



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

February 1, 2018

EA-18-002

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

**SUBJECT: R.E. GINNA NUCLEAR POWER PLANT, LLC - INTEGRATED INSPECTION
REPORT 05000244/2017004 AND EXERCISE OF ENFORCEMENT
DISCRETION**

Dear Mr. Hanson:

On December 31, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your R.E. Ginna Nuclear Power Plant, LLC (Ginna). On January 17, 2018, the NRC inspectors discussed the results of this inspection with Mr. William Carsky, Site Vice President, and other members of the Ginna 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. The finding did not involve a violation of NRC requirements.

The inspectors also reviewed Licensee Event Report (LER) 50-244/2017-001-00, which described the details associated with as found values for safety relief valve lift setpoints exceeding the technical specification allowable limit. Although this constituted a violation of technical specifications involving the main steam safety relief valves, the NRC concluded that the issue was not within Exelon's ability to foresee and correct, Exelon's actions did not contribute to the degraded condition, and the actions taken were reasonable to address the issue. As a result, the NRC did not identify a performance deficiency. A risk evaluation was performed, and the issue was determined to be of very low safety significance (Green). Based on the results of NRC's inspection and assessment of this issue, I have been authorized, after consultation with the Director, Office of Enforcement, and the Regional Administrator to exercise enforcement discretion in accordance with NRC's Enforcement Policy Section 2.2.4, "Using Traditional Enforcement of Disposition Violations Identified at Power Reactors," and Section 3.10, "Reactor Violations with No Performance Deficiencies."

If you contest the violation or significance, 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, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspectors 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 Inspectors at Ginna.

This letter, its enclosure, and your response (if any) will be available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Anthony Dimitriadis, Chief
Projects Branch 1
Division of Reactor Projects

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

Enclosure:
Inspection Report 05000244/2017004
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SUBJECT: R.E. GINNA NUCLEAR POWER PLANT, LLC - INTEGRATED INSPECTION
REPORT 05000244/2017004 AND EXERCISE OF ENFORCEMENT
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U.S. NUCLEAR REGULATORY COMMISSION**REGION I**

Docket No. 50-244

License No. DPR-18

Report No. 05000244/2017004

Licensee: Exelon Generation Company, LLC (Exelon)

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

Location: Ontario, New York

Dates: October 1, 2017, through December 31, 2017

Inspectors: N. Perry, Senior Resident Inspector
J. Schussler, Resident Inspector
K. Mangan, Senior Reactor Inspector
S. Horvitz, Resident Inspector
J. Patel, Reactor Inspector
P. Ott, Operations Engineer
S. Obadina, Project Engineer

Approved by: Anthony Dimitriadis, Chief
Reactor Projects Branch 1
Division of Reactor Projects

Enclosure

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SUMMARY

Inspection Report 05000244/2017004; 10/01/2017 – 12/31/2017; Ginna; Routine Integrated Inspection Report. Maintenance Risk Assessment and Emergent Work Control and Follow up of Events and Notice of Enforcement Discretion.

This report covered a 3-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. The inspectors identified one finding, which was of very low safety significance (Green). The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," issued April 29, 2015. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," issued December 4, 2014. All violations of U.S. Nuclear Regulatory Commission (NRC) requirements are dispositioned in accordance with the NRC's Enforcement Policy dated November 1, 2016. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6.

Cornerstone: Initiating Events

Green. The inspectors identified a finding because Exelon personnel did not follow Procedure WC-AA-101-1006, "On-Line Risk Management and Assessment," Revision 2 to sufficiently monitor components such that the latest information was used to evaluate plant risk. Specifically, on December 27, 2017, Exelon failed to sufficiently monitor the diesel driven air compressor, commensurate with its operating history, such that a failure would be assessed and updated in the current plant risk assessment. Exelon entered this issue into the corrective action program (CAP) for resolution as action request (AR) 0487519. Corrective actions included declaring the diesel driven air compressor non-functional, transitioned to Yellow online plant risk, and completed restoration of the 'C' Instrument Air Compressor.

This finding is more than minor because it is associated with the configuration control attribute of the Initiating Events cornerstone and adversely affected the associated cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Additionally, this issue is similar to Example 7.f of IMC 0612, Appendix E, "Examples of Minor Issues," issued August 11, 2009, because the overall elevated plant risk placed the plant into a higher licensee-established risk category. The inspectors evaluated this finding using IMC 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," to determine the significance of the finding. The inspectors used Flowchart 2, "Assessment of [risk management actions] RMA's," to analyze the finding and calculated the incremental large early release probability using PARAGON, Exelon's risk assessment tool, and found the increase in incremental large early release probability was less than $1\text{E-}7$. The inspectors determined that if this condition existed for the full duration of the maintenance period, the large early release probability would have been $2.22\text{E-}7$. Because the increase in incremental large early release probability, was less than $1\text{E-}7$, this finding was determined 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 did not recognize and plan for the possibility of mistakes, latent issues and inherent risk, even while expecting successful outcomes. Specifically, Exelon did not ensure a component used to manage and assess risk was monitored at a frequency commensurate with its past performance. [H.12] (Section 1R13)

REPORT DETAILS

Summary of Plant Status

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

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01 – 1 sample)

.1 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

On November 9, 2017, the inspectors reviewed Exelon's readiness for the onset of seasonal cold temperatures. The review focused on the auxiliary building, screenhouse, and the Emergency Diesel Generators (EDG). The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), technical specifications (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 cold weather conditions. Documents reviewed for each section in this report are listed in the Attachment.

b. Findings

No findings were identified.

1R04 Equipment Alignment

.1 Partial System Walkdowns (71111.04Q – 3 samples)

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- Alternate Reactor Coolant System (RCS) Injection system on November 22, 2017
- 'B' Motor Driven Auxiliary Feedwater (AFW) system following surveillance testing on December 4, 2017
- 'C' Charging Pump system on December 17, 2017

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), ARs, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted the system's performance of its 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 (7111.04S – 1 sample)

a. Inspection Scope

On December 1, 2017, the inspectors performed a complete system walkdown of accessible portions of the 'A' EDG to verify the existing equipment line-up was correct. The inspectors reviewed operating procedures, surveillance tests, drawings, equipment line-up 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 systems to verify as-built system configuration matched plant documentation, and that system components and support equipment remained operable. The inspectors confirmed that systems and components were aligned correctly, free from interference from temporary services or isolation boundaries, environmentally qualified, and protected from external threats. The inspectors also examined the material condition of the components for degradation and observed operating parameters of equipment to verify that there were no deficiencies. Additionally, the inspectors reviewed a sample of related ARs and WOs to ensure Exelon appropriately evaluated and resolved any deficiencies.

b. Findings

No findings were identified.

1R05 Fire Protection

.1 Resident Inspector Quarterly Walkdowns (71111.05Q – 4 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, degraded, or inoperable fire protection equipment, as applicable, in accordance with procedures.

- Turbine building intermediate floor on November 8, 2017
- Standby AFW building and Annex on November 19, 2017
- 'A' EDG room on December 1, 2017
- Screenhouse Operating Floor on December 21, 2017

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

On November 21, 2017, the inspectors observed licensed operator simulator training, which included a failed steam generator level transmitter, failed fuel indications, loss of one offsite circuit, loss of both EDGs, and a failed open atmospheric relief valve. 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 unit supervisor. The inspectors verified the accuracy and timeliness of the emergency classification made by the shift manager and the TS action statements entered by the unit supervisor. 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

On November 28, 2017, and December 21, 2017, the inspectors observed and reviewed a reactivity change in preparation for Turbine Driven AFW testing and routine activities in the main control room. The inspectors observed pre-shift briefings and reactivity control briefings to verify that the briefings met the criteria specified in procedures HU-AA-1211, "Pre-Job Briefings," Revision 011. Additionally, the inspectors observed test 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.

.3 Licensed Operator Requalification Program (71111.11A – 1 sample)

a. Inspection Scope

On December 20, 2017, one NRC region-based inspector conducted an in-office review of results of the licensee-administered annual operating tests for 2017 for R.E. Ginna Nuclear Power Plant operators. The inspection assessed whether Pass/Fail rates were consistent with the guidance of NRC IMC 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process." The review verified that the failure rate (individual or crew) did not exceed 20 percent.

- None of the 45 operators failed any section of the Annual Exam. The overall individual failure rate was 0.0 percent
- None of the 5 crews failed the simulator test. The crew failure rate was 0.0 percent

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 2 samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on structure, system and component (SSC) performance and reliability. The inspectors reviewed system health reports, CAP documents, maintenance WOs, and maintenance rule basis documents to ensure that Exelon was identifying and properly evaluating performance problems within the scope of the maintenance rule. For each sample selected, the inspectors verified that the SSC was properly scoped into the maintenance rule in accordance with 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.

- Commercial grade dedication on December 28, 2017 (quality control)
- Containment hydrogen monitors on December 29, 2017

b. Findings

No findings were identified.

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

a. Inspection Scope

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

work, the inspectors verified that operations personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work and discussed the results of the assessment with the station's probabilistic risk analyst to verify plant conditions were consistent with the risk assessment. The inspectors also reviewed the TS requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

- Elevated plant risk, Yellow, while working inside protected equipment area, maintenance on the 'A' battery sump concurrent with 'A' motor driven AFW surveillance testing on October 16, 2017
- Unplanned atmosphere relief valve 3411 maintenance on October 31, 2017
- Planned bus 16 and 17 under voltage testing on November 2, 2017
- Planned 'A' EDG maintenance on November 14, 2017
- Planned 'C' instrument air compressor maintenance on December 27, 2017

b. Findings

Introduction. The inspectors identified a Green finding because Exelon personnel did not follow Procedure WC-AA-101-1006, "On-Line Risk Management and Assessment," Revision 2 to sufficiently monitor components such that the latest information was used to evaluate plant risk. Specifically, on December 27, 2017, Exelon failed to sufficiently monitor the diesel driven air compressor, commensurate with its operating history, such that a failure would be assessed and updated in the current plant risk assessment. The inspectors identified that the diesel driven air compressor stopped running while being used as a measure to manage online plant risk, which resulted in an unplanned increased plant risk from Green to Yellow during 'C' instrument air compressor maintenance.

Description. The diesel driven air compressor is a portable unit located adjacent to the turbine building. Its function is to charge the instrument air and service air systems in a loss of all alternating current (AC) power event. The diesel driven air compressor is modeled in the station probabilistic risk analysis model, and can be used to manage station risk. Risk assessments are performed prior to and during maintenance activities; the plant risk is modeled based on system alignments and available equipment. The probabilistic risk analysis model results will change based on the different configurations, specifically in this case the diesel driven air compressor, which is an input into the risk assessment.

The inspectors noted that the diesel driven air compressor does not indicate operating status remotely, which necessitates operators observing the running compressor locally to assess its status. Additionally, within the last year the diesel driven air compressor had experienced deficiencies relating to engine block heaters, low compressor oil level, low engine oil coolant level, discharge piping becoming unsecured, engine oil leaking, tripping on low engine coolant level, and fuel level indications. It was also noted that on December 27, 2017, the diesel air compressor was operating when the outside temperature was approximately 5 degrees Fahrenheit.

The inspectors noted that on December 27, 2017, during the 'C' instrument air compressor maintenance the diesel driven air compressor was run in order to manage station online risk, which was planned to be Green. However, during the maintenance activity on the 'C' instrument air compressor the diesel driven air compressor tripped on insufficient fuel oil due to a clogged fuel oil filter.

WC-AA-101-1006, "On-Line Risk Management and Assessment," Revision 2, Section 4.1.1 states in part, "The Operating Shift shall continuously evaluate the risk of on-line maintenance activity based upon conditions, such as ...current plant and SSC status" for assessment. Contrary to this, the inspectors determined that given the past deficiencies related to the diesel driven air compressor, and the lack of remote indication, the frequency of monitoring did not provide the operating shift the required information to continuously evaluate the risk of current plant and SSC status. This resulted in a condition where risk should have been indicated as Yellow, when the diesel air compressor tripped, during the 'C' instrument air compressor maintenance and not Green. In this case, Exelon's risk assessment was accurate with compensatory actions in place as risk management activities; however, the performance deficiency was associated with monitoring frequency as it relates to changing plant conditions and the effect on risk assessments. Specifically, the credited equipment was not adequately monitored to ensure it was able to perform its credited risk mitigation function.

Upon identification, Exelon generated AR 0487519 to document this issue. Exelon corrective actions included declaring the diesel driven air compressor non-functional, transitioning to Yellow online plant risk, and completing restoration of the 'C' Instrument Air Compressor. Furthermore, Exelon recognized the need to improve diesel air compressor reliability by establishing effective preventive maintenance and performance monitoring strategies.

Analysis. The inspectors determined that Exelon's failure to follow procedure WC-AA-101-1006 associated with diesel driven air compressor was a performance deficiency that was reasonably within Exelon's ability to foresee and correct and should have been prevented. Specifically, Exelon's failure to sufficiently monitor a component used to manage risk, commensurate with its operating history, such that a failure would be assessed and updated in the current plant risk assessment resulted in the station being in an unplanned elevated risk category (i.e. Yellow) and a failure to ensure adequate risk management assessments were put in place and briefed to ensure maximum availability, reliability, and capability of systems. This finding is more than minor because it is associated with the configuration control attribute of the Initiating Events cornerstone and adversely affected the associated cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Additionally, this issue is similar to Example 7.f of IMC 0612, Appendix E, "Examples of Minor Issues," issued August 11, 2009, because the overall elevated plant risk placed the plant into a higher licensee established risk category.

The inspectors evaluated this finding using Phase 1, "Initial Screening and Characterization" worksheet in Attachment 4 to IMC 0609, "Significance Determination Process" issued April 29, 2015, for findings within the Initiating Events, Mitigating Systems, and Barrier Integrity cornerstones. Attachment 4, Table 3, Paragraph 5.C, directs that if the finding involves the licensee's assessment and management of risk associated with performing maintenance activities under all plant operating or shutdown conditions in accordance with 10 CFR 50.65(a)(4) and the Baseline Inspection Procedure 71111.13, "Maintenance Risk Assessment and Emergent Work Control," the inspectors shall use IMC 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," to determine the significance of the finding. The inspectors used Flowchart 2, "Assessment of [risk management actions] RMA's," to analyze the finding and calculated incremental large early release probability using PARAGON, Exelon's risk assessment tool, and found the increase in incremental large early release probability was less than $1E-7$. The inspectors determined that if this condition existed for the full duration of the maintenance period, the large early release

probability would have been $2.22\text{E-}7$. Because the increase in incremental large early release probability, was less than $1\text{E-}7$, this finding was determined 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 did not recognize and plan for the possibility of mistakes, latent issues and inherent risk, even while expecting successful outcomes. Specifically, Exelon did not ensure a component used to manage and assess risk was monitored at a frequency commensurate with its past performance. [H.12]

Enforcement. This finding does not involve enforcement action because a risk assessment was performed prior to the maintenance activities as required by 10 CFR 50.65(a)(4). The performance deficiency was associated with monitoring frequency as it relates to changing plant conditions and the effect on risk assessments, therefore no violation of a regulatory requirement was identified. Exelon entered this issue into the CAP as AR 04087519. Because this finding did not involve a violation and is of very low safety significance, it was identified as a finding. **(FIN 05000244/2017004-01, Inadequate Component Monitoring Relating to Online Risk Management and Assessment)**

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 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, such as in the case of operator workarounds, the inspectors determined whether the measures in place would function as intended and were properly controlled by Exelon.

- Inadvertent charging of the S03 fire suppression system on September 27, 2017
- Reactor vessel level indicator status on October 27, 2017
- Atmosphere relief valve 3411 on October 31, 2017
- Water in 'A' EDG fuel tank on November 3, 2017
- RCS leakage from Valve 955 in sample flow path on November 27, 2017

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 5 samples)

a. Inspection Scope

The inspectors reviewed the post-maintenance tests for the maintenance activities listed below to verify that procedures and test activities 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, that the test results were properly reviewed and accepted, and that problems were appropriately documented. The inspectors also walked down the affected job site, observed the pre-job brief and post-job critique where possible, confirmed that work site cleanliness was maintained, and witnessed the test or reviewed test data to verify quality control hold points were performed and checked, and that results adequately demonstrated restoration of the affected safety functions.

- 'B' safety injection (SI) pump planned maintenance on October 3, 2017
- 'A' control room toxic gas unplanned maintenance on October 4, 2017
- Diesel alternate RCS injection pump planned maintenance on October 25, 2017
- 'A' EDG planned maintenance on November 16, 2017
- Rod control system unplanned maintenance on December 18, 2017

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 3 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-16QT, Auxiliary Feedwater Turbine Pump - Quarterly, Turbine Driven AFW pump on November 28, 2017 (In Service Test)
- M-95, Fire Protection Backflow Prevention and Drain Inspection and Sump Pump Operability Check, 'A' Battery Sump on October 16, 2017
- STP-O-12.2, Emergency Diesel Generator, 'A' EDG on December 17, 2017

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution (71152 – 5 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 its 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 AR screening meetings. The inspectors also confirmed, on a sampling basis, that, as applicable, for identified defects and non-conformances, Exelon performed an evaluation in accordance with 10 CFR Part 21, "Reporting of Defects and Noncompliance."

b. Findings

No findings were identified.

.2 Annual Sample: Unresolved Item 2013007-02 – Adequacy of Ginna's Licensing Basis for Offsite Power Calculations and Degraded Voltage Relay Time Delays

a. Inspection Scope

The inspectors reviewed actions taken by Exelon to address remaining portions of NRC unresolved item (URI) 2013007-02, "Adequacy of Ginna's Licensing Basis for Offsite Power Calculations and Degraded Voltage Relay Time Delays." The URI documented two issues identified during the inspection related to Exelon crediting the onsite main turbine generator to support offsite power voltage following an event and the adequacy of the safety bus degraded grid relay trip setpoints for voltages and time delay settings relative to accident analysis assumptions. The issue related to the degraded grid relay portions of the URI was reviewed and closed by the NRC inspectors in inspection report 05000244/2016007. During this inspection, the inspectors reviewed the actions taken by Exelon to address the URI related to the voltage support from the main generator to ensure operability of offsite power system following an event.

Subsequent to the initiation of the URI, Exelon performed an additional calculation to evaluate the impact that a trip of the main generator coincident with the unit trip and SI signal would have on the voltage requirements for all safety-related systems and components initiated during the onset of a design basis accident. The inspectors reviewed this new calculation to determine if the offsite power system had sufficient capacity and capability to ensure the operability of the offsite power system. The inspectors also reviewed updated operating procedures, Exelon's Nuclear Plant Interface Requirements (NPIRs), and corrective action documents. Finally, the inspectors reviewed Exelon's evaluation to determine if operability of the offsite power system was challenged using the assumption of a generator output breaker trip concurrent with an accident scenario for the previous 3 years prior to issuance of the new calculation.

b. Findings and Observations

No findings were identified.

The inspectors determined that Exelon's calculation DA-EE-14-003, "Offsite Power Dynamic Analysis," Revision 1, addressed concerns in the URI regarding the assumption that following the accident signal and resulting turbine trip the main generator breaker stays connected as a synchronous condenser providing voltage support for an additional 60 seconds after the reactor trip. In this revised calculation, Exelon no longer credited the additional 60 seconds and modeled the main generator tripping coincident with the SI signal following the accident. The calculation evaluated the minimum grid voltage level at the Station 13A (Ginna Switchyard) that would be required for the class 1E bus voltages to remain at an acceptable level to prevent loss of voltage and degraded voltage relay dropout. This evaluates whether acceptable motor

starting and running voltages are maintained for safety related loads. The results showed that for post-unit trip contingency, higher minimum grid voltage levels than previously agreed by Rochester Gas & Electric (RG&E) were required. The inspectors determined that Exelon took comprehensive corrective actions to raise the minimum grid voltage setpoint to protect offsite power and bound the most extreme postulated case of a generator output breaker trip at the time of a loss-of-coolant-accident condition. Exelon communicated the new calculated voltage levels to RG&E in accordance with the NPIRs, and RG&E was contracted to raise the setpoints of the post-contingency low voltage alarm in their State Estimator & Contingency Analysis System. The inspectors also determined that Exelon appropriately updated its operating procedure, O-6.9, "Ginna Station Operating Limits for Station 13A Transmission," Revision 38, to provide updated offsite power operability curves and new alarm setpoints for post-contingency low voltage alarm. Finally, the inspectors reviewed Exelon's evaluation with respect to use of the previous grid voltage level and reliance of the main generator voltage support. The inspectors determined that Exelon's review of their offsite power configuration for the previous 3 years prior to issuance of calculation DA-EE-14-003, Revision 1, was adequate and did not identify any instances where the offsite power system would have been inoperable for greater than the technical specification allowed outage time.

The inspectors determined Exelon addressed the concerns identified in the URI. Exelon took appropriate corrective actions and demonstrated that the current offsite electric power system had sufficient capacity and capability to assure the voltage requirements for all safety-related systems and components were met. With respect to compliance with offsite power system reliance on the main generator voltage support, the inspectors did not identify a violation of NRC requirements. Based on Exelon's comprehensive corrective actions, administrative controls in place today, NUC 00-01 Letter Agreement with RG&E for maintaining adequate voltage levels at Ginna station, the very low probability of a concurrent generator fault and SI event, and inspections completed to date, the inspectors concluded URI 05000244/2013007-02, "Adequacy of Ginna's Licensing Basis for Offsite Power Calculations and Degraded Voltage Relay Time Delays," is closed.

.3 Annual Sample: Changes to Technical Requirements Manual (TRM), Offsite Dose Calculation Manual (ODCM), and Surveillance Frequency Control Program (SFCP)

a. Inspection Scope

The inspectors performed an in-depth review of Exelon's changes made to the TRM, ODCM and SFCP in 2017, to determine if there were adequate and documented bases for the changes made. Specifically, the inspectors reviewed the completed packages which were submitted and approved by plant management, focusing on if the changes were reasonable and had robust bases for the changes. There were no changes to the TRM, one change to the ODCM, and six changes to the SFCP. The change to the ODCM involved removing steps for when the steam jet air ejectors' radiation monitor is out of service; steps addressing an out of service monitor are covered in other plant procedures. The changes to the SFCP involved decreasing the surveillance frequencies for outage related surveillances such that they would be performed every other outage rather than during each outage. The testing will now be performed on a staggered basis such that one train is tested alternating during each outage.

The inspectors assessed Exelon's actions to improve the documentation of bases for changes made to the TRM, ODCM and SFCP to ensure the bases met procedural requirements. The inspectors also interviewed appropriate Exelon personnel to assess the completeness of the documentation of the bases. Additionally, the inspectors

reviewed Exelon's CAP to verify that Exelon was identifying and correcting any issues associated with the bases for the changes.

b. Findings and Observations

No findings were identified.

For the ODCM change, the inspectors reviewed the appropriate plant procedures and confirmed that the steps addressing an out of service steam jet air ejectors' radiation monitor are adequately covered in those plant procedures. Therefore, the inspectors determined that the basis for the deletion of those steps from the ODCM was adequate and appropriately documented.

For the SFCP changes, the inspectors reviewed each change and the basis as documented in ER-AA-425-1001, "Surveillance Test Interval (STI) Evaluation Form." The inspectors determined the changes made were appropriate and adequately documented with sound technical justifications. The justifications considered: technical specification requirements; components exercised by the surveillance requirements; commitments made; the testing history, including results; past site and industry experience; vendor recommendations; probabilistic risk assessment (PRA) risk impact; maintenance rule information, including reliability and availability review; and the benefit of the change to the station. Each consideration included a documented explanation concerning the proposed change.

Based on a review of all the changes made to the ODCM and the SFCP in 2017, the inspectors concluded that the changes were in accordance with ER-AA-425-1001, the changes were adequately evaluated, and had adequate documentation to support the changes approved.

.4 Annual Sample: Failures of Control Room Toxic Gas Monitors

a. Inspection Scope

The inspectors performed an in-depth review of Exelon's evaluation and corrective actions to address performance problems with the 'A' and 'B' train Control Room Toxic Gas Monitors for ammonia and chlorine. The inspectors reviewed ARs that documented the identification, maintenance rule criteria, evaluation, and corrective actions taken to address the performance issues. In addition to the review of these documents, the inspectors interviewed the responsible system engineer to determine whether the scope of the corrective actions addressed all identified deficiencies. Specifically, the inspectors reviewed actions completed by Exelon staff to address as found out of tolerance values, gas monitor sensor quality problems, and component failures.

The inspectors assessed Exelon's problem identification, completed and proposed corrective actions, and the prioritization and timeliness of actions to evaluate whether the actions taken by Exelon were appropriate. Inspectors evaluated the corrective actions which included using a different sensor from the vendor, vendor quality control, and shortening surveillance frequency. The inspectors also evaluated whether the toxic gas system was being tested in accordance with the TRM, SFCP, and approved procedures. The inspectors reviewed communications between Exelon and vendors which evaluated deficiencies. The inspectors reviewed the frequency and assessments of failures, including cause evaluations, work group evaluations, and maintenance rule functional failure evaluations to determine if Exelon was using the available processes at the correct thresholds.

b. Findings and Observations

No findings were identified.

The inspectors reviewed past surveillance tests and toxic gas sensor related WOs which identified several instances where the as found sensor had drifted out of tolerance. The inspectors reviewed Exelon's engineering evaluation relating to the as found sensor drift values, and verified the as found conditions would not have prevented the system from performing its design function. Additionally, Exelon identified unbiased zero drift in some of the sensors received from the vendor. In order to monitor future vendor supply issues related to unbiased zero drift, Exelon instituted a separate maintenance rule component monitoring criteria. The inspectors found despite having no control room toxic gas monitor maintenance rule functional failures, Exelon is proactively developing actions to re-design or modify the toxic gas monitoring system. Consequently, the inspectors determined that Exelon's evaluations and extent-of-condition reviews were thorough and the causes were appropriately identified. The inspectors also determined that the corrective actions were reasonable and addressed the deficiencies and corrected the identified issues.

.5 Annual Sample: Main Steam Safety Valve High Lift Pressure

a. Inspection Scope

The inspectors performed an in-depth review of Exelon's evaluation and corrective actions after testing revealed that three main steam safety valve (MSSV) lift setpoints were above the TS limit. Specifically, the inspectors reviewed condition reports, the associated licensee event report (LER) 2017-001, and Exelon's cause evaluation to ensure Exelon had identified and developed appropriate corrective actions to address the cause of the test failures. Additionally, the inspectors reviewed the American Society of Mechanical Engineers (ASME) Code, the TS surveillance requirements, Ginna surveillance procedures, and vendor test procedures to determine if Exelon's valve testing met established requirements. The inspectors also reviewed previous valve testing results to determine if there were indications of a negative test result trend or recurring failure of the valves.

The inspectors assessed Exelon's evaluation, extent-of-condition review, completed and proposed corrective actions, and the prioritization and timeliness of actions to evaluate whether the corrective actions were appropriate. The inspectors evaluated whether Exelon's proposed revisions to the TS surveillance acceptance band and operating procedures would bound the MSSV performance, and whether the revisions would meet ASME Code requirements. Additionally, the inspectors compared the testing procedures performed on the valves by Exelon while installed in the plant to the procedure used to test the valves when they had been removed and tested at a test facility in order to determine if they were consistent and in accordance with ASME Code and industry standards. Finally, the inspectors interviewed engineers and reviewed Exelon's actions to ensure that the scope of their review was adequate.

b. Findings and Observations

The enforcement aspects of the violations identified in LER 2017-001 are discussed in section 4OA3 of this report.

The inspectors determined that Exelon's evaluation and extent-of-condition review were thorough, and the apparent cause was reasonable. The inspectors determined that corrective actions to return the valves to the correct setpoint had been completed in accordance with ASME Code guidance, and the testing following the MSSV adjustments confirmed the valves were within as-left tolerance requirements. The inspectors noted that the existing as-found acceptance band (+1, -3 percent of the setpoint) was more restrictive than the industry standard (+/- 3 percent of the setpoint), and Exelon's planned corrective actions to expand the limit through a license amendment would bound the typical as-found performance range for the MSSVs. The inspectors noted that performance of the eight MSSVs installed in the main steam system over the previous 10 years had been very good with no additional failures identified. The inspectors noted that the final conclusion by Exelon as to the cause of the failure - the valves operated as designed but the acceptance band was more limiting than expected valve performance - was discussed in the LER. However, Exelon also stated that stiction (corrosion between the valve ball and seat) was a cause for the failure. Subsequent to the submittal of the LER, Exelon concluded that the performance of the valves did not indicate stiction was a cause. Exelon wrote AR 04098360, to document this with an action to determine if a revision to LER 2017-001 is required.

The inspectors identified that all of the valves that had failed the pressure setpoint tests had been set at the test facility. Additionally, inspectors identified minor configuration control concerns between the testing performed by Exelon and the testing performed at the test facility. The inspectors noted that the atmospheric temperature recorded at the test facility varied and, in general, was below the normal atmospheric temperature of the installed valve. Additionally, the test facility heated the valve to a temperature greater than the temperature associated with Ginna's 100 percent reactor power steam temperature, which resulted in a higher valve body temperature. The inspectors determined that Exelon had not evaluated the differences as required by the ASME Code, however, these temperature differences did not significantly affect the performance of the valves because other valves set up at the test facility with similar temperature variations passed subsequent surveillance tests. This was determined to be a minor violation due to the error not having adverse impact on the overall results of the test and did not result in an incorrect conclusion with respect to operability of the valves. Exelon documented this observation in AR 04001424. Overall, the inspectors concluded that Exelon's evaluation and completed actions were appropriate and thorough.

.6 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a semi-annual review of site issues to identify any potential trends that might indicate the existence of more significant safety concerns. As part of this review, the inspectors included repetitive or closely related issues documented by Exelon in trend reports, major equipment problem lists, operator work around and challenge lists, system health reports, maintenance rule assessments, and maintenance or CAP backlogs. The inspectors also reviewed Exelon's cap database for the third and fourth quarters of 2017 to assess ARs written in various subject areas (equipment

problems, human performance issues, etc.), as well as individual issues identified during the NRC's daily AR review (Section 4OA2.1). The inspectors reviewed Exelon's quarterly trend reports for the third and fourth quarters of 2017 to verify that Exelon personnel had appropriately evaluated and trended 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 third and fourth quarters of 2017 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.

The evaluation did not reveal any new trends that could indicate a more significant safety issue. The inspectors determined that Exelon personnel had identified trend issues at a low threshold, entered them into the CAP for resolution and had appropriately prioritized investigation reviews. The inspectors noted minor adverse trends identified by Exelon staff in the areas of boric acid leaks, degraded emergency lighting, clearance and tagging, spent fuel pool leakage rate, hemyc wrap tears, main feedwater pump vibrations, and charging pump maintenance.

There were no adverse safety consequences as a result of these low-level trend issues. Based on the overall results of the semi-annual trend review, the inspectors determined that Exelon had properly identified adverse trends at Ginna before they became more significant safety problems. 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 that none of the conditions were deficiencies of greater than minor significance and, therefore, are not subject to enforcement action in accordance with the NRC's Enforcement Policy.

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

- .1 (Closed) LER 05000244/2017-001-00, During Surveillance Testing, Lift Pressure Setpoints on Three Main Steam Safety Valves Found Outside Technical Specifications Limits Due to Stiction

a. Inspection Scope

Between April 21, 2017 and April 23, 2017, Exelon staff performed as-found setpoint testing for eight MSSV in accordance with TS surveillance 3.7.1.1, and found that three of the valves lifted outside of the TS surveillance required acceptance range. This resulted in a violation of TS 3.7.1, which required that eight MSSVs be operable. Specifically, Exelon determined that the three MSSVs experienced drift beyond the +1 percent setpoint tolerance permitted by TS surveillance 3.7.1.1. Exelon staff concluded that the cause of the setpoint drift was attributed to normal variances in the valves lift setpoint and minor corrosion bonding (stiction) between the valve disc ball and seating surfaces. The inspectors reviewed Exelon's technical evaluations, reviewed documents, and interviewed Exelon staff to evaluate the causes and corrective actions associated with this deficiency. The inspectors' review and conclusions are discussed in Section 4OA2.5 of this report. This LER is closed.

b. Findings

Description. Between April 21, 2017, and April 23, 2017, following as-found testing of eight MSSVs, Exelon staff determined that three of the eight installed valves lifted outside of the TS surveillance limits. As a result, Exelon determined that it did not operate Ginna within the requirements of TS Limiting Condition of Operation 3.7.1 at some point during the previous operating cycle. The inspectors' review concluded that it was likely and reasonable that the valves became inoperable at some indeterminate time during the operating cycle. However, based on a review of the surveillance test results of the previous MSSV setpoint tests, the inspectors concluded that an MSSV lifting slightly outside the acceptance tolerance did not indicate a problem with the valve, as-left testing, or surveillance test errors. Specifically, the inspectors found that MSSV performance had been within tolerance of the previous 10 years and there was no indication of valve degradation or testing errors. Therefore, the inspectors determined that the existence of an inoperable MSSV was not reasonably within Exelon's ability to foresee and correct, and therefore, was not a performance deficiency.

The inspectors noted that the surveillance acceptance band of $\pm 1/3$ percent was more restrictive than the industry standard and the ASME Code as-found setpoint recommendation of ± 3 percent bounded the MSSV as-found values; and the as-found values for the three MSSVs could reasonably be considered normal setpoint drift. Exelon staff had entered this issue into the CAP and intends to implement corrective actions to reduce the likelihood that setpoint drift could result in unacceptable surveillance test results. Specifically, Exelon intends to submit a license amendment request to expand the acceptable as-found test acceptance criteria following a review of the design and licensing basis to determine the limits of the new band.

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 in the as-found condition, the MSSVs still could have performed their intended safety function in mitigating the consequences of a postulated accident.

Enforcement. Technical Specification 3.7.1 required that eight MSSVs shall be operable. If one or more MSSVs are inoperable, the TS requires Exelon to restore the valve to an operable status within 4 hours or shutdown within 6 hours. Contrary to the above, for a period that began on an unknown date and ending on April 23, 2017, three of the eight MSSV lift setpoints had drifted outside of the required TS tolerance values, resulting in only five MSSVs being operable throughout the previous operating cycle.

This issue is considered within the traditional enforcement process because there was no performance deficiency associated with the violation of NRC requirements. Inspection Manual Chapter 0612, "Power Reactor Inspection Reports," Section 03.22 states, in part, that traditional enforcement is used to disposition violations receiving enforcement discretion or violations without a performance deficiency. 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. However, the NRC is exercising enforcement discretion (EA-18-002) in accordance with Section 3.10 of the NRC Enforcement Policy, which states that the NRC may exercise discretion for violations of NRC requirements by reactor licensees for which there are no associated performance deficiencies. In reaching this decision, the NRC determined that the issue was not within Exelon's ability

to foresee and correct; Exelon's actions did not contribute to the degraded condition; and the actions taken were reasonable to identify and address the condition. Furthermore, because Exelon's actions did not contribute to this violation, it will not be considered in the assessment process or the NRC's Action Matrix. Exelon entered this issue into its CAP as AR 04001424.

4OA6 Meetings, Including Exit

On January 17, 2018, the inspectors presented the inspection results to Mr. William Carsky, Vice President, and other members of the Ginna staff. The inspectors verified that no propriety information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

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

W. Carsky, Site Vice President
 P. Swift, Plant General Manager
 D. Blankenship, Director, Site Operations
 K. Connor, Reactor Engineering Manager
 T. Edwards, Manager, Site Chemistry
 E. Fischer, Senior Regulatory Engineer
 K. Garnish, Manager, Site Regulatory Assurance
 D. Pascuzzi, Engineering Manager
 C. Siverd, Regulatory Assurance
 S. Wihlen, Director, Site Maintenance
 D. Wilson, Director, Site Engineering

LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATEDOpened/Closed

05000244/2017004-01	FIN	Inadequate Component Monitoring Relating to Online Risk Management and Assessment (Section 1R13)
 <u>Closed</u>		
05000244/2013007-02	URI	Adequacy of Ginna's Licensing and Design Bases for Offsite Power Calculations and Degraded Voltage Relay Time Delays (Section 4OA5.1)
 05000244/2017-001-00	 LER	 During Surveillance Testing, Lift Pressure Setpoints on Three MSSVs Found Outside TSs Limits Due to Stiction

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

O-22, Cold Weather Walkdown Procedure, Revision 024

Action Requests

04051561	04071074	04071096	04073040
04057081	04071080	04071097	04073042
04071072	04071093	04071100	
04071073	04071095	04073034	

Work Orders

C93533594

Section 1R04: Equipment Alignment

Procedures

STP-O-30.10, Emergency Diesel Generator A Pre-Startup Alignment, Revision 006

STP-O-30.4, Auxiliary Feedwater System Valve and Breaker Position Verification, Revision 00402

STP-O-40.9, Alternate RCS Injection System Standby Alignment, Revision 001

T-41A, Alignment of Auxiliary Feedwater System Prior to Power Operation, Revision 08301

Drawings

33013-1230, Alternate RCS Injection System (BDB) P&ID, Revision 2

33013-1234, Condensate Storage (CDST) P&ID, Revision 46

33013-1237, Auxiliary Feedwater (FW) P&ID, Revision 73

33013-1239, Diesel Generator – A (DG), Revision 29

33013-1248, Auxiliary Cooling Spent Fuel Pool Cooling (AC) P&ID, Revision 48

33013-1250, Station Service Cooling Water Safety Related (SW) P&ID, Revision 66

33013-1261, Containment Spray (SI) P&ID, Revision 46

33013-1262, safety Injection and Accumulators (SI) P&ID, Revision 34

33013-1265, Auxiliary Building Chemical Volume Control System Charging (CVCS) P&ID, Sheet 2 of 2, Revision 27

33013-1265, Chemical and Volume Control System Charging (CVCS) P&ID, sheet 1 of 2, Revision 12

Action Requests

04080498

Section 1R05: Fire Protection

Procedures

A-54.7, Fire Protection Tour, Revision 037

A-601.13, Fire Protection Compensatory Actions, Revision 007

FPS-3, Fire Barrier Inspection Program, Revision 003

FRP-22.0, Turbine Building Intermediate Floor, Revision 016

FRP-24.0, Diesel Generator Room A and Vault, Revision 008

FRP-31.0, Screenhouse Operating Floor, Revision 010

FRP-35.0, standby Auxiliary Feedwater Building and Annex, Revision 009
OP-AA-201-001, Fire Marshall Tours, Revision 6
OP-CE-201-007, Fire Protection System Impairment Control, Revision 000

Drawings

21488-0188, Fire Barrier General Arrangement Sheet, Screen House Floor Plan Penetration, Locations, Floor Elevation 253', Revision 9
21488-0115, Fire Barrier General Arrangement Sheet Standby Auxiliary Feedwater Building Elevation Penetration Locations, Revision 7
21488-0110, Diesel Generator "A" Room Vault East and North Walls Penetration Locations Floor Elev. – 244'0", Revision 5
21488-0110, Diesel Generator Room "A" Sect. A-A South Wall, Sect. B-B West Wall Penetration Locations Floor Elev. 253'6", Revision 6
21488-110, Diesel Generator "A" Floor Plan Penetration Locations Floor Elev. – 253'6", Revision 6
33010-2572, Fire Response Plan Screen House Roof Plan & Sections, Revision 0
33013-2569, Fire Response Plan Turbine Building, Revision 0
33013-2561, Fire Response Plan Diesel Generator Building, Technical Support Center, and Control Building, Revision 1
33013-2552, Fire Response Plan Auxiliary Building Plan-Operating Flr. Elev. 271'0", Revision 15
33013-2550, Fire Response Plan Turbine Building Plan – Mezzanine Flow Elev. 271'0", Revision 15
33013-2544, Fire Response Plan Turbine Building Plan – Basement Floor Elev. 253'6", Revision 15
33013-2540, Fire Response Plan General Plant, Revision 10
33013-2571, Fire Response Plan Screen House, Plan Above Elev. 253'-6", Revision 6

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

Procedures

HU-AA-1211, Pre-Job Briefings, Revision 011
OP-AA-101-113-1006, 4.0 Crew Critique Guidelines, Revision 007
S-3.1, Boron Concentration Control, Revision 03200
TQ-GI-150-F31 (LORT), Ginna Site Specific License Operator Requalification Training Program, Revision 004

Miscellaneous

R. E. Ginna Nuclear Power Plant Examination Scenario, Loss of all AC, Revision 5

Section 1R12: Maintenance Effectiveness

Procedures

ER-AA-310, Implementation of the Maintenance Rule, Revision 010
ER-AA-310-1001, Maintenance Rule – Scoping, Revision 004
ER-AA-310-1002, Maintenance Rule Functions – Safety Significance Classification, Revision 003
ER-AA-310-1003, Maintenance Rule – Performance Criteria Selection, Revision 5
ER-AA-310-1004, Maintenance Rule – Performance Monitoring, Revision 014
ER-AA-310-1005, Maintenance Rule – Dispositioning Between (A)(1) and (A)(2), Revision 7
SM-AA-300-1001, Procurement Engineering Process and Responsibilities, Revision 23

Action Requests

02630466	04024977	04086479
02633768	04043070	

Miscellaneous

Maintenance Rule Expert Panel Meeting Minutes 17-05, August 30, 2017
 Procure-MISC-20101207-00025, Procurement Requirement Evaluation Form 3975, Revision 50
 Procure-MISC-20110318-00001, Procurement Requirement Evaluation Form 11289, Revision 0
 Procure-MISC-20110419-00001, Procurement Requirement Evaluation Form 10546, Revision 7
 Purchase Order 00596765
 Purchase Order 00599005
 Purchase Order 00601469
 Purchase Order 00602173
 Purchase Order 00604626

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

EOP ATT-11.2, Attachment Diesel Air Compressor, Revision 8
 M-95, Fire Protection Backflow Prevention and Drain Inspection and Sump Pump Operability Check, Revision 01600
 OP-A-108-117, Protected Equipment Program, Revision 004
 OP-AA-102-102, General Area Checks and Operator Field Rounds, Revision 015
 OP-AA-108-117 Attachment 1 Protected Equipment Work Approval Form, Revision 4
 OP-AA-108-117, Protected Equipment Program, Revision 5
 OPG-PROTECTED-EQUIPMENT, Operations Protected Equipment Program, Revision 018
 P-15.54, Diesel Air Compressor, Revision 003
 P-15.54, Diesel Air Compressor, Revision 004
 WC-AA-101, On-Line Work Control Process, Revision 27
 WC-AA-101-1006, On-Line Risk Management and Assessment, Revision 2
 WC-AA-104, Integrated Risk Management, Revision 025

Action Requests

04068566	04087519
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Work Orders

C93528180

Miscellaneous

G1-A4-023, Flex Diesel Air Compressor Risk Evaluation, Revision 1
 OP-AA-102-104 Attachment 2 Standing Order, Log Number 2017-0020

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

CNG-OP-1.01-1002, Attachment 5, Basis for Reasonable Expectation of Continued Operability (RECO) or Reasonable Expectation of Functionality (REF), Revision 00200
 CNG-OP-1.01-1009, Attachment 1, Monitoring and Contingency Plan, Revision 00000
 EP-AA-1012, Exelon Nuclear Radiological Emergency Plan Annex for Ginna Station, Revision 4

EPIP-2-16, Core Damage Estimation, Revision 1700
 OP-AA-108-111, Adverse Condition Monitoring and Contingency Plan, Revision 10
 P-10, Instrument Failure Reference Manual, Revision 01901
 P-15.14, Take Manual Fuel Oil Tank Levels, Revision 00201
 STP-O-13.1.4, Deluge Valve System Reset Systems S03, S05, S15, S17, S24, S27, S29,
 Revision 00000
 STP-O-13.4.25, Multimatic Valve Testing-Suppression System S15 Inter Bldg BSMT Cable Trays
 Pre-Action System, Revision 002

Drawings

10904-398, Screen Modification for 3" Foot Valve – "A" & "B" Diesel Fuel Oil Storage Tank,
 Revision 2
 33013-2671, Reactor Vessel Level Measurement System (RVLMS) Block Diagram, Revision 4
 B-1995, 600 Gal No 2 Diesel Oil Tank, Revision 1
 DWG 03021-687, RVLMS System Elevations, Revision 1
 DWG 10905-0717, AOV-427 LTDN Loop B Cold Leg to RHX VLV 427 Elementary Wiring
 Diagram, Revision 3
 DWG 33010-1260, Reactor Coolant (RC) P&ID, Revision 27
 DWG 33013-1264, Chemical & Volume Control Letdown (CVCS) PI&D, Revision 28
 DWG 33013-1278, Nuclear Sampling (SS) P&ID, Sheet 1 of 2, Revision 24
 DWG 33013-1278, Nuclear Sampling (SS) P&ID, Sheet 2 of 2, Revision 20
 DWG NO. E-374039 3/8" Special Class 1570 ASME Section III, Revision 6

Action Requests

02659732	04046670	04062670	04073207
02702099	04056319	04065573	04077544
02713354	04056459	04068521	04077566
04046626	04060759	04068566	04077758

Work Orders

C93488882
 C93640682
 WORKCOMP-20171006-00007

Miscellaneous

CA-2012-003266
 CA-2012-003267
 CA-2012-003272
 CR-2012-007792
 ECP-17-000721, Design Equivalent Change Package, Allow V-954 to be Open or Closed,
 Revision 0
 Simple Issue Risk Assessment, Risk Issue Number GIN-1-2017-0639, Revision 0
 Active Leak on AOV-955, Adverse Condition Monitoring and Contingency Plan OP-11-108-100,
 Revision 10

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

CPI-ANALYZER-235, Control Room Train B Toxic Gas Analyzers Calibration, Revision 013
 STP-O-1, Rod Control System, Revision 003
 STP-O-12.1, Emergency Diesel Generator A, Revision 024
 STP-O-17.7BQ, Control Room Toxic Gas Monitor Train B Operability Test, Revision 00000
 STP-O-2.1QB, Safety Injection Pump B Quarterly Test, Revision 016
 STP-O-40.11, Alternate RCS Injection System Portable Diesel Run and Pump Flow Test, Revision 002
 STP-O-R-2.3A, Diesel Generator A Trip Testing, Revision 005

Work Orders

C92615231	C93572422	C93591254	C93649960
C93215264	C93574515	C93591259	

Section 1R22: Surveillance Testing**Procedures**

M-95, Fire Protection Backflow Prevention and Drain Inspection and Sump Pump Operability Check, Revision 01600
 STP-O-12.1, Emergency Diesel Generator A, Revision 023
 STP-O-16QT, Auxiliary Feedwater Turbine Pump – Quarterly, Revision 013

Work Orders

C93528180

Section 4OA2: Problem Identification and Resolution**Procedures**

AP-SG.1, Steam Generator Tube Leak, Revision 017
 AR-E-11, Alarm Response Procedure, Revision 02300
 CH-360, Primary to Secondary Leakage Sampling and Measurement, Revision 00002
 CH-RETS-RMS-INOP, Actions for RMS Monitor Alarm or Inoperability, Revision 02200
 CPI-ANALYZER-234, Control Room Train A Toxic Gas Analyzers Calibration, Revision 014
 CY-GI-170-300, Offsite Dose Calculation Manual (ODCM), Revisions 31, 32
 ER-AA-310-1003, Maintenance Rule – Performance Criteria Selection, Revision 5
 ER-AA-425-1001, Surveillance Test Interval (STI) Evaluation Form, Revision 1
 LS-AA-1000, Surveillance Frequency Control Program (SFCP) List of Surveillance Frequencies Change Process, Revision 0
 O-6.9, Ginna Station Operating Limits for Station 13A Transmission, Revision 38
 OP-AA-102-103-1001, Operator Burden and Plant Significant Decisions Impact Assessment Program (CM-1), Revision 7
 PI-AA-125, Corrective Action Program (CAP) Procedure, Revision 004
 STP-O-17.7AQ, Control Room Toxic Gas Monitor Train A Operability Test, Revision 00002
 T-161121, Anderson Greenwood Crosby – Engineering Procedure Test Procedure 6xRx10 HC 65 Safety Valves, Revision 5

Action Requests

CR-2008-009329	02683448	04001475	04046776
01701226	02685427	04003578	04053091
01956533	02691217	04007429	04057447
02437236	02694842	04010014	04063033
02438057	02738833	04021032	04063036
02504260	02740927	04021943	04066664
02504260	03950362	04029298	04070378
02674849	03993962	04029625	04075392
02677137	03996785	04033835	04075602
02678534	03999177	04034218	04075846
02678534	04000813	04034344	04081866
02680387	04000880	04041835	04082195
02680604	04001424	04042333	

Work Orders

C20807122	C90733801
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Calculation

DA-EE-14-003, Offsite Power Dynamic Analysis, Revision 1

Drawings

33013-2539, AC System Plant Load Distribution One Line Wiring Diagram, Revision 29

D-422-301, Auxiliary Building Basement Floor, Miscellaneous Equipment Foundations, Revision 3

Miscellaneous

Discussion and Resolution of NRC Unresolved Item (URI) 2013007-02, Adequacy of Ginna's Licensing Bases for Offsite Power Calculation and Degraded Voltage Relay Time Delays, dated 2/13/17

NUC-001, Letter Agreement, dated 12/31/16

UFSAR, Chapter 8, Electric Power, Revision 26

WC-GI-8003-1011, R.E. Ginna Nuclear Power Plant Nuclear Plant Interface Requirements (NPIRs), Revision 0

INC-PCR-17-0606, Proposed Change to ODCM

R.E. Ginna Nuclear Power Plant Surveillance Frequency Control Program List of Surveillance Frequencies, Revision 0, 6

STI Change Request GIN-16-001, Revision 0001

STI Change Request GIN-16-002, Revision 000, 001

STI Change Request GIN-16-003, Revision 0000

STI Change Request GIN-16-004, Revision 0000

STI Change Request GIN-16-006, Revision 000

STI Change Request GIN-17-002, Revision 0

STI Change Request GIN-17-004, Revision 0

Maintenance Rule Expert Panel Meeting Minutes, Meeting 16-10, 7/29/16

Maintenance Rule System Basis Document, System 43D

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DA-NS-2000-053, Control Room Toxic hazards Analysis, Revision 1

Order Number 00549228, Pentair Valves and Controls US LP – Repair Certification Report, dated 11/1/15

Report No. T70570-1, Wyle Certification Test Report for PO M46690, dated 10/29/12

Report No. T70570-2, Wyle Certification Test Report for PO M46690, dated 10/29/12
 Report No. T70570-3, Wyle Certification Test Report for PO M46690, dated 10/29/12
 Report No. T70570-4, Wyle Certification Test Report for PO M46690, dated 10/30/12
 Report No. T70570-5, Wyle Certification Test Report for PO M46690, dated 10/30/12
 Report No. T70570-6, Wyle Certification Test Report for PO M46690, dated 10/30/12
 American Society of Mechanical Engineer OM Code-2004, Code for Operation and Maintenance
 of Nuclear Power Plants
 NWS Technology Exelon –RE Ginna, PO 610421 Valve Test for N900898-32-0005 and
 N900898-32-0006, dated April 2017
 NWS Technology Certificate of Conformance of Work Performed for Exelon R.E. Ginna Nuclear
 Power Plant for PO 610421, dated 5/3/17
 RE Ginna Main Steam Safety Valve Surveillance Testing History, performed 2009-2017
 LER 2017-001, During Surveillance Testing, Lift Pressure Setpoints on Three Main Steam Safety
 Valves Found Outside Technical Specifications Limits Due to Stiction, Revision 0

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Procedures

STP-O-R-10.3, Preparation for and Performance of Main Steam Safety Valve Test Using Setpont
 Verification Device, performed 4/23/17
 STP-O-R-10.3, Preparation for and Performance of Main Steam Safety Valve Test Using Setpont
 Verification Device, Rev. 006
 T-161121, Anderson Greenwood Crosby – Engineering Procedure Test Procedure
 6xRx10 HC 65 Safety Valves, Revision 5

Action Requests

AR 04000813	AR 04001475	AR 04021032
AR 04000880	AR 04007429	AR 04021943
AR 04001424	AR 04010014	

Miscellaneous

Order Number 00549228, Pentair Valves and Controls US LP – Repair Certification Report,
 dated 11/1/15
 Report No. T70570-1, Wyle Certification Test Report for PO M46690, dated 10/29/12
 Report No. T70570-2, Wyle Certification Test Report for PO M46690, dated 10/29/12
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 Report No. T70570-5, Wyle Certification Test Report for PO M46690, dated 10/30/12
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 RE Ginna Main Steam Safety Valve Surveillance Testing History, performed 2009-2017
 LER 2017-001, During Surveillance Testing, Lift Pressure Setpoints on Three Main Steam Safety
 Valves Found Outside Technical Specifications Limits Due to Stiction, Revision 0

LIST OF ACRONYMS

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
AC	alternating current
AFW	auxiliary feedwater
AR	action request
ASME	American Society of Mechanical Engineers
CAP	corrective action program
EDG	emergency diesel generator
IMC	Inspection Manual Chapter
LER	licensee event report
MSSV	main steam safety valve
NPIR	nuclear plant interface requirements
NRC	Nuclear Regulatory Commission
ODCM	offsite dose calculation manual
P&ID	piping and instrumentation drawing
PRA	Probabilistic Risk Assessment
RCS	reactor coolant system
RG&E	Rochester Gas & Electric
RMA	risk management actions
SFCP	surveillance frequency control program
SI	safety injection
SSC	structure, system, and component
STI	surveillance test interval
TRM	technical requirements manual
TS	technical specification
UFSAR	Updated Final Safety Analysis Report
URI	unresolved Item
WO	work order