



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BLVD., Suite 100
KING OF PRUSSIA, PENNSYLVANIA 19406-2713**

November 2, 2018

Mr. Bryan C. Hanson
Senior Vice President, Exelon Generation Company, LLC
President and Chief Nuclear Officer, Exelon Nuclear
4300 Windfield Road
Warrenville, IL 60555

**SUBJECT: R.E. GINNA NUCLEAR POWER PLANT, LLC: INTEGRATED INSPECTION
REPORT 05000244/2018003**

Dear Mr. Hanson:

On September 30, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at R. E. Ginna Nuclear Power Plant. On October 15, 2018, the NRC inspectors discussed the results of this inspection with Mr. William Carsky, Site Vice President and other members of your staff. The results of this inspection are documented in the enclosed report.

NRC inspectors documented one finding, of very low safety significance (Green) in this report. This finding involved a violation of NRC requirements. Additionally, NRC inspectors documented one Severity Level IV violation with no associated finding. The NRC is treating these violations as non-cited violations (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violations or significance of these NCV's, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement; and the NRC Resident Inspector at Ginna. In addition, if you disagree with a cross-cutting aspect assignment 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 U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC, 20555-0001; with copies to the Regional Administrator, Region I, and the NRC Resident Inspector at Ginna.

B. Hanson

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Sincerely,

/RA/

Erin Carfang, Chief
Reactor Projects Branch 1
Division of Reactor Projects

Docket Number: 50-244
License Number: DPR-18

Enclosure:
Inspection Report 05000244/2018003

cc w/encl: Distribution via ListServ

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REPORT 05000244/2018003 DATED NOVEMBER 2, 2018

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**U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report**

Docket Number: 50-244

License Number: DPR-18]

Report Number: 05000244/2018003

Enterprise Identifier: I-2018-003-0063

Licensee: Exelon Generation Company, LLC

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

Location: Ontario, New York

Inspection Dates: July 1, 2018, to September 30, 2018

Inspectors: N. Perry, Senior Resident Inspector
J. Schussler, Resident Inspector
H. Anagnostopoulos, Senior Health Physicist
J. Bream, Physical Security Inspector
E. Burket, Reactor Inspector
J. DeBoer, Emergency Preparedness Inspector
M. Patel, Operations Engineer
S. Obadina, Project Engineer

Approved By: E. Carfang, Chief
Reactor Projects Branch One
Division of Reactor Projects

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring Exelon's performance at Ginna by conducting the baseline inspections described in this report in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information. NRC identified and self-revealing findings, violations and additional items are summarized in the table below.

List of Findings and Violations

Failure to Procedurally Vent Flow Transmitter Results in Auxiliary Feedwater Train Inoperable			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000244/2018003-02 Closed	[P.1] – Identification	71111.22
An NRC identified Green Non cited Violation (NCV) of Technical Specification 5.4.1.a, "Procedures," was identified for the failure of Exelon to adequately ensure entrapped air from instrument lines associated with flow transmitters FT-2002 and FT-2014 was vented in accordance with technical procedures in March of 2017 and May of 2018, which resulted in NRC inspectors identifying flow indicators FI-2022A and FI-2030 reading erratically, and the 'B' motor driven auxiliary feedwater train being declared inoperable.			

Reactor Coolant Pressure Boundary Exceeds Technical Specification Limits			
Cornerstone	Severity	Cross-Cutting Aspect	Inspection Results Section
Not Applicable	Severity Level IV NCV 05000244/2018003-01 Closed	Not Applicable	71152
A self-revealed Severity Level IV Non-cited Violation (NCV) of Technical Specification 3.4.13, Reactor Coolant System Operational Leakage, was identified when reactor coolant pressure boundary leakage was found on a chemical and volume control system letdown line.			

Additional Tracking Items

Type	Issue Number	Title	Inspection Results Section	Status
LER	05000244/2018-001-00	Leakage in Reactor Coolant System Pressure Boundary	71153	Closed

PLANT STATUS

Ginna began the inspection period at 100 percent power. The unit remained at, or near, 100 percent power for the entire inspection period.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed plant status activities described in IMC 2515, Appendix D, "Plant Status" and conducted routine reviews using IP 71152, "Problem Identification and Resolution." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess Exelon's performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

REACTOR SAFETY

71111.04 - Equipment Alignment

Partial Walkdown (3 Samples)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) 'A' auxiliary feedwater on July 27, 2018
- (2) 'A' safety injection on September 13, 2018
- (3) 'A' spent fuel pool cooling on September 26, 2018

71111.05AQ - Fire Protection Annual/Quarterly

Quarterly Inspection (5 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

- (1) Intermediate building steam header floor on July 26, 2018
- (2) Main control room on August 12, 2018
- (3) Turbine building top floor on August 12, 2018
- (4) Cable tunnel on September 26, 2018
- (5) 'B' Emergency diesel generator room on September 27, 2018

Annual Inspection (1 Sample)

- (1) The inspectors evaluated fire brigade performance during an unannounced backshift drill on August 30, 2018.

71111.06 - Flood Protection Measures

Internal Flooding (1 Sample)

The inspectors evaluated internal flooding mitigation protections for door seals in the emergency diesel generator rooms and the battery rooms on September 19, 2018.

71111.11 - Licensed Operator Requalification Program and Licensed Operator Performance

Operator Requalification (1 Sample)

The inspectors observed control room activities during 'B' emergency diesel generator monthly testing on August 1, 2018, and entry into abnormal procedure AP-RCC.2 for RCC/RFI Malfunction related to control rod I-11 on September 10, 2018.

Operator Performance (1 Sample)

The inspectors observed and evaluated a crew of licensed operators in the plant's simulator during licensed operator requalification involving a scenario containing, but not limited to, a fire in a motor control center, a failed open pressurizer spray valve, failure of the turbine to trip, and the loss of preferred auxiliary feedwater on September 18, 2018.

71111.12 - Maintenance Effectiveness

Routine Maintenance Effectiveness (1 Sample)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

- (1) Microprocessor rod position indication system on September 28, 2018

71111.13 - Maintenance Risk Assessments and Emergent Work Control (5 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

- (1) Planned preventive maintenance on the service air compressor on July 9, 2018
- (2) Unplanned maintenance on the 'B' motor driven auxiliary feedwater system on August 6, 2018.
- (3) 'C' and 'D' Standby auxiliary feedwater system unplanned maintenance on August 16, 2018
- (4) Offsite circuit 7T planned maintenance on September 10, 2018
- (5) Boric acid blender planned maintenance on September 25, 2018

71111.15 - Operability Determinations and Functionality Assessments (4 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) 'B' motor driven auxiliary feedwater FI-2022A/FI-2030 flow indicators on August 8, 2018
- (2) 'C' standby auxiliary feedwater operability determination for motor operated valve 9704A on August 17, 2018
- (3) Core exit thermocouple G7 temperature decrease on August 23, 2018
- (4) 'A' emergency diesel generator lube oil heaters out of service on September 12, 2018

71111.18 - Plant Modifications (2 Samples)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Engineering Change Package 18-000099, Reactor make up water heater
- (2) Engineering Change Package 17-000051, Lube Oil Heaters (Emergency diesel generator)

71111.19 - Post-Maintenance Testing (4 Samples)

The inspectors evaluated post maintenance testing for the following maintenance/repair activities:

- (1) Air operated valve 4562 planned maintenance on July 20, 2018
- (2) Motor operated valve 9704A planned maintenance on August 1, 2018
- (3) NFPA diesel generator planned maintenance on August 28-29, 2018
- (4) Component cooling water valve 745 unplanned maintenance on September 28, 2018

71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

Routine (4 Samples)

- (1) STP-O-12.2 Emergency diesel generator 'B' monthly on August 1, 2018
- (2) STP-O-40.5 NFPA diesel generator on August 6, 2018
- (3) STP-O-6.13 Daily surveillance logs on August 17, 2018
- (4) STP O-2.1 'A' safety injection quarterly on September 13, 2018

Inservice (1 Sample)

- (1) STP-O-36Q-D Standby auxiliary feedwater pump 'D' quarterly with local start on July 30, 2018

71114.02 - Alert and Notification System Evaluation (1 Sample)

The Inspectors evaluated the maintenance and testing of the alert and notification system (ANS) from August 2016 to July 2018.

71114.03 - Emergency Response Organization Staffing and Augmentation System (1 Sample)

The inspectors conducted a review of the Exelon's Emergency Response Organization (ERO) augmentation staffing requirements and the process for notifying and augmenting the ERO.

71114.05 – Maintenance of Emergency Preparedness (1 Sample)

The inspectors reviewed a number of activities to evaluate the efficacy of Exelon's efforts to maintain Ginna's emergency preparedness programs.

71114.06 - Drill EvaluationEmergency Planning Drill (1 Sample)

The inspectors evaluated the conduct of an off year emergency preparedness exercise on August 14, 2018. The exercise scenario involved declaration of a Site Area Emergency based on a loss of coolant accident and lowering reactor vessel level indication, the declaration of a General Emergency and Protective Action Recommendations to the state and local counties based on loss of coolant accident in containment, and a containment penetration failing.

RADIATION SAFETY71124.04 - Occupational Dose AssessmentSource Term Characterization (1 Sample)

The inspectors evaluated Exelon's source term characterization.

External Dosimetry (1 Sample)

The inspectors evaluated Exelon's external dosimetry program.

Internal Dosimetry (1 Sample)

The inspectors evaluated Exelon's internal dosimetry program.

Special Dosimetric Situations (1 Sample)

The inspectors evaluated Exelon's performance for special dosimetric situations.

OTHER ACTIVITIES – BASELINE71151 - Performance Indicator Verification (8 Samples)

The inspectors verified Exelon's performance indicators submittals listed below.

- (1) Alert and Notification System July 1, 2017, through June 30, 2018
- (2) Drill and Exercise Performance July 1, 2017, through June 30, 2018

- (3) Emergency Response Organization Drill Participation July 1, 2017, through June 30, 2018
- (4) Emergency Alternating Current Power System July 1, 2017, through June 30, 2018
- (5) High Pressure Injection System July 1, 2017, through June 30, 2018
- (6) Heat Removal System July 1, 2017, through June 30, 2018
- (7) Residual Heat Removal System July 1, 2017, through June 30, 2018
- (8) Cooling Water Systems July 1, 2017, through June 30, 2018

71152 - Problem Identification and Resolution

Annual Follow-up of Selected Issues (2 Samples)

The inspectors reviewed Exelon's implementation of its corrective action program related to the following issues:

- (1) Reactor Coolant System Pressure Boundary Leak on the Chemical and Volume Control System Normal Letdown Line (Action Requests 4096294 and 4097619).
- (2) Electrical System 480 Volt Ground Trend Evaluation. (Action Requests 04157619, 04155223, 04132998).

71153 - Follow-up of Events and Notices of Enforcement Discretion

Licensee Event Report (1 Sample)

The inspectors evaluated the following licensee event report (LER):

- (1) LER 050000244/2018-001-00, Leakage in Reactor Coolant System Pressure Boundary (ADAMS accession: ML18086A032)

The inspectors determined it was not reasonable to foresee or correct the cause discussed in the LER, therefore no performance deficiency was identified. The circumstances surrounding this LER are documented in report Section 71152. This LER is closed.

INSPECTION RESULTS

Failure to Procedurally Vent Flow Transmitter Results in Auxiliary Feedwater Train Inoperable			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000244/2018003-02 Closed	[P.1] – Identification	71111.22
An NRC identified Green Non-cited Violation of Technical Specification 5.4.1.a, "Procedures," was identified for the failure of Exelon to adequately ensure entrapped air from instrument lines associated with flow transmitters FT-2002 and FT-2014 was vented in accordance with technical procedures in March of 2017 and May of 2018, which resulted in NRC inspectors identifying flow indicators FI-2022A and FI-2030 reading erratically, and the 'B' motor driven auxiliary feedwater train being declared inoperable.			

Description:

On July 30, 2018, a portion of condensate system which is used to supply blocking water to the auxiliary feedwater pumps was placed in a testing lineup. Exelon determined the lineup allowed an existing system air void to relocate in the auxiliary feedwater discharge piping. As a result, on August 6, 2018, the inspectors identified that the 'B' motor driven auxiliary feedwater flow indicators, FI-2022A and FI-2030, on the main control board were displaying flow measurements while the 'B' motor driven auxiliary feedwater pump was not running. The flow indicators fluctuated between 0 and 19.33 gallons per minute. Each flow indicator is expected to be reading zero gallons per minute while the pump is not running.

In response to the inspector's observations, Exelon completed an instrument channel check of FI-2022A and FI-2030. After concluding FI-2030 was displaying flow measurements that exceeded the channel check criteria, Exelon declared the 'B' motor driven auxiliary feedwater train was inoperable. As a result the applicable technical specification action statement, 3.7.5, was entered to restore the 'B' auxiliary motor driven train within seven days. Exelon staff determined that the instrument discrepancy started on July 30, 2018, and subsequently performed a technical evaluation to document system operability. A past operability review showed that the allowed technical specification outage time would not have been exceeded so no violation of technical specification 3.7.5 occurred.

Upon review of Exelon procedures, CPI-FLO-2002, "Calibration of 1B Motor Driven Auxiliary Feedwater Pump Discharge Flow Loop 2002," Revision 23 and CPI-FLO-2014, "Calibration of 1B Motor Driven Auxiliary Feedwater Pump Discharge Flow Loop 2014 and Service Water Pressure Indicators PI-2198 and PI-2199," Revision 01700, used to calibrate and vent flow indicators FI-2022A and FI-2030 the inspectors determined that Exelon personnel did not adequately ensure they were written to vent entrapped air from the associated instrument lines. Specifically, paragraph 7.2 of CPI-FLO-2002 and paragraph 7.4 of CPI-FLO-2014 provided instructions to vent on the low and high side instrument lines by opening vent screws and test tee plugs. Subsequently, these steps did not adequately ensure entrapped air from instrument lines associated with flow transmitters FT-2002 and FT-2014 were vented.

Corrective Actions: On August 6, 2018, Exelon performed trouble shooting and a venting procedure to remove air trapped in flow transmitters FT-2002 and FT-2014 instrument sensing lines. After successful venting and an instrument channel check the 'B' motor driven auxiliary train was returned to operable. Additionally, Exelon will be reviewing the associated venting procedures for necessary changes.

Corrective Action References: 04161976, 04162074, 04162689, 04165260

Performance Assessment:

Performance Deficiency: The inspectors determined that Exelon personnel did not adequately ensure procedures, CPI-FLO-2002, "Calibration of 1B Motor Driven Auxiliary Feedwater Pump Discharge Flow Loop 2002," Revision 23 and CPI-FLO-2014, "Calibration of 1B Motor Driven Auxiliary Feedwater Pump Discharge Flow Loop 2014 and Service Water Pressure Indicators PI-2198 and PI-2199," Revision 01700 were written to vent entrapped air from the associated instrument lines. Specifically, paragraph 7.2 of CPI-FLO-2002 and paragraph 7.4 of CPI-FLO-2014 provided instructions to vent on the low and high side instrument lines by opening vent screws and test tee plugs, but did not ensure entrapped air was vented. This performance deficiency was reasonably within the licensee's ability to foresee and prevent.

Screening: The inspectors determined the performance deficiency was more than minor because it adversely affected the Procedure Quality attribute of the Mitigating Systems Cornerstone and affected the associate cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, this issue is similar to Example 3.j of IMC 0612, Appendix E, "Examples of Minor Issues," issued August 11, 2009, because the inadequate venting led to flow indicator FI-2030 failing the channel check acceptance criteria and consequently a reasonable doubt on the operability of the 'B' motor driven auxiliary feedwater train.

Significance: The inspectors assessed the significance of the finding using IMC 0609, Attachment 4, "Initial Characterization of Findings" worksheet, which directs the user to IMC 0609 Appendix A "The Significance Determination Process (SDP) for Findings At-Power." The inspectors assessed significance of the failure to adequately vent the 'B' auxiliary feedwater system in accordance with IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," Section A, "Mitigating SSC and Functionality (except Reactivity Control Systems – see Section C below)." Additionally, Exelon was able to provide an operability determination and technical evaluation which concluded that during the time frame from July 30, 2018, to August 6, 2018, the inaccurate flow measurements on FI-2022A and FI-2030 would not have prevented the 'B' auxiliary feedwater train from performing its safety function and consequently would have been operable during that time period. The finding was determined to be of very low safety significance (Green), because the performance deficiency affected the design or qualification of a mitigating SSC, which maintained its operability.

Cross-Cutting Aspect: This finding has a cross-cutting aspect in the area of Problem Identification and Resolution associated with Identification, in that Exelon individuals did not identify the issue in a timely manner. Specifically, Exelon failed to recognize the erratic flow measurements of instruments FI-2022A and FI-2030 on the main control board for approximately one week. (P.1)

Enforcement:

Violation: Technical Specification 5.4.1.a, "Procedures," requires in part, "Written procedures shall be established, implemented, and maintained covering the following activities: The applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978." Regulatory Guide 1.33, Revision 2, Appendix A, Section 3.I, identifies venting "Auxiliary Feedwater System" as a recommended procedure. Exelon procedure CPI-FLO-2002, "Calibration of 1B Motor Driven Auxiliary Feedwater Pump Discharge Flow Loop 2002," Revision 23, Paragraph 7.2 and CPI-FLO-2014, "Calibration of 1B Motor Driven Auxiliary Feedwater Pump Discharge Flow Loop 2014 and Service Water Pressure Indicators PI-2198 and PI-2199," Revision 01700, Paragraph 7.4 implements this requirement.

Contrary to the above, on March 24, 2017, and May 17, 2018, Exelon staff did not adequately ensure procedures CPI-FLO-2002 and CPI-FLO-2014, paragraphs 7.2 and 7.4 respectively, were written to vent entrapped air from the associated instrument lines. Specifically, paragraph 7.2 of CPI-FLO-2002 and paragraph 7.4 of CPI-FLO-2014 provides instructions to vent on the low and high side instrument lines by opening vent screws and test tee plugs. As a result, the instrument lines had entrapped air, erratic flow readings on FI-2022A and FI-2030, the 'B' auxiliary feedwater train was declared inoperable, and there was a need for a technical evaluation detailing system operability.

Disposition: This violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement policy.

Reactor Coolant Pressure Boundary Exceeds Technical Specification Limits			
Cornerstone	Severity	Cross-Cutting Aspect	Report Section
Not Applicable	Severity Level IV NCV 05000244/2018003-01 Closed	Not Applicable	71152
A self-revealed Severity Level IV Non-cited Violation of Technical Specification 3.4.13, Reactor Coolant System (RCS) Operational Leakage, was identified when reactor coolant pressure boundary leakage was found on a chemical and volume control system (CVCS) letdown line.			
<p><u>Description:</u> On January 23, 2018, Exelon staff noted an increase in unidentified reactor coolant system leakage as documented in AR 4096294. After a containment entry on January 26, 2018, Exelon staff identified a through-wall pinhole leak in a socket weld on the 'A' CVCS normal letdown line downstream of letdown orifice LCH01, and upstream of AOV-200A.</p> <p>The inspectors reviewed inservice inspection results of the weld to determine whether they met the acceptance criteria of the American Society of Mechanical Engineers inspection code. The inspectors concluded that since the weld was appropriately scoped into Exelon's inservice inspection program and past inspection results demonstrated adequate structural integrity, that the degradation of this weld was not within Exelon's ability to foresee and prevent, and therefore, is not a performance deficiency.</p> <p>Upon identification of the leak, Exelon operators entered Technical Specification Limiting Condition of Operation 3.4.13, Operational Leakage, Action B.1, which requires the reactor to be Mode 3 in 6 hours and Mode 5 in 36 hours. See additional details in Section 71152 of this report.</p> <p>Corrective Actions: Exelon operators isolated the leak by closing two valves upstream of the leak location and exited the Technical Specification Limiting Condition of Operation. Exelon removed the degraded weld and repaired the weld in accordance with regulatory requirements including the applicable editions of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code.</p> <p>Corrective Action References: ARs 4096294 and 4097619</p>			
<u>Performance Assessment:</u> The inspectors determined the violation was not reasonably foreseeable and preventable by Exelon, and therefore, is not a performance deficiency.			
<u>Enforcement:</u> This issue is considered within the traditional enforcement process because there was no performance deficiency associated with the violation of NRC requirements.			
Violation: Technical Specification 3.4.13, RCS Operational Leakage, prohibits pressure boundary leakage.			
Contrary to the above, from January 23 to 26, 2018, a reactor coolant pressure boundary leak existed when a weld in the chemical volume and control system developed a through-wall leak.			

Severity: The NRC Enforcement Policy, Section 2.2.1 states, in part, that, whenever possible, the NRC uses risk information in assessing the safety significance of violations. Accordingly, after considering that the condition represented very low safety significance, the inspectors concluded that the violation would be best characterized as Severity Level IV under the traditional enforcement process. For information, the inspectors screened the significance of the condition using IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," and determined that the condition was of very low safety significance (Green) because the very small leak did not result in exceeding the RCS leak rate for a small loss of coolant accident and did not affect systems used to mitigate a loss of coolant accident.

Disposition: This violation is being treated as a Non-cited Violation, consistent with Section 2.3.2 of the Enforcement Policy.

The disposition of this violation closes LER 05000244/2018-001-00.

Observations	71152 - Follow-up of Selected Issues
<p><u>Review of Repetitive 480VAC System Grounds:</u></p> <p>The inspectors assessed Exelon’s corrective actions related to troubleshooting and monitoring of 480 V system ground faults. The inspectors noted that there has been an increase in the number of 480 V ground issue reports since November 2017. Exelon could not determine the likely cause of the grounds due to intermittent ground indications and various system related components failures causing the 480 V system grounds. The inspectors determined that Exelon conducted an appropriate review of the issue and had developed corrective actions to enhance monitoring and troubleshooting activities associated with 480 V grounds during the 2020 refueling outage. During this PI&R sample inspection the inspectors reviewed and assessed Exelon’s current troubleshooting process to identify the cause of the 480 V grounds and also assessed the planned enhanced disturbance monitoring system that will be installed on each of the 480 V buses during the upcoming 2020 refueling outage. The inspectors determined that Exelon conducted an appropriate review of the failures and are developing appropriate corrective actions to troubleshoot and monitor the 480 V system grounds.</p> <p><u>Leak on the Chemical and Volume Control System Normal Letdown Line</u></p> <p>On January 23, 2018, Exelon staff noted an increase in unidentified reactor coolant system leakage as documented in AR 4096294. After a containment entry on January 26, 2018, Exelon staff identified a through-wall pinhole leak in a socket weld on the ‘A’ chemical and volume control system normal letdown line downstream of letdown orifice LCH01, and upstream of AOV-200A. Exelon reported this condition to the NRC in Event Notification 53185 and Licensee Event Report 05000244/2018-001.</p> <p>The chemical and volume control system is designed to control the reactor coolant inventory, chemistry conditions, activity level, and boron concentration. The letdown lines of the chemical and volume control system are part of the reactor coolant pressure boundary.</p> <p>Upon identification of the leak, the inspectors noted that the station appropriately entered Technical Specification Limiting Condition of Operation 3.4.13, Operational Leakage,</p>	

Action B.1, which requires the reactor to be Mode 3 in 6 hours and Mode 5 in 36 hours. Exelon subsequently isolated the leak by closing two valves upstream of the leak location and exited the Technical Specification Limiting Condition of Operation. Exelon staff removed the degraded weld and repaired the location in accordance with the applicable edition of the American Society of Mechanical Engineering Boiler and Pressure Vessel Code as referenced in NRC regulatory requirements.

In accordance with their corrective action program procedures, Exelon performed a corrective action program evaluation of the leak. The inspectors noted that Exelon determined the most probable cause of the leak was an orifice wear/erosion caused by cavitation, which resulted in increased system vibrations. The inspectors also noted that the most probable cause was supported by the industry operating experience and guidance on piping failures.

Exelon performed an extent of condition review of 18 welds susceptible to similar conditions and degradation mechanisms. The inspectors noted that the inspection results of the extent of condition review met the applicable acceptance criteria and did not reveal signs of degradation.

EXIT MEETINGS AND DEBRIEFS

The inspectors confirmed that proprietary information was controlled to protect from public disclosure.

- On July 26, 2018, the inspectors presented the inspection results to Mr. Daren Blankenship, Acting Site Vice President, and other members of the Exelon staff.
- On August 2, 2018, the inspectors conducted a debrief meeting and presented the preliminary inspection results to Mr. P. Swift, Ginna Plant Manager, and other members of the Exelon staff.
- On September 12, 2018, the inspectors presented the results of the IP 71152A inspection to Mr. W. Carsky, Site Vice President, and other members of Exelon staff.
- On September 24, 2018, the inspectors debriefed the inspection results of the problem identification and resolution sample associated with electrical system 480 Volt Ground troubleshooting and monitoring program.
- On October 15, 2018, the inspectors presented the integrated quarterly resident inspector report inspection results to Mr. W. Carsky, Site Vice President, and other members of the Ginna staff.

DOCUMENTS REVIEWED**71111.04**Procedures

STP-O-30.1, Safety Injection System Valve and Breaker Position Verification, Revision 002
 STP-O-30.4, Auxiliary Feedwater System Valve and Breaker Position Verification,
 Revision 00402

Drawings

33013-1262, Safety Injection and Accumulators (SI) P&ID, Revision 35

71111.05AQ – Fire Protection Annual/QuarterlyProcedures

FRP-20.0, Control Room, Revision 010
 SC-3.15.3, Portable Extinguisher Inspection, Revision 053

71111.11 - Licensed Operator Requalification ProgramProcedures

HU-AA-1211, Pre-Job Briefings, Revision 11
 OP-AA-101-113-1006, 4.0 Crew Critique Guidelines, Revision 9
 TQ-GI-150-F31 (LORT), Ginna Site Specific License Operator Requalification Training Program,
 Revision 6

71111.12 - Maintenance EffectivenessProcedures

ER-AA-310, Implementation of the Maintenance Rule, Revision 11
 ER-AA-310-1001, Maintenance Rule – Scoping, Revision 4
 ER-AA-310-1002, Maintenance Rule Functions – Safety Significance Classification, Revision 3
 ER-AA-310-1003, Maintenance Rule – Performance Criteria Selection, Revision 5
 ER-AA-310-1004, Maintenance Rule – Performance Monitoring, Revision 14
 ER-AA-310-1005, Maintenance Rule – Dispositioning Between (A)(1) and (A)(2), Revision 7

71111.13 - Maintenance Risk Assessments and Emergent Work ControlProcedures

OP-AA-102-102, General Area Checks and Operator Field Rounds, Revision 15
 OP-AA-108-117, Protected Equipment Program, Revision 5
 OPG-PROTECTED-EQUIPMENT, Operations Protected Equipment Program,
 Revision 20
 WC-AA-101, On-Line Work Control Process, Revision 28
 WC-AA-101-1006, On-Line Risk Management and Assessment, Revision 2
 WC-AA-104, Integrated Risk Management, Revision 25
 STP-O-30.5, Standby Auxiliary Feedwater Pumps Valves and Breakers, Revision 00400

71111.15Procedures

OP-AA-108-115, Operability Determinations, Revision 21

Technical Evaluation

ECP-17-000051, Engineering Technical Evaluation for Lube Oil Heaters, Revision 0000
 ESR-18-0182, Technical Evaluation, Past operability for B MDAFW pumps and flor indicators
 for IRs 04161976 and 04162074, Revision 001
 OPEVAL-18-006, Reactor Coolant System and Incore Flux and Temperature Monitoring,
 Revision 000
 OPEVAL-18-005, IR 04164728 Improper Operation of Valve 9704A, Revision 000

Action Requests

04164728

71111.18Procedures

CC-AA-112, Temporary Configuration Changes, Revision 27
 S-35, Reactor Make up Water Heater Operations, Revision 006 and 007

Technical Evaluation

ECP-17-000051, Engineering Technical Evaluation for Lube Oil Heaters, Revision 0000
 ECP-18-000099, Engineering Technical Evaluation for RMW Heater PCTC, Revision 000

Action Requests

04170132
 04171587

Vendor Technical Documents

VTD-A0152-4080, Installation and Maintenance – Chromalox Immersion Heaters, Revision 001

Drawings

33013-1265, Sheet 1, Chemical and Volume Control System Charging P&ID, Revision 12
 33013-1265, Sheet 2, Chemical and Volume Control System Charging P&ID, Revision 27
 33013-1266, Auxiliary Building Chemical Volume Control System Boric Acid P&ID, Revision 36

Work Orders

C93654947

71111.22Procedures

STP-O-2.1QA, Safety Injection Pump Quarterly Test, Revision 016
 CPI-FLO-2002, Calibration of 1B Motor Driven Auxiliary Feedwater Pump Discharge Flow Loop
 2002, Revision 023
 CPI-FLO-2014, Calibration of 1B Motor Driven Auxiliary Feedwater Pump Discharge Flow Loop
 2014 and Service Water Pressure Indicators PI-2198 and PI-2199, Revision 01700
 MA-AA-716-004, Conduct of Troubleshooting, Revision 15
 O-6.13, Daily Surveillance Log, Revision 195

STP-O-12.2, Emergency Diesel Generator B, Revision 020
 STP-O-36Q-D, Standby Auxiliary Feedwater Pump D – Quarterly, Revision 018
 STP-O-40.5, NFPA Diesel Generator (KDG09) Run Test, Revision 009

Action Requests (*initiated in response to inspection)

04161976*	04162689*	04160099
04162074*	04165260	

Work Orders

C93676824	C93607061
C93630315	

Engineering Evaluations

ESR-18-0182, Technical Evaluation, Past Operability for B MDAFW pumps and floor indicators for IRs 04161976 and 04162074, Revision 001

Drawings

33013-1237, Auxiliary Feedwater, P&ID, Revision 73
 33013-1238, Stand By Auxiliary Feedwater P&ID, Revision 42

71114.05

Procedures

EP-AA-1000, Exelon Nuclear Standardized Radiological Emergency Plan, Revision 1000
 EP-AA-1012, Exelon Nuclear Radiological Emergency Plan Annex for Ginna Station, Revision 5

Drawings

33013-2559, Fire Response Plan Control Building Plan Views, Revision 14

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Procedures

M-48.17, Locating System Grounds on 480 Volt Buses, Rev. 00400
 PI-AA-120, Issue Identification and Screening Process, Revision 8
 PI-AA-125, Corrective Action Program (CAP) Procedure, Revision 6
 WC-AA-120, Preventive Maintenance (PM) Database Revision Requirements, Revision 18

Action Requests

04082008	04087016	04091493
04084950	04087990	04091598
04086960	04091114	04092597

Work Orders

C93652000	C93653534
C93652077	C93674844

Cause Analysis

4097619, Through Weld Leak Upstream of V200A, dated 3/16/2018

Drawings

21946-0050B, 480V Bus 14 – Ground Detection Scheme, Rev. 3
33013-1260, Reactor Coolant, Revision 27
33013-1264, Chemical and Volume Control Letdown, Revision 28

Operating Experience

70077135, NRC Information Notice 2007-36 EDG Volt Regulator, dated May 16, 2008

Miscellaneous

Hand-wheel Assembly (SW Valve 5175), Revision 21-RP00532
Inservice Testing Basis Document Section 15 Saltwater System
PRC PowerPoint Presentation, “Addition of Disturbance Monitors on 480 Buses and a PPCS Alarm for LVC”, Dated September 5, 2018.
Troubleshooting Instructions for Bus 14 performed on September 5, 2018.

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Miscellaneous

R.E. Ginna Nuclear Power Plant Technical Specification Bases, Revision 86