available so that power available and SFP cooling would be Green for outage defense-in-depth. The I&C technicians were performing a maintenance test in the Bus 16 undervoltage cabinet in accordance with procedure STP-I-9.1.16. During the test, communication was conducted via headsets between the Bus 16 undervoltage cabinet in the auxiliary building and the relay room. The procedure directed the I&C technician at Bus 16 to place the BX1/16 relay toggle switch in the trip position. However, the I&C technician incorrectly placed the X1/16 switch in the trip position. This improper manipulation of the X1/16 switch was followed by the directed action of placing the BX1/16 switch in the desired trip position. This resulted in an unplanned ESF actuation which included the simultaneous automatic start of the 'B' EDG and trip of Bus 16 normal supply breaker. This was defined as an invalid signal because the bus did not trip as a result of an actual

undervoltage condition, and therefore, reportability falls under 10 CFR 50.73(a)(2)(iv) which requires a 60-day report.

The 'B' EDG automatically started and carried Bus 16 for 93 minutes until the bus was transferred to its normal offsite power supply. During the 93-minute run, the 'B' EDG was only loaded to approximately 100 kilowatt. The 'A' train was providing SFP cooling, so no interruption of SFP cooling occurred as a result of the event. However, SFP cooling risk went Yellow upon the loss of Bus 16. All equipment responded as expected.

Analysis. The inspectors determined that the inadequate implementation of procedure STP-I-1.9.1.16 was a performance deficiency within Exelon's ability to foresee and correct and should have been prevented. Specifically, Exelon failed to execute step 6.4.2.1 as written which resulted in an inadvertent ESF actuation. The inspectors determined that the failure to follow procedural requirements was more than minor because it was associated with the human performance 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, due to a personnel error, an incorrect switch was manipulated during Bus 16 undervoltage testing. This resulted in the automatic start of the 'B' EDG, the de-energization of Bus 16, and the transition of the outage defense-in-depth from a Green to a Yellow risk condition.

The inspectors evaluated the finding using IMC 0609, Attachment 0609.04, "Initial Characterization of Findings," issued June 19, 2012. This attachment directs the inspectors to evaluate the finding using IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," issued May 9, 2014. However, IMC 0609, Appendix G, directs the inspectors to contact the senior risk analyst for assistance as it does not apply when there are no fuel assemblies in the reactor vessel. After consultation with Office of Nuclear Reactor Regulation staff, the senior risk analyst directed the inspectors to evaluate the finding using Appendix M, "Significance Determination Process Using Qualitative Criteria," and it was determined that a planning significance and enforcement review panel was not required for this case. Appendix M directs the inspectors to consider a bounding case. For this instance, if the bus had not been recovered with the fuel in the SFP, the only significant system lost would have been the redundant SFP cooling system. Therefore, the inspectors determined this finding to be of very low safety significance (Green).

This finding has a cross-cutting aspect in the area of Human Performance, Avoid Complacency, because Exelon personnel did not recognize and plan for the possibility of mistakes, latent issues, and inherent risk even while expecting successful outcomes. Specifically, Exelon personnel did not implement appropriate error reduction tools or consider the potential undesired consequence of an ESF actuation before performing work [H.12].

Enforcement. TS 5.4.1 requires that written procedures recommended in Appendix A of Regulatory Guide (RG) 1.33, "Quality Assurance Program Requirements (Operation)," Revision 2, shall be established, implemented, and maintained. Section 9.a. "Procedures for Performing Maintenance," states that maintenance that can affect the performance of safety-related equipment should be properly preplanned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstance. Contrary to the above, on May 8, 2014, Exelon failed to adequately

implement procedure STP-I-9.1.16. Specifically, the X1/16 switch was manipulated contrary to the procedure step 6.4.2.1 which resulted in the automatic start of the 'B' EDG and the de-energization of a safety-related bus. Exelon's immediate corrective actions included restoring Bus 16 to its normal power supply and entering this issue into the CAP (CR-2014-002741). Because this issue was of very low safety significance (Green) and was entered into Exelon's CAP, this finding is being treated as an NCV consistent with Section 2.3.2.a of the NRC Enforcement Policy. **(NCV 05000244/2014003-01, Inadequate Procedure Implementation Results in Inadvertent Engineered Safety Feature Actuation)**

.2 May 24, 2014, Forced Outage

a. Inspection Scope

On May 24, 2014, at 1:22 p.m., Exelon operators started reducing plant power from 91 percent in response to a SW leak on the main generator exciter. At 3:36 p.m., the plant entered Mode 2, and the main generator was taken off line at 3:40 p.m. The plant entered Mode 3 at 4:00 p.m., and repairs were initiated to the SW leak. The leak was due to an extruded gasket on the exciter cooler reversing head. After completing repairs, operators began startup of the plant on May 25 at 11:36 a.m. The reactor was taken critical at 1:11 p.m., and the generator was synchronized to the grid at 10:04 p.m.; full power was achieved on May 27 at 1:45 p.m. The inspectors reviewed Exelon's implementation of forced outage plans and schedules to verify that risk, industry experience, previous site-specific problems, and defense-in-depth were considered. The inspectors observed portions of the plant startup process and monitored controls associated with the following outage activities:

- Configuration management, including maintenance of defense-in-depth, commensurate with the outage plan for the key safety functions and compliance with the applicable TSs when taking equipment OOS
- Status and configuration of electrical systems and switchyard activities to ensure that TSs were met
- Monitoring of decay heat removal operations
- Activities that could affect reactivity
- Identification and resolution of problems related to outage activities

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 7 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 April 4, 2014 (inservice test)
- CPI-TRIP-TEST-5.40, Reactor Protection System Trip Test/Calibration for Channel 4 (Yellow) Bistable Alarms on April 10, 2014
- STP-O-R-10.3, Preparation for and Performance of Main Steam Safety Valve Test Using Set Point Verification Device (SPVD) on April 25, 2014
- STP-O-R-2.2, Diesel Generator Load and Safeguard Sequence Test on April 29, 2014 (inservice test)
- STP-O-R-2.1, Safety Injection Integrated Functional Test on May 16, 2014
- STP-I-R-7.0, Control Rod Drop Test on May 19, 2014
- PT-34.1, Initial Criticality and Low-Power Physics Testing with DRWM on May 20, 2014

b. Findings

No findings were identified.

**Cornerstone: Emergency Preparedness**

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 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.

1EP6 Drill Evaluation (71114.06 – 1 sample)Training Observationsa. Inspection Scope

The inspectors observed a simulator training evolution for Exelon licensed operators on May 27, 2014, which required emergency plan implementation by an operations crew. Exelon planned for this evolution to be evaluated and included in performance indicator (PI) data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that Exelon evaluators noted the same issues and entered them in the CAP.

b. Findings

No findings were identified.

**2. RADIATION SAFETY****Cornerstone: Public Radiation Safety and Occupational Radiation Safety**2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)a. Inspection Scope

From May 12 - 16, 2014, the inspectors reviewed Exelon's performance in assessing the radiological hazards and exposure controls in the workplace. The inspectors used the requirements in 10 CFR Part 20, guidance in RG 8.38, "Control of Access to High and Very High Radiation Areas of Nuclear Plants," TSs, and Exelon's procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors reviewed reports of operational occurrences related to occupational radiation safety since the last inspection.

Radiological Hazard Assessment

The inspectors selected the following risk-significant work activities that involved exposure to radiation:

- Removal of nozzle dams from the primary side SG 'B'
- Decontamination of the lower reactor cavity area and fuel transfer slot
- SG secondary side sludge lancing and inspections

For these work activities, the inspectors assessed whether the pre-work surveys performed were appropriate to identify and quantify the radiological hazard and to establish adequate protective measures. The inspectors evaluated the radiological survey program to determine if radiological hazards were properly identified

(e.g., discrete radioactive hot particles, transuranic and hard-to-detect nuclides in air samples, transient dose rates, and large gradients in radiation dose rates).

The inspectors observed work in potential airborne radioactivity areas and evaluated whether the air samples from SG primary side entries and the lower reactor cavity decontamination were properly evaluated. The inspectors evaluated whether continuous air monitors were representative of actual work areas and had adequate radiation detection sensitivity. The inspectors evaluated Exelon's program for monitoring levels of loose surface contamination in areas of the plant.

#### Instructions to Workers

The inspectors reviewed the radiation work permits (RWPs) used to access high radiation areas and evaluated if the specified work control instructions and control barriers were consistent with TS requirements for high radiation areas. For these RWPs, the inspectors assessed whether allowable stay times or permissible doses for radiological work under each RWP were clearly identified. The inspectors evaluated whether electronic personal dosimeter alarm set points were in conformance with survey indications and plant procedural requirements. For work activities that could suddenly increase radiological conditions, the inspectors assessed Exelon's means to inform workers of these changes.

#### Radiological Hazards Control and Work Coverage

The inspectors evaluated the adequacy of radiological controls, required surveys, radiation protection job coverage, and contamination controls. The inspectors evaluated Exelon's use of electronic personal dosimeters in high noise areas.

The inspectors assessed whether radiation monitoring devices were placed on the individual's body in the location of the highest expected dose or that Exelon implemented an NRC-approved method of determining effective dose equivalent.

The inspectors reviewed RWPs for work within a potential airborne radioactivity area with the potential for individual worker internal exposures. For these RWPs, the inspectors evaluated airborne radioactivity controls and monitoring. The inspectors assessed applicable containment barrier integrity and the operation of temporary high-efficiency particulate air ventilation systems.

#### Very High Radiation Area Controls

The inspectors evaluated Exelon's controls for very high radiation areas and areas with the potential to become a very high radiation area to ensure that an individual was not able to gain unauthorized access to these areas.

#### Radiation Work Performance

The inspectors observed the performance of radiation workers with respect to radiation protection work requirements. The inspectors assessed whether workers were aware of the radiological conditions in their workplace, the RWP controls/limits in place, and whether their behavior reflected the level of radiological hazards present.

### Radiation Protection Technician Proficiency

The inspectors observed the performance of the radiation protection technicians with respect to controlling radiation work. The inspectors evaluated whether technicians were aware of the radiological conditions in their workplace, the RWP controls/limits, and whether their behavior was consistent with their training and qualifications with respect to the radiological hazards and work activities.

#### b. Findings

No findings were identified.

### 2RS2 Occupational ALARA Planning and Controls (71124.02)

#### a. Inspection Scope

From May 12 - 16, 2014, the inspectors assessed performance with respect to maintaining occupational individual and collective radiation exposures as low as reasonably achievable (ALARA). The inspectors used the requirements in 10 CFR Part 20, RG 8.8, "Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations Will Be As Low As Is Reasonably Achievable," RG 8.10, "Operating Philosophy for Maintaining Occupational Radiation Exposure As Low as Is Reasonably Achievable," TSs, and Exelon procedures required by TSs as criteria for determining compliance.

#### Inspection Planning

The inspectors reviewed information regarding Ginna's collective dose history, current exposure trends, and planned radiological work activities in order to assess current performance and exposure challenges. The inspectors reviewed the plant's 3-year rolling average collective exposure. The inspectors reviewed any changes in the radioactive source term by reviewing the trend in average contact dose rate with reactor coolant piping. The inspectors reviewed site-specific procedures associated with maintaining occupational exposures ALARA and for processes used to estimate and track exposures from specific work activities.

#### Radiological Work Planning

The inspectors assessed whether Exelon's radiological work planning identified appropriate dose reduction techniques, considered alternate dose reduction features, and estimated reasonable dose goals. The inspectors evaluated whether ALARA assessments had taken into account decreased worker efficiency from use of respiratory protective devices and/or heat stress mitigation equipment. The inspectors determined whether work planning considered the use of remote technologies as a means to reduce dose and the use of dose reduction insights from industry operating experience and plant-specific lessons learned. The inspectors assessed the integration of ALARA requirements into work procedure and RWP documents.



### Radiation Worker Performance

The inspectors observed radiation work and radiation protection technician performance during work activities being performed in radiation areas, airborne radioactivity areas, and high radiation areas. The inspectors evaluated whether workers demonstrated the ALARA philosophy in practice and whether there were any procedure or RWP compliance issues.

#### b. Findings

No findings were identified.

### 2RS3 In-Plant Airborne Radioactivity Control and Mitigation (71124.03)

#### a. Inspection Scope

From May 12 - 16, 2014, the inspectors verified in-plant airborne concentrations were being controlled consistent with ALARA principles and the use of respiratory protection devices onsite did not pose an undue risk to the wearer. The inspectors used the requirements in 10 CFR Part 20, the guidance in RG 8.15, "Acceptable Programs for Respiratory Protection," RG 8.25, "Air Sampling in the Workplace," NUREG-0041, "Manual of Respiratory Protection Against Airborne Radioactive Material," TSs, and Exelon procedures required by TSs as criteria for determining compliance.

#### Inspection Planning

The inspectors reviewed reported PIs to identify any related to unintended dose resulting from intakes of radioactive material.

#### Use of Respiratory Protection Devices

The inspectors selected two work activities where respiratory protection devices were used to limit the intake of radioactive materials and assessed whether Exelon performed an evaluation concluding that further engineering controls were not practical and that the use of respirators was ALARA. The inspectors also evaluated whether Exelon had established means (such as routine bioassay) to determine if the level of protection (protection factor) provided by the respiratory protection devices during use was at least as good as that assumed in Exelon's work controls and dose assessment.

The inspectors assessed whether respiratory protection devices were certified by the National Institute for Occupational Safety and Health, Mine Safety and Health Administration, or had been approved by the NRC. The inspectors evaluated whether the devices were used consistent with their certification or NRC approval.

#### b. Findings

No findings were identified.

2RS8 Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation (71124.08)

a. Inspection Scope

From March 31 to April 4, 2014, the inspectors verified the effectiveness of Exelon's programs for processing, handling, storage, and transportation of radioactive material. The inspectors used the requirements of 10 CFR Parts 20, 37, 61, 71; 10 CFR Part 50, Appendix A, Criterion 63, "Monitoring Fuel and Waste Storage; and Exelon procedures required by the TS/process control program (PCP) as criteria for determining compliance.

The inspectors reviewed the solid radioactive waste system description in the UFSAR, the PCP, and the recent radiological effluent release report for information on the types, amounts, and processing of radioactive waste disposed.

The inspectors reviewed the scope, the results, and the adequacy of Exelon's corrective actions of quality assurance audits since the last inspection.

Radioactive Material Storage

The inspectors inspected areas where containers of radioactive waste were stored, including the SG storage building. The inspectors verified that the radioactive materials storage areas were controlled and posted appropriately. The inspectors verified that Exelon had established a process for monitoring the impact of long-term storage. The inspectors verified that there were no signs of swelling, leakage, or deformation.

Radioactive Waste System Walkdown

The inspectors selected liquid and solid radioactive waste processing systems and walked down accessible portions of systems to verify and assess that the current system configuration and operation agree with the descriptions in the UFSAR, offsite dose calculation manual, and PCP.

The inspectors selected radioactive waste processing equipment that was not operational and/or was abandoned in place and verified that Exelon had established administrative and/or physical controls for the protection of unnecessary personnel exposure.

The inspectors reviewed the adequacy of any changes made to the radioactive waste processing systems since the last inspection, and verified that changes from what was described in the UFSAR were reviewed and documented.

The inspectors identified processes for transferring radioactive waste resin and/or sludge discharges into shipping/disposal containers. The inspectors verified that the waste stream mixing, sampling procedures, and methodology for waste concentration averaging were consistent with the PCP and provided representative samples of the waste product for the purposes of waste classification.

For those systems that provide tank recirculation, the inspectors verified that the tank recirculation procedure provided sufficient mixing.

The inspectors verified that Exelon's PCP correctly described the current methods and procedures for dewatering waste.

#### Waste Characterization and Classification

The inspectors identified radioactive waste streams and verified that Exelon's radiochemical sample analysis results were sufficient to support radioactive waste characterization. The inspectors verified that Exelon's use of scaling factors and calculations to account for difficult-to-measure radionuclides was technically sound and based on current analyses.

The inspectors verified that changes to plant operational parameters were taken into account to maintain the validity of the waste stream composition data between the annual or biennial sample analysis update and verified that waste shipments continued to meet applicable requirements.

The inspectors verified that Exelon had established and maintained an adequate quality assurance program to ensure compliance with applicable waste classification and characterization requirements.

#### Shipment Preparation and Records

The inspectors reviewed shipment packaging, surveying, labeling, marking, placarding, vehicle checks, emergency instructions, disposal manifest, shipping papers provided to the driver, and Exelon's verification of shipment readiness. The inspectors verified that the requirements of any applicable transport cask certificate of compliance had been met. The inspectors verified that the receiving licensee was authorized to receive the shipment packages.

The inspectors verified that the shippers were knowledgeable of the shipping regulations and that shipping personnel demonstrated adequate skills to accomplish the package preparation requirements for public transport. The inspectors verified that Exelon's training program provided training to personnel responsible for the conduct of radioactive waste processing and radioactive material shipment preparation activities.

The inspectors identified non-excepted package shipment records and verified that the shipping documents indicated the proper shipper name, emergency response information including a 24-hour contact telephone number, accurate curie content, volume of material, appropriate waste classification, transport index, and an international shipping identification number. The inspectors verified that the shipment placarding was consistent with the information in the shipping documentation.

#### Identification and Resolution of Problems

The inspectors verified that problems associated with radioactive waste processing, handling, storage, and transportation were being identified by Exelon at an appropriate threshold, were properly characterized, and verified the appropriateness of the corrective actions for a selected sample of problems. Exelon generated six CRs to document material condition deficiencies identified during this inspection.

b. Findings

No findings were identified.

**4. OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151 – 3 samples)

.1 Safety System Functional Failures (1 sample)

a. Inspection Scope

The inspectors sampled Exelon's submittals for the safety system functional failures PI (MS05) for the period of April 1, 2013, through March 31, 2014. To determine the accuracy of the PI data reported during those periods, inspectors used definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 10 CFR 50.73." The inspectors reviewed Exelon's operator narrative logs, operability assessments, maintenance rule records, CRs, event reports, and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

.2 RCS Specific Activity and RCS Leak Rate (2 samples)

a. Inspection Scope

The inspectors reviewed Exelon's submittal for the RCS specific activity (BI01) and RCS leak rate (BI02) PIs for the period of April 1, 2013, through March 31, 2014. To determine the accuracy of the PI data reported during those periods, the inspectors used definitions and guidance contained in NEI 99-02, Revision 7. The inspectors also reviewed RCS sample analysis and control room logs of daily measurements of RCS leakage and compared that information to the data reported by the PI. Additionally, the inspectors observed chemistry personnel taking and analyzing an RCS sample.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 – 2 samples)

.1 Routine Review of Problem Identification and Resolution Activities

a. 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.

.2 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a semi-annual review of site issues, as required by Inspection Procedure 71152, to identify trends that might indicate the existence of more significant safety issues. In this review, the inspectors included repetitive or closely related issues that may have been documented by Exelon outside of the CAP such as trend reports, PIs, major equipment problem lists, system health reports, maintenance rule assessments, and maintenance or CAP backlogs. The inspectors also reviewed Exelon's CAP database of the first and second quarters of 2014 to assess CRs written in various subject areas (equipment problems, human performance issues, etc.), as well as individual issues identified during the NRC's daily CR review (Section 4OA2.1). The inspectors reviewed Exelon's quarterly trend report for the first quarter of 2014 conducted under CNG-CA-1.01-1007, "Performance Improvement Program Trending and Analysis," Revision 00401, to verify that Exelon personnel were appropriately evaluating and trending adverse conditions in accordance with applicable procedures.

b. Findings and Observations

No findings were identified.

The inspectors evaluated a sample of issues and events that occurred over the course of the past two quarters to determine whether issues were appropriately considered as emerging or adverse trends. The inspectors verified that these issues were addressed within the scope of the CAP or through department review and documentation in the quarterly trend presentation for overall assessment.

The inspectors noted an apparent increase in the number of radiation protection boundary issues. The inspectors and Exelon personnel identified nine instances of radiation protection boundary issues during a 46-day period between April 28 and June 12, 2014. For example, the inspectors identified a radiation worker who inappropriately reached across a locked high radiation area boundary (CR-2014-002204) and three personnel (including a radiation protection technician) who exited the radiological-controlled area inappropriately (CR-2014-003458). Additionally, Exelon personnel identified a radiation worker who inappropriately reached across a high radiation area boundary (CR-2014-003133), a worker who entered a contaminated area without donning proper protective clothing (CR-2014-002215), two instances of workers leaving a contaminated area without properly doffing protective clothing (CR-2014-002206 and CR-2014-003602), maintenance and radiation protection technicians inappropriately crossed a radiological boundary (CR-2014-002208), and two examples of items inappropriately laying across contaminated area boundaries (CR-2014-002545

and CR-2014-003178). Exelon personnel documented in the CAP (CR-2014-002227) a potential trend of radiation workers violating radiological boundaries and postings. Each of the boundary issues was documented in the CAP and immediate corrective actions included coaching of individuals, removal of individual radiological-controlled area qualifications, and alterations of radiological-controlled area boundary postings.

The inspectors also noted continuing issues in the areas of scaffolding installation and inspection. The inspectors and Exelon personnel identified five instances of scaffolding installation issues during a 17-day period between April 22 and May 8, 2014. For example, the inspectors identified scaffolding in contact with 0.75-inch safety class 1 RCS piping in containment while the unit was in Mode 6 on May 2 (CR-2014-002441). Additionally, during a post-build walkdown, Exelon personnel identified scaffolding installed such that it was blocking the turbine-driven AFW lube oil fire suppression system (S14), which resulted in the S14 system being declared non-functional (CR-2014-002117). This issue was similar to an NRC-identified issue where S14 was blocked by scaffolding on August 15, 2013, (CR-2013-004911) and was documented as part of NCV 05000244/2013004-02, "Failure to Implement Scaffolding Procedure Requirements." Exelon nuclear oversight personnel also identified scaffolding within 1 inch of piping and within 3 inches from the containment vessel wall (CR-2014-002739), and Exelon personnel identified another example of scaffolding blocking fire protection equipment during a post-installation walkdown (CR-2014-002443). Each of the scaffolding installation issues was documented in the CAP and immediate corrective actions included correcting the scaffolding configurations and notifying supervision or operations.

The inspectors additionally noted an apparent increase in the number of configuration control issues. Between April 29 and May 21, 2014, a 23-day period, there were a total of five configuration control issues that self-revealed or were identified by Exelon personnel. For example, during Bus 16 undervoltage testing on May 8, an incorrect switch manipulation resulted in an ESF actuation, which included the automatic start of the 'B' EDG and the de-energization of safety-related Bus 16 (CR-2014-002741). This issue is documented in this report as NCV 05000244/2014003-01, "Inadequate Procedure Implementation Results in an Inadvertent Engineered Safety Feature Actuation," (Section 1R20). Other configuration control issues included an inappropriately opened drawer that had a "Do Not Open" sign on it. The opening of the drawer nearly caused 4,160 volt non-safety-related Bus 11A to automatically load shed (CR-2014-002264). Additionally, a non-safety-related condensate heater drain valve was found in the open position after it had not been properly closed (CR-2014-003122), two anticipated transient without a scram mitigation system actuation circuitry test switches were improperly left in the test position following surveillance testing (CR-2014-003198), and during a clearance restoration, a breaker was inappropriately placed in the closed position (CR-2014-002699). Exelon documented in the CAP (CR-2014-003135 and CR-2014-003306) an adverse trend in configuration control, each issue was corrected promptly after discovery, and a root cause analysis was performed for configuration control issues in 2014.

Unless otherwise noted, the inspectors independently evaluated the deficiencies noted above for significance in accordance with the guidance in IMC 0612, Appendix B, "Issue Screening," and Appendix E, "Examples of Minor Issues." The inspectors determined these conditions were deficiencies of minor significance and, therefore, are not subject to enforcement action in accordance with the NRC's Enforcement Policy. While the

inspectors concluded that there were potential adverse trends associated with radiation protection boundaries, scaffolding installation, and configuration control, interviews conducted by the inspectors and reviews of CRs documented as a result of inspector questions revealed that these issues had been placed in the CAP and corrective actions were either completed or in progress.

3. Annual Sample: Inservice Testing (IST) Program

a. Inspection Scope

The inspectors performed an in-depth review of Exelon's evaluations and effectiveness of corrective actions associated with their IST program. The inspectors assessed Exelon's problem identification threshold, associated analyses and evaluations, and prioritization and timeliness of corrective actions pertaining to the IST program and issues identified during IST testing. The inspectors performed this review to determine whether Exelon personnel were appropriately identifying, characterizing, and correcting problems associated with these issues and whether the planned and completed corrective actions were appropriate. The inspectors reviewed CRs, a root cause analysis, and an apparent cause evaluation as well as conducted interviews with various Exelon staff to assess the adequacy, effectiveness, and timeliness of implemented corrective actions.

The inspectors reviewed the IST program guidance for as-found testing to demonstrate operability, for acceptable pre-conditioning of MOVs, and for the effectiveness of implementation of long-term corrective actions related to NCV 05000244/2010004-02, "Failure to Identify Five Pumps in the Inservice Testing Alert Range."

b. Findings and Observations

No findings were identified.

The IST program is primarily designed to ensure that Exelon meets all ASME codes and standards required for testing the pumps and valves which fall under the scope of the ASME OM Section ISTA-1100. Additionally, the IST program is credited in TS surveillance requirements for many safety-related systems as a means of demonstrating operability of safety-related components. The IST program should be capable of identifying pre-existing conditions which may impact operability. Maintenance or cycling of the components which may precondition the equipment and result in an operability challenge not being identified is not permitted.

To evaluate whether Exelon's IST program was properly identifying non-conforming and degraded conditions and properly entering those issues into the CAP for evaluation, the inspectors reviewed procedure IP-IIT-2, "Inservice Testing Program For Pumps and Valves," Revision 01300. The inspectors selected the guidance in sections 3.5.11.2.a, which defined MOV operator stem lubrication maintenance to be acceptable preconditioning as defined in NRC Inspection Manual Part 9900 Technical Guidance, "Maintenance-Preconditioning of Structures, Systems, and Components Before Determining Operability," and sections 3.5.11.3 and 4 which discussed when as-found testing is required.

NRC Part 9900 Technical Guidance and NUREG 1482, "Guidelines for Inservice Testing at Nuclear Power Plants," states, in part, that an evaluation must be performed to determine if a maintenance activity would be considered acceptable preconditioning prior to allowing the activity. The maintenance activity needs to be evaluated to assess whether the activity bypasses or masks the as-found condition of the component and assess whether the SSC could have failed the surveillance without the preconditioning. With respect to lubrication of MOV operator valve stems, Ginna staff did conduct an appropriate evaluation in 1999 and documented this evaluation as design basis correspondence 2002-0013 to conclude this activity was acceptable preconditioning and was permitted. The inspectors reviewed the evaluation and determined that the evaluation met the NRC guidance; thus, no violation was identified. However, the inspectors did challenge Exelon staff as to whether the 1999 calculation was still valid given a number of recent industry operating experience reports of safety-related valves failing due to inadequate stem lubrication. Given that the IST program is renewed every 10 years, it is reasonable that preconditioning evaluations be reviewed periodically to ensure they are still valid.

With respect to the program guidance for as-found testing found in sections 3.5.11.3 and 4, the inspectors had several observations. The guidance in section 3.5.11.3 discussed as-found testing for equipment which is IST tested at least quarterly. As-found testing is not required for maintenance activities four times longer than the applicable IST testing interval. The previous IST testing is sufficient to demonstrate past operability. This guidance is consistent with AMSE OM-2004 Code Sections ISTB-3410 "Pumps in Regular Use," and ISTC-3550, "Valves in Regular Use."

However, the guidance in section 3.5.11.4 of IST procedure IP-IIT-2, which uses the same general philosophy, is not consistent with the ASME OM Code Guidance, NUREG-1482, or NRC Inspection Manual Part 9900 guidance. The IP-IIT-2 guidance for component tested at intervals greater than quarterly (IE equipment which is only tested during refueling outage) states:

"If the elapsed time since the last performance of the component surveillance, the as left condition, **is less than or equal to 50%** of the surveillance test interval, and **preventive or corrective maintenance** is being performed which has been determined to potentially bypass or mask the as-found condition of the component condition that would normally be assessed by the surveillance test, then as-found testing would NOT be required."

While as-found testing is not required directly by the ASME OM Code, IST program as-found testing is credited for establishing and confirming SSC operability in TS surveillance requirements. Thus, this guidance allows for preconditioning of SSC without a specific supporting evaluation as required by Part 9900 and NUREG-1482 guidance, and could result in the failure to identify a non-conforming condition, and the potential for equipment inoperability to not be identified.

Notwithstanding, the inspectors were not able to identify any instances where application of this guidance resulted in equipment inoperability not being identified. As a result, the inspectors determined this was a finding of minor significance using the guidance in IMC 0612 Appendix B, "Issue Screening," and Appendix E, "Examples of Minor Issues." Exelon staff wrote CR-2014-004057 to address the inspector's observation. With



respect to the long-term corrective actions for NCV 05000244/2010004-02, the inspectors concluded that Exelon had adequately implemented all of the planned corrective actions and these programmatic changes were effective in preventing repetition of the performance deficiency.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153 – 1 sample)

(Closed) Licensee Event Report (LER) 05000244/2014-001-00: Total Particulate Concentration in 'B' Emergency Diesel Generator Fuel Oil Storage Tank Exceeded Acceptance Criteria – Cause Attributed to Contamination from Using a Temporary Fuel Oil Storage Tank

On January 7, 2014, a fuel oil sample was collected from the 'B' EDG fuel oil storage tank (TDGO1B) in accordance with TS Surveillance Requirement 3.8.3.2 for routine testing. The sample was shipped to an off-site laboratory for analysis; the analytical results were received at Ginna on January 20, 2014. The report indicated that the total particulate concentration in TDGO1B exceeded the acceptance criteria established by TS 5.5.12, "Diesel Fuel Oil Testing Program." Due to the 13-day lapse between sample collection and Ginna receipt of analytical results, the completion time of 7 days for TS limiting condition for operation (LCO) 3.8.3, "Diesel Fuel Oil," condition B, "restore fuel oil total particulates within limit," had been exceeded. On January 23, particulate levels were confirmed below the acceptance criteria. The tank was subsequently drained, cleaned, and refilled to eliminate any foreign material inside the tank.

The cause of the event was attributed to contamination from a temporary storage tank used in previous maintenance. To prevent reoccurrence of this event, guidance will be added to the procedure controlling work utilizing temporary storage containers or tanks to ensure the temporary tanks meet the same cleanliness criteria as the systems they are being used to service. There were no actual safety consequences associated with this event. The enforcement aspects of this issue are discussed in Section 4OA7. The inspectors did not identify any new issues during the review of this LER. This LER is closed.

4OA5 Other Activities

.1 Operation of an Independent Spent Fuel Storage Installation (ISFSI) at Operating Plants (60855 and 60855.1)

a. Inspection Scope

The inspectors evaluated Exelon's activities related to long-term operation and monitoring of their ISFSI and verified that activities were being performed in accordance with the certificate of compliance, TSs, regulations, and site procedures.

The inspectors performed tours of the ISFSI pad to assess the material condition of the pad and the loaded horizontal storage modules. The inspectors also verified that transient combustibles were not being stored on the ISFSI pad or in the vicinity of the horizontal storage modules. The inspectors confirmed vehicle entry onto the ISFSI pad was controlled in accordance with the site procedures and verified that Exelon was performing daily horizontal storage module surveillances in accordance with TS requirements.

The inspectors interviewed reactor engineering personnel and reviewed Exelon's program associated with fuel characterization and selection for storage from the last ISFSI loading campaign in April/May 2012. The inspectors verified that the criteria meets the conditions for cask and canister use as specified in the certificate of compliance. The inspectors also confirmed that physical inventories were conducted annually and were maintained as required by the regulations.

The inspectors reviewed radiological records from the last ISFSI loading campaign to confirm that radiation and contamination levels measured on the casks were within limits specified by the TS and consistent with values specified in the UFSAR. The inspectors reviewed radiation protection procedures and RWPs associated with ISFSI operations. The inspectors also reviewed annual environmental reports to verify that areas around the ISFSI pad and the ISFSI site boundary were within limits specified in 10 CFR Part 20 and 10 CFR Part 72.104.

The inspectors reviewed CAP CRs and the associated follow-up actions associated with ISFSI operations to ensure that issues were entered into the CAP, prioritized, and evaluated commensurate with their safety significance.

b. Findings

No findings were identified.

.2 Institute of Nuclear Power Operations (INPO) Report Review

a. Inspection Scope

The inspectors reviewed the final report for the INPO plant assessment of Ginna conducted in May 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 July 11, 2014, the inspectors presented the inspection results to Mr. Michel Philippon, Plant General Manager, and other members of the Ginna staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by Exelon and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as an NCV.

- TS 3.8.3, "Diesel Fuel Oil," requires that EDGs and required support systems to be operable. TS 3.8.3 LCO condition B, "one or more required EDGs with stored fuel oil total particulates not within limit," requires that the fuel oil total particulates be returned within limit within 7 days. TS 5.5.12, "Diesel Fuel Oil Testing Program," established acceptance criteria for meeting the requirements of LCO 3.8.3 condition B. Contrary to the above, from January 7 until January 23, 2014, diesel fuel oil sample results were above the limit for particulates established by TS 5.5.12 thus rendering the 'B' EDG inoperable for greater than it's allowed outage time. Exelon entered the issue into their CAP as CR-2014-000303, conducted an apparent cause evaluation, and properly reported the issue to the NRC as LER 05000244/2014-001-00, "Total Particulate Concentration in 'B' Emergency Diesel Generator Fuel Oil Storage Tank Exceeded Acceptance Criteria – Cause Attributed to Contamination from Using a Temporary Fuel Oil Storage Tank." The inspectors determined the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, "Mitigating System Screening Questions," issued June 19, 2012, since the finding did not represent a loss of system and/or function.

**ATTACHMENT: SUPPLEMENTARY INFORMATION**

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

J. Pacher, Vice President, Ginna  
 M. Philippon, Plant General Manager  
 J. Bowers, General Supervisor, Radiation Protection  
 S. Doty, Manager, Maintenance  
 L. Edwards, General Supervisor, Chemistry  
 K. Garnish, General Supervisor, Operations Support  
 M. Geckle, Manager, Site Transition  
 T. Harding, Director, Licensing  
 J. Jackson, Director, Emergency Preparedness  
 D. Markowski, General Supervisor, System Engineering  
 T. Mogren, Manager, Engineering Services  
 T. Paglia, Manager, Operations  
 J. Scalzo, Director, Security  
 S. Wihlen, Manager, Integrated Work Management

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

|                     |     |   |
|---------------------|-----|---|
| 05000244/2014003-01 | NCV | Inadequate Procedure Implementation Results in Inadvertent Engineered Safety Feature Actuation (Section 1R20) |
|---------------------|-----|---|

Closed

|                      |     |  |
|----------------------|-----|--|
| 05000244/2014-001-00 | LER | Total Particulate Concentration in 'B' Emergency Diesel Generator Fuel Oil Storage Tank Exceeded Acceptance Criteria – Cause Attributed to Contamination from Using a Temporary Fuel Oil Storage Tank (Section 4OA3) |
|----------------------|-----|--|

**LIST OF DOCUMENTS REVIEWED****Section 1R01: Adverse Weather Protection**Procedures

O-6, Operations and Process Monitoring, Revision 10800  
 O-6.9, Ginna Station Operating Limits for Station 13A Transmission, Revision 03403  
 O-23, Hot Weather Seasonal Readiness Walkdown, Revision 00806

Condition Reports

|                |                |
|----------------|----------------|
| CR-2014-002779 | CR-2014-003337 |
| CR-2014-003235 | CR-2014-003346 |
| CR-2014-003236 | CR-2014-003390 |
| CR-2014-003239 | CR-2014-003487 |
| CR-2014-003240 | CR-2014-003668 |

Miscellaneous

WPLNRC-1001874 WPLNRC, Substation Operating Agreement (Ginna and Rochester Gas & Electric), October 1, 2007

**Section 1R04: Equipment Alignment**

Procedures

O-15.2, Valve Alignment for Reactor Head Lift, Core Component Movement, and Periodic Status Checks, Revision 03703  
S-9, SFP Cooling System Operations, Revision 00800  
STP-O-30.4, Auxiliary Feedwater System Valve and Breaker Position Verification, Revision 00401

Drawings

33013-1231, Main Steam (Safety Related) Piping and Instrument Drawing (P&ID), Sheet 1, Revision 1  
33013-1231, Main Steam (Safety Related) P&ID, Sheet 2, Revision 0  
33013-1234, Condensate Storage P&ID, Revision 43  
33013-1236, Feedwater P&ID, Sheet 2, Revision 22  
33013-1237, Auxiliary Feedwater P&ID, Revision 67  
33013-1237, Auxiliary Feedwater P&ID, Revision 68  
33013-1238, Standby Auxiliary Feedwater P&ID, Revision 26  
33013-1247, Auxiliary Coolant Residual Heat Removal P&ID, Revision 46  
33013-1248, Auxiliary Cooling Spent Fuel Pool Cooling, Revision 40  
33013-1250, Station Service Cooling Water Safety Related, Revision 49  
33013-1258, Reactor Coolant Pressurizer P&ID, Revision 25

Condition Reports

|                |                |
|----------------|----------------|
| CR-2013-006195 | CR-2014-001291 |
| CR-2013-006966 | CR-2014-001356 |
| CR-2014-000277 | CR-2014-001415 |
| CR-2014-000726 | CR-2014-001578 |
| CR-2014-001034 | CR-2014-002297 |

Work Order

WO C92555676

**Section 1R05: Fire Protection**

Procedures

DA-ME-98-004, Combustible Loading Analysis, Revision 12  
FRP-1.0, Containment Basement, Revision 00601  
FRP-2.0, Containment Intermediate Floor, Revision 00701  
FRP-3.0, Containment Operating Floor, Revision 00701  
FRP-4.0, Auxiliary Building Basement, Revision 00802



EP-VT-103, Visual Examination of Welds, Revision 00201  
 EP-VT-106, Visual Examination of Component Supports and Snubbers (VT-3), Revision 00101  
 EP-VT-116, Visual Examination of Reactor Vessel Head, Revision 00200  
 IP-CAP-1.9, Boric Acid Leakage Initial/Investigation Form, Revision 00902

Drawings

33013-2131, Plant Arrangement Reactor Containment Vessel Section 1-1, Revision 001  
 33013-2936, ISI Containment Line VT-3 Inspection, Revision 000

Condition Reports

|                |                |                |
|----------------|----------------|----------------|
| CR-2014-002212 | CR-2014-002337 | CR-2014-002428 |
| CR-2014-002218 | CR-2014-002349 | CR-2014-002430 |
| CR-2014-002221 | CR-2014-002351 | CR-2014-002721 |
| CR-2014-002223 | CR-2014-002353 | CR-2014-002334 |
| CR-2014-002224 | CR-2014-002398 |                |
| CR-2014-002298 | CR-2014-002427 |                |

NDE Inspection Reports

12GV331, Visual Examination of IWE Surfaces (VT-3) Containment Liner  
 14GCA093, UT Calibration Report  
 14GP003, Liquid Penetrant Examination of Integral Attachment to Component RHU-54, RHR System  
 14GU026, Ultrasonic Calibration/Examination, Pipe-to-Pipe Weld, Component DSW-3, RHR System  
 14GU053, UT Pipe Weld Examination, Elbow-to-Pipe Weld, Component N1, Feedwater System  
 14GV059, Visual Examination for Leakage (VT-2), Bottom-Mounted RPV Instrument Penetrations  
 BOP-PT-14-029, Liquid Penetrant Examination, Seal Weld #1, Chemical and Volume Control  
 BOP-PT-14-035, PT Examination of Seal Weld Repair of Chemical Volume Control Piping  
 BOP-VT-14-084, Visual Examination of Welds (VT-1) Seal Weld #1, Chemical and Volume Control  
 BOP-VT-14-112, VT Examination of Seal Weld of the Cap to Valve on Chemical Volume Control

Miscellaneous

ETSS3\_RPC001\_EOC37, Eddy Current Examination Technique Specification Sheet, Revision 0  
 Generic Letter 97-06, Degradation of Steam Generator Internals, issued December 30, 1997

**Section 1R11: Licensed Operator Requalification Program and Licensed Operator Performance**

Procedures

CNG-OP-1.01-1000, Conduct of Operations, Revision 01000  
 CNG-OP-3.01-1000, Reactivity Management, Revision 00800  
 O-2.1, Normal Shutdown to Hot Shutdown, Revision 13600  
 T-18C, Turbine Overspeed Trip Test, Revision 24

Condition Reports

CR-2014-003336  
 CR-2014-003525

Miscellaneous

EAL-TECHBASIS, EAL Technical Basis, Revision 04900

ECA1112-12, LOCA Outside Containment, Revision 7

**Section 1R12: Maintenance Effectiveness**

Procedures

CNG-AM-1.01-1023, Maintenance Rule Program, Revision 00201

STP-O-2.1-COMP-B, Safety Injection Pump 'B' Comprehensive Test, Revision 00301

STP-O-2.1QB, Safety Injection Pump 'B' Quarterly Test, Revision 00702

Condition Reports

|                |                |                |                |
|----------------|----------------|----------------|----------------|
| CR-2011-005785 | CR-2012-004972 | CR-2014-002295 | CR-2014-002636 |
| CR-2011-006755 | CR-2012-005595 | CR-2014-002326 | CR-2014-002637 |
| CR-2011-008220 | CR-2012-005977 | CR-2014-002440 | CR-2014-002706 |
| CR-2011-008241 | CR-2012-006350 | CR-2014-002442 | CR-2014-002716 |
| CR-2011-008264 | CR-2012-008048 | CR-2014-002475 | CR-2014-002835 |
| CR-2011-008361 | CR-2013-001022 | CR-2014-002485 | CR-2014-003012 |
| CR-2012-000011 | CR-2013-001299 | CR-2014-002603 | CR-2014-003018 |
| CR-2012-001268 | CR-2013-005656 | CR-2014-002610 | CR-2014-003039 |
| CR-2012-001996 | CR-2013-005812 | CR-2014-002632 |                |
| CR-2012-003630 | CR-2014-001968 | CR-2014-002633 |                |

Work Order

WO C92525705

Miscellaneous

Maintenance Rule Manager Database

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

Procedures

CNG-OP-4.01-1000, Integrated Risk Management, Revision 01300

IP-EPP-10, Control of Emergency Response Facilities and Equipment, Revision 00501

IP-OPS-3, Conduct of Lower Mode Operations, Revision 01000

O-2.3.1, Draining and Operation at Reduced Inventory of the Reactor Coolant System,  
Revision 08604

OPG-PROTECTED-EQUIPMENT, Operations Protected Equipment Program, Revision 00800

Drawing

33013-1238, Standby Auxiliary Feedwater P&ID, Revision 26

Condition Reports

CR-2014-002440

CR-2014-002442

Work Order

WO C92674150

Miscellaneous

Tagout Tag List 04-0010, May 28, 2014



**Section 1R15: Operability Determinations and Functionality Assessments**Procedures

CNG-CA-1.01-1005, Apparent Cause Evaluation, Revision 00603  
 CNG-OP-1.01-1002, Conduct of Operability Determinations/Functionality Assessments,  
 ECA-0.0, Loss of All AC Power, Revision 03800  
 ER-AFW.1, Alternate Water Supply to the AFW Pumps, Revision 03400  
 FR-H.1, Response to Loss of Secondary Heat Sink, Revision 04002  
 Revision 00201  
 STP-O-16F-A, Auxiliary Feedwater Pump 'A' – Service Water Flush, Revision 00501

Condition Reports

|                |                |                |
|----------------|----------------|----------------|
| CR-2010-002205 | CR-2014-000981 | CR-2014-002101 |
| CR-2012-004267 | CR-2014-001494 | CR-2014-002113 |
| CR-2013-000770 | CR-2014-001743 | CR-2014-002159 |
| CR-2013-004412 | CR-2014-002030 | CR-2014-002172 |
| CR-2014-000278 | CR-2014-002036 | CR-2014-003248 |
| CR-2014-000773 | CR-2014-002096 |                |

Work Order

WO C92049690

Miscellaneous

Calibration Report of Two Controlotron 1010 Units, March 17, 2014  
 CENG, R.E. Ginna Nuclear Plant Inservice Test Program Memorandum dated April 29, 2011  
 CENG, R.E. Ginna Nuclear Plant Inservice Test Program Memorandum dated April 17, 2014  
 CENG, R.E. Ginna Nuclear Plant Inservice Test Program Memorandum dated June 4, 2014  
 DA-ME-2003-049, Impact of Reduced Lube Oil Flow on Motor-Driven AFW Pump Lube Oil Cooler  
 Performance, Revision 001

**Section 1R18: Plant Modifications**Procedures

STP-O-12.2, Emergency Diesel Generator 'B', Revision 01401  
 STP-O-12.2, Emergency Diesel Generator 'B', Revision 01500

Condition Reports

|                |                |                |
|----------------|----------------|----------------|
| CR-2013-007323 | CR-2014-000740 | CR-2014-001711 |
| CR-2014-001784 | CR-2014-001810 |                |

Miscellaneous

Engineering Change Package 14-000037, ESR-14-0012 ESR (000) – Add Thermostats to  
 1/DSF1A2 and 1/DSF1B2 Logic, Revision 0000

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

STP-I-R-7.0, Control Rod Drop Test, Revision 00100  
 STP-O-2.1-COMP-B, Safety Injection Pump 'B' Comprehensive Test, Revision 00301  
 STP-O-2.10.4, Safety Injection Check Valve and MOV Leakage Test, Revision 00202  
 STP-O-2.2-COMP-A, Residual Heat Removal Pump 'A' Comprehensive Test, Revision 00302

STP-O-2.2-COMP-B, Residual Heat Removal Pump 'B' Comprehensive Test, Revision 00202  
STP-O-6.1, Source Range Nuclear Instrumentation System Channels N-31 and N-32,  
Revision 00103  
STP-O-30.4, Auxiliary Feedwater System Valve and Breaker Position Verification, Revision 00400  
STP-O-36-COMP-D, Standby Auxiliary Feedwater Pump 'D' – Comprehensive Test,  
Revision 00900

Condition Reports

CR-2014-003082  
CR-2014-003088

**Section 1R20: Refueling and Other Outage Activities**

Procedures

A-3.1, Containment Storage and Closeout Inspection, Revision 04901  
A-80, Startup Readiness Control, Revision 01603  
AP-RCC.2, RCC/RPI Malfunction, Revision 01400  
CNG-MN-1.01-1002, Troubleshooting, Revision 00100  
CNG-MN-1.01-1005, Scaffold Control, Revision 00400  
CNG-MN-4.01-1008, Pre-/Post-Maintenance Testing, Revision 00100  
CNG-MN-4.01-GL002, Post-Maintenance Test and Post Maintenance Operability Test  
Requirements Guideline, Revision 00000  
CNG-OP-1.01-1000, Conduct of Operations, Revision 01000  
CNG-OP-1.01-1001, Operational Decision Making, Revision 00800  
CNG-OP-1.01-1007, Clearance and Safety Tagging, Revision 01101  
CNG-SE-1.01-1001, Fitness for Duty Program, Revision 00600  
IP-OUT-2, Outage Risk Management, Revision 02000  
O-1, Plant Start-up Checklist, Revision 03002  
O-1.1, Plant Heatup from Cold Shutdown to Hot Shutdown, Revision 16603  
O-1.1B, Establishing Containment Integrity, Revision 06800  
O-1.1D, Plant Requirement Check List for Heatup Greater Than 350°F, Revision 06202  
O-1.1E, Precritical Plant Requirement Check List, Revision 03701  
O-1.2, Plant Startup from Hot Shutdown to Full Load, Revision 20100  
O-2.1, Normal Shutdown to Hot Shutdown, Revision 13600  
O-2.3, Draining the Reactor Coolant System to Lowered Inventory <84" but >64", Revision 05000  
O-15.1, Administrative Requirement Checklist for Entry to Mode 6 and Refueling Conditions,  
Revision 03303  
O-15.2, Valve Alignment for Reactor Head Lift, Core Component Movement, and Periodic Status  
Checks, Revision 03703  
RE-10.1, Flux Mapping Normal Procedure, Revision 01900  
STP-I-9.1.16, Undervoltage Protection – 480 Volt Safeguard Bus 16, Revision 01001  
STP-O-1, Rod Control System, Revision 00104  
  
STP-O-16-CVCMP-T, Manual Exercise Test of TDAFW Pump Steam Admission Check Valves,  
Revision 00200

Drawings

33013-1231, Main Steam (Safety Related) P&ID, Sheet 1, Revision 1  
33013-1231, Main Steam (Safety Related) P&ID, Sheet 2, Revision 0  
MD23360, Nozzle Check Valve, 6-inch Class 600, ERV-Z, with 3-Inch Internals and Position  
Indicator, Revision B2

Condition Reports

|                |                |                |                |
|----------------|----------------|----------------|----------------|
| CR-2013-006195 | CR-2014-002274 | CR-2014-002639 | CR-2014-002947 |
| CR-2014-006626 | CR-2014-002356 | CR-2014-002672 | CR-2014-002953 |
| CR-2014-006966 | CR-2014-002441 | CR-2014-002699 | CR-2014-002954 |
| CR-2014-001902 | CR-2014-002443 | CR-2014-002721 | CR-2014-003044 |
| CR-2014-001933 | CR-2014-002461 | CR-2014-002727 | CR-2014-003060 |
| CR-2014-001934 | CR-2014-002476 | CR-2014-002734 | CR-2014-003067 |
| CR-2014-001957 | CR-2014-002477 | CR-2014-002737 | CR-2014-003139 |
| CR-2014-002204 | CR-2014-002503 | CR-2014-002741 | CR-2014-003172 |
| CR-2014-002206 | CR-2014-002507 | CR-2014-002741 | CR-2014-003187 |
| CR-2014-002208 | CR-2014-002517 | CR-2014-002751 | CR-2014-003310 |
| CR-2014-002209 | CR-2014-002527 | CR-2014-002794 | CR-2014-003445 |
| CR-2014-002212 | CR-2014-002544 | CR-2014-002798 |                |
| CR-2014-002215 | CR-2014-002597 | CR-2014-002883 |                |
| CR-2014-002227 | CR-2014-002635 | CR-2014-002913 |                |

Work Order

WO C92299157

Miscellaneous

FME Project Plan, Reactor Path RFO14, Revision 0

**Section 1R22: Surveillance Testing**

Procedures

- CPI-AXIAL-N44, Calibration of Nuclear instrumentation System Power Range N44, Revision 03601
- CPI-TRIP-TEST-5.40, Reactor Protection System Trip Test/Calibration for Channel 4 (Yellow) Bistable Alarms, Revision 03204
- PT-34.1, Initial Criticality and Low-Power Physics Testing With DRWM, Revision 03406
- STP-I-R-7.0, Control Rod Drop Test, Revision 00100
- STP-O-12.2, Emergency Diesel Generator 'B', Revision 01401
- STP-O-12.2, Emergency Diesel Generator 'B', Revision 01500
- STP-O-R-2.1, Safety Injection Integrated Functional Test, Revision 00300
- STP-O-R-2.2, Diesel Generator Load and Safeguard Sequence Test, Revision 00900
- STP-O-R-10.3, Preparation for and Performance of Main Steam Safety Valve Test Using Set Point Verification Device (SPVD), Revision 00401

Drawings

- 33013-1261, Containment Spray SI P&ID, Revision 45
- 33013-1262, Safety Injection and Accumulators P&ID, Sheet 1, Revision 33
- 33013-1262, Safety Injection and Accumulators P&ID, Sheet 2, Revision 7

Condition Reports

|                |                |                |
|----------------|----------------|----------------|
| CR-2014-001821 | CR-2014-002254 | CR-2014-002274 |
| CR-2014-003203 | CR-2014-003242 |                |

Work Orders

WO C92098351  
WO C92238322

**Section 1EP4: Emergency Action Level and Emergency Plan Changes**

Procedures

CNG-EP-1.01-1018, EOF Operations, Revision 00000  
EP-CHLST-EOF01, Emergency Director Checklist, Revision 00000  
EPIP-1-18, Discretionary Actions for Emergency Conditions, Revision 02100

Condition Report

CR-2014-003336

Miscellaneous

Nuclear Emergency Response Plan, Revision 03600  
Nuclear Emergency Response Plan, Revision 03700

**Section 1EP6: Drill Evaluation**

Condition Reports

CR-2014-003336  
CR-2014-003525

Miscellaneous

EAL-TECHBASIS, EAL Technical Basis, Revision 04900  
ECA1112-12, LOCA Outside Containment, Revision 7

**Section 2RS1: Radiological Hazard Assessment and Exposure Controls**

Procedures

CNG-RP-1.01-2002, Effective Dose Equivalent – External (EDEX), Revision 00000  
RP-3109, Post Shutdown Radiological Survey Verification, Revision 00301  
RP-INS-C-AMS4, Calibration of the Eberline AMS-4 Air Monitor, Revision 00901  
RP-JC-HOTPART-ASSESS, Hot Particle Dose Assessment, Revision 01101  
RPG-18, Gas Reductions – Shutdown, Revision 2  
S-23.2.2, Containment Purge Procedure, Revision 05001

Condition Reports

|                |                |                |
|----------------|----------------|----------------|
| CR-2014-001888 | CR-2014-002178 | CR-2014-002605 |
| CR-2014-001917 | CR-2014-002204 | CR-2014-002991 |
| CR-2014-002005 | CR-2014-002300 | CR-2014-003016 |
| CR-2014-002083 | CR-2014-002491 |                |
| CR-2014-002153 | CR-2014-002553 |                |

Miscellaneous

ALARA Committee Meeting Presentations for November and December 2013; January, February, and March 2014  
RWP 14-5612  
RWP 14-5618  
RWP 14-5621

RWP 14-5622  
RWP 14-9618  
RWP 14-9622  
Whole Body Count Record and Analysis

**Section 2RS2: Occupational ALARA Planning and Controls**

Miscellaneous

ALARA Review for RWP 14-5612  
ALARA Review for RWPs 14-5618/14-9618  
ALARA Review for RWPs 14-5621/14-5622/14-9622  
ALARA Review for RWP 14-5624  
Total Effective Dose Equivalent ALARA Review for RWP 14-5622  
Work-in-Progress Review, WIP 14-5612

**Section 2RS3: In-Plant Airborne Radioactivity Control and Mitigation**

Procedures

RP-JC-AIRSAMPLE, Operation of Portable Air Sampling Equipment, Revision 01803  
RP-JC-HEPA-VAC-USE, Use of Vacuum Cleaners and Air Movers in Radiological Controlled Areas, Revision 00801

Miscellaneous

Air Sample Records for RWPs 14-5622, 14-5624, and 14-9618

**Section 2RS8: Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation**

Procedures

CNG-RP-1.01-3002, Sampling and Analysis for 10 CFR 61 Waste Classification, Revision 00000  
RPA-RW-PCP, Process Control Program, Revision 01102

Condition Reports

|                |                |                |
|----------------|----------------|----------------|
| CR-2012-006430 | CR-2012-006972 | CR-2013-002356 |
| CR-2013-005031 | CR-2013-005686 |                |

Miscellaneous

Energy Solutions Air Transport of Radioactive Materials Training Certificate  
Energy Solutions DOT/NRC Radioactive Waste Packaging, Transportation, and Disposal Training Certificate  
Energy Solutions Load Securing for Radioactive Material Training Certificate  
Lion Technology Hazardous Materials Air Shipper Certification Workshop Training Certificate  
Lion Technology Hazardous Materials Transportation Certification Workshop Training Certificate  
Lion Technology Hazardous/Toxic Waste Management Workshop Training Certificate  
Quality and Performance Assessment Reports, January 1 to April 30, 2013; September 1 to December 31, 2012; May 1 to August 31, 2012; and January 1 to April 30, 2012  
Radioactive Material Shipments, 2012-10, 2012-29, 2013-009, 2013-018, 2013-058  
Scaling Factor Reports for Waste Hold-Up Tank Filter; Cavity during Refueling; SFP during Refueling; RHR during Cleanup; TriNuc Filters 29, 85, 114; Reactor Coolant Filters 2, 4, 5; DAW; Spent Resin Tank  
Self-Assessment 2013-000014, Radioactive Materials Control

WGM RC-100 10 CFR 61 Compliance Course Training Certificate  
 WGM RC-400 DOT/NRC Regulatory Compliance Training Certificate

**Section 40A1: Performance Indicator Verification**

Procedures

CH-714, Gamma Isotopic Analysis of Crud and Degased Primary Coolant, Revision 00300  
 CH-730, Determination of Dissolved Hydrogen Concentration and Radiogas Activity in Primary Coolant, Revision 00002  
 CH-PRI-SAMP-ROOM, Sampling in the Nuclear Sample Room, Revision 01501

Miscellaneous

NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 7

**Section 40A2: Problem Identification and Resolution**

Procedures

CNG-AM-1.01-1010, Motor-Operated Valve Program, Revision 00200  
 CNG-CA-1.01-1007, Performance Improvement Program Trending and Analysis, Revision 00401  
 CNG-MN-1.01-1005, Scaffold Control, Revision 00400  
 IP-ITT02, Inservice Testing Program for Pumps and Valves, Revision 01300  
 MG-31, Scaffold Installation/Removal, Revision 00600  
 STP-O-16QT, Auxiliary Feedwater Turbine Pump – Quarterly, Revision 00803

Drawings

33013-1260, Reactor Coolant P&ID, Revision 26  
 33013-1278, Nuclear Sampling, Sheet 1, Revision 24  
 33013-2362, Canister Prep Building Miscellaneous Systems P&ID, Revision 2

Condition Reports

|                |                |                |                |
|----------------|----------------|----------------|----------------|
| CR-2010-004853 | CR-2014-001875 | CR-2014-002406 | CR-2014-003135 |
| CR-2012-006987 | CR-2014-002117 | CR-2014-002441 | CR-2014-003178 |
| CR-2012-008441 | CR-2014-002204 | CR-2014-002443 | CR-2014-003287 |
| CR-2012-008731 | CR-2014-002206 | CR-2014-002449 | CR-2014-003306 |
| CR-2012-008731 | CR-2014-002208 | CR-2014-002545 | CR-2014-003458 |
| CR-2012-008734 | CR-2014-002215 | CR-2014-002597 | CR-2014-003524 |
| CR-2014-000546 | CR-2014-002227 | CR-2014-002731 | CR-2014-003566 |
| CR-2014-001499 | CR-2014-002261 | CR-2014-002739 | CR-2014-003602 |
| CR-2014-001611 | CR-2014-002356 | CR-2014-002817 | CR-2014-004057 |
| CR-2014-001874 | CR-2014-002376 | CR-2014-003133 |                |

Work Order

WO C92286229

Miscellaneous

DA-ME-98-004, Combustible Loading Analysis, Revision 11, dated June 11, 2013  
 Design Basis Correspondence 202-0013, MOV Stroke Time Preconditioning dated March 23, 2002  
 Integrated Performance Assessment Ginna Station, 1<sup>st</sup> Quarter 2014  
 IST Trend Document 99-008 dated June 1, 1999  
 ISTM-134 Letter, MOV Stroke Time Preconditioning dated May 3, 2001

ISTM-168 Letter, CR-2010-004853 IST Pump Assessment dated August 26, 2010  
 NRC Information Notice 97-16, Preconditioning of Plant Structures, Systems, and Components before ASME Code Inservice Testing or Technical Specification Surveillance Testing issued April 4, 1997  
 NRC Information Notice, 2014-04, Potential for Teflon® Material Degradation in Containment Penetrations, Mechanical Seals, and Other Components issued April 26, 2014  
 NRC Inspection Manual Part 9900 Technical Guidance, Maintenance – Preconditioning of Structures, Systems, and Components before Determining Operability  
 NRC Inspection Report 05000244/2010004  
 NUREG 1482, Guidelines for Inservice Testing at Nuclear Power Plants: Inservice Testing of Pumps and Valves and Inservice Examination and Testing of Dynamic Restraints (Snubbers) at Nuclear Power Plants – Final Report, Revision 2  
 OE-2012-001140

**Section 40A3: Follow-Up of Events and Notices of Enforcement Discretion**

Condition Reports

|                |                |                |
|----------------|----------------|----------------|
| CR-2012-003266 | CR-2012-003625 | CR-2012-005653 |
| CR-2012-007792 | CR-2014-000303 |                |

Work Orders

WO C90866414  
 WO C91162946  
 WO C91900438  
 WO C91984452

**Section 40A05: Other Activities**

Procedures

EP-2-P-0169 Structural Assessment and Monitoring Program, Revision 01400  
 O-6.1, Auxiliary Operator Rounds and Log Sheets, Revision 05002  
 RE-101, Fuel Selection for NUHOMS-32PT DSC, Revision 00000  
 RE-30.1, Special Nuclear Material Control and Accountability, Revision 00800  
 RPG-66, RP Guideline for ISFSI Campaign, Revision 00100

Condition Reports

|                |                |
|----------------|----------------|
| CR-2011-006603 | CR-2012-004408 |
| CR-2012-000740 | CR-2012-006525 |
| CR-2012-000743 | CR-2013-003720 |
| CR-2012-002785 |                |
| CR-2012-003582 |                |

Work Order

WO C91216667

Miscellaneous

ALARA Job Review, RP-ALA-Review, Revision 01001, Attachment 2  
 Horizontal Storage Module Temperature Monitoring System Panel Read-Out from January 1 to April 8, 2014  
 ISFSI-Related Recent Preventive Maintenance WO History  
 ISFSI Thermo-Luminescence Dosimeter Readings for October 18, 2012, to December 18, 2013

ISFSI Radiation Protection Survey Results from January 9 to July 15, 2013  
RWP 11-5001, ISFSI Activities, Revision 00, dated August 2011  
TC/DSC Located Removal from SFP Survey Results dated October 17, 2011

**Section 40A7: Licensee-Identified Violations**

Condition Report  
CR-2014-000303



### LIST OF ACRONYMS

|        |  |
|--------|--|
| 10 CFR | Title 10 of the <i>Code of Federal Regulations</i> |
| AC     | alternating current                                |
| AFW    | auxiliary feedwater                                |
| ALARA  | as low as reasonably achievable                    |
| ASME   | American Society of Mechanical Engineers           |
| CAP    | corrective action program                          |
| CR     | condition report                                   |
| EAL    | emergency action level                             |
| EDG    | emergency diesel generator                         |
| EPRI   | Electric Power Research Institute                  |
| ESF    | engineered safety feature                          |
| I&C    | instrumentation and control                        |
| IMC    | Inspection Manual Chapter                          |
| INPO   | Institute of Nuclear Power Operations              |
| ISFSI  | independent spent fuel storage installation        |
| ISI    | inservice inspection                               |
| IST    | inservice testing                                  |
| LCO    | limiting condition for operation                   |
| LER    | licensee event report                              |
| MOV    | motor-operated valve                               |
| NDE    | nondestructive examination                         |
| NEI    | Nuclear Energy Institute                           |
| NCV    | non-cited violation                                |
| NRC    | Nuclear Regulatory Commission, U.S.                |
| OOS    | out of service                                     |
| P&ID   | pipng and instrument drawing                       |
| PCP    | process control program                            |
| PI     | performance indicator                              |
| RCS    | reactor coolant system                             |
| RFO    | refueling outage                                   |
| RG     | regulatory guide                                   |
| RHR    | residual heat removal                              |
| RWP    | radiation work permit                              |
| SFP    | spent fuel pool                                    |
| SG     | steam generator                                    |
| SI     | safety injection                                   |
| SSC    | structure, system, and component                   |
| SW     | service water                                      |
| TS     | technical specification                            |
| UFSAR  | Updated Final Safety Analysis Report               |
| UT     | ultrasonic testing                                 |
| WO     | work order   |