



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

August 18, 2016

EA-16-128

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 05000244/2016002 WITH PRELIMINARY WHITE FINDING, AND  
INDEPENDENT SPENT FUEL STORAGE INSTALLATION REPORT  
07200067/2016001

Dear Mr. Hanson:

On June 30, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the R.E. Ginna Nuclear Power Plant, LLC (Ginna). The enclosed inspection report documents the inspection results, which were discussed on July 12, 2016, with Mr. Joseph Pacher, Site Vice President, and other members of the Ginna staff.

The enclosed inspection report discusses a finding that has preliminarily been determined to be a White finding with low to moderate safety significance that may require additional inspections, regulatory actions, and oversight. As described in Section 1EP4 of the enclosed report, the finding is associated with an apparent violation of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.54(q)(2), "Emergency Plans," because Exelon Generation Company, LLC (Exelon) did not maintain the effectiveness of Ginna's Emergency Plan such that it met the requirements of Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," and the planning standards of 10 CFR 50.47(b). Specifically, Exelon implemented a revision to the emergency action level (EAL) table for the fission product barrier matrix that was incorrect with respect to the EAL threshold associated with potential loss of containment barrier. This could have resulted in an untimely declaration of a General Emergency or a failure to declare a Site Area Emergency during an actual event. This finding was assessed based on the best available information, using the NRC's Significance Determination Process (SDP). The basis for the NRC's preliminary significance determination is described in the enclosed report.

Because the finding is also an apparent violation of NRC requirements, it is being considered for escalated enforcement action in accordance with the Enforcement Policy, which appears on the NRC's Web site at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>. The NRC will inform you in writing when the final significance has been determined. We intend to complete and issue our final safety significance determination within 90 days from the date of this letter. The NRC's SDP is designed to encourage an open dialogue between your staff and the NRC; however, the dialogue should not affect the timeliness of our final determination.

We believe that we have sufficient information to make a final significance determination. However, before we make a final decision, we are providing you an opportunity to provide your perspective on this matter, including the significance, causes and corrective actions, as well as any other information that you believe the NRC should take into consideration. Accordingly, you may notify us of your decision within 10 days to: (1) attend a regulatory conference where you can present to the NRC your point of view on the facts and assumptions used to arrive at the finding and assess its significance; (2) submit your position on the finding to the NRC in writing, or (3) accept the finding as characterized in the enclosed report. If you request a regulatory conference, it should be held within 30 days of your receipt of this letter. We encourage you to submit supporting documentation at least one week prior to the conference, in an effort to make the conference more efficient and effective. If you choose to attend a regulatory conference, it will be open for public observation. The NRC will issue a public meeting notice and press release to announce the conference. If you decide to submit only a written response, it should be sent to the NRC within 30 days of your receipt of this letter. If you choose not to request a regulatory conference or to submit a written response, The NRC will proceed with its regulatory decision, however, you will not be allowed to appeal the NRC's final significance determination.

Please contact Anthony Dimitriadis at (610) 337-6953 within 10 days from the issue date of this letter to notify the NRC of your intentions. If we have not heard from you within 10 days, we will continue with our significance determination and enforcement decision. Because the NRC has not made a final determination in this matter, no notice of violation is being issued for this inspection finding at this time. In addition, please be advised that the number and characterization of the apparent violation may change based on further NRC review.

In addition, the enclosed inspection report documents one self-revealing Severity Level IV violation under the traditional enforcement process. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy. If you contest the NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the 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 the cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region I, and the NRC Resident Inspectors at Ginna.

B. Hanson

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

Sincerely,

*/RA/*

Michael L. Scott  
Director  
Division of Reactor Projects

Docket Nos. 50-244 and 72-067  
License No. DPR-18

Enclosure:  
Inspection Report 05000244/2016002 and 07200067/2016001  
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

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NAME	MScott				
DATE	08/18/16				

**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION I**

Docket Nos. 50-244 and 72-067

License No. DPR-18

Report Nos. 05000244/2016002 and 07200067/2016001

Licensee: Exelon Generation Company, LLC (Exelon)

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

Location: Ontario, New York

Dates: April 1, 2016 through June 30, 2016

Inspectors: N. Perry, Senior Resident Inspector  
J. Petch, Resident Inspector  
B. DeBoer, Health Physicist  
J. Furia, Senior Health Physicist  
J. Nicholson, Senior Health Physicist

Approved by: Michael L. Scott  
Director  
Division of Reactor Projects

Enclosure

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## SUMMARY

Inspection Report 05000244/2016002 and Independent Spent Fuel Storage Installation (ISFSI) Report 07200067/2016001; 04/01/2016 – 06/30/2016; Ginna; Emergency Action Level and Emergency Plan Changes; Other Activities.

This report covered a 3-month period of inspection by resident inspectors and announced inspections performed by regional inspectors. The inspectors reviewed a preliminary White finding associated with an apparent violation. Additionally, the inspectors identified one self-revealing traditional enforcement Severity Level IV non-cited violation (NCV). A finding's significance is indicated by a color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," dated 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 February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

### Cornerstone: Emergency Preparedness

- Preliminary White. Exelon identified that they had inadvertently made a change to the Ginna Emergency Plan. The NRC determined that this error is a preliminary White finding under the Reactor Oversight Process and a violation of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.54 (q)(2), "Emergency Plans," because Exelon did not maintain the effectiveness of Ginna's Emergency Plan such that it met the requirements of Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," and the planning standards of 10 CFR 50.47(b). Specifically, Exelon implemented a revision to the emergency action level (EAL) table for the fission product barrier matrix that was incorrect with respect to the EAL threshold associated with potential loss of containment barrier. This could have resulted in an untimely declaration of a General Emergency or a failure to declare a Site Area Emergency during an actual event.

Using IMC 0612, Appendix B, "Issue Screening," the performance deficiency was determined to be more than minor because it impacted the procedure quality attribute of the Emergency Preparedness cornerstone and adversely affected the associated cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, Exelon's EAL table was revised without adequate technical reviews resulting in a discrepancy between the EAL table and the EAL technical basis. The EAL wording of Table F-1 containment barrier potential loss, block C.6 did not meet the minimum required operable equipment in all situations and could have resulted in a delayed General Emergency declaration or a failure to declare a Site Area Emergency.

The inspectors utilized IMC 0609, Appendix B, "Emergency Preparedness Significance Determination Process [SDP]," to determine the significance of the performance deficiency. The performance deficiency is associated with the emergency classification system planning standard and is considered a risk-significant planning standard function. The inspectors were directed by the SDP to compare the performance deficiency with the examples in Section 5.4, "10 CFR 50.47 (b)(4), Emergency Classification System," to evaluate the significance of this performance deficiency. In accordance with Section 5.4, when an EAL

has been rendered ineffective such that any General Emergency declaration would not be declared, but due to other EALs, an appropriate declaration would be made in a degraded manner or any Site Area Emergency would not be declared for a particular off-normal event, a degradation of risk-significant planning standard function (b)(4) is determined; and the finding is White. The finding has a cross-cutting aspect in the area of Human Performance, Change Management, because Exelon did not use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. Specifically, Exelon did not maintain a clear focus on nuclear safety when implementing changes to the EALs resulting in a significant unintended consequence, the potential to make an untimely emergency declaration. [H.3] (Section 1EP4)

### Miscellaneous

- Severity Level IV. A self-revealing Severity Level IV NCV of 10 CFR 72.150, "Instructions, Procedures, and Drawings," was identified when Exelon failed to maintain positive helium pressure during bulk water removal from a loaded spent fuel canister on May 25, 2016. Specifically, site procedure GMM-24-02-ISFSI01A, "ISFSI Operations Using Areva Equipment," did not provide a method of monitoring the pressure in the dry shielded canister (DSC) to ensure that a slight helium overpressure on the DSC was present. As a result, the DSC was unexpectedly exposed to a negative pressure for approximately 17 hours causing an unplanned entry into Technical Specification (TS) 1.2.17a of the general license for Transnuclear's standardized NUHOMS horizontal storage modular storage system, certificate of compliance (COC) 1004, Amendment 10, "32PT DSC Vacuum Drying Duration Limit." Negative pressure is not allowed during these operations because it could, potentially, overly stress the fuel pins. Corrective actions included entering the condition into the corrective action program (CAP), developing and executing a detailed work plan returning the DSC to a positive pressure within the 31 hour TS limit, and revising the procedure.

In accordance with 10 CFR 72.150, the inspectors determined that Exelon did not have adequate instructions and procedures to ensure that a slight helium overpressure was maintained on the DSC during bulk water removal on May 25. As a result, the DSC was unexpectedly exposed to a negative pressure for approximately 17 hours and TS 1.2.17a was entered. Because the issue involved independent spent fuel storage installation (ISFSI) operations, consistent with the guidance in Section 2.2 of the NRC Enforcement Policy, the inspectors evaluated this performance deficiency in accordance with the traditional enforcement process. Using Example 6.3.d.3 from the NRC Enforcement Policy, the inspectors determined that the violation was a Severity Level IV violation. Because this violation involves the traditional enforcement process and was not associated with ISFSI support programs conducted under a 10 CFR 50 license, the inspectors did not assign a cross-cutting aspect to this violation. (Section 4OA5)



## REPORT DETAILS

### Summary of Plant Status

Ginna began the inspection period operating at 100 percent power and 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 – 2 samples)

##### .1 Readiness for Seasonal Extreme Weather Conditions

###### a. Inspection Scope

The inspectors reviewed Exelon's readiness for the onset of seasonal high temperatures. The review focused on the relay room, the main feed pump room, the screen house, the technical support center, station 13A, and the emergency diesel generators (EDGs). The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), TSs, control room logs, and the CAP to determine what temperatures or other seasonal weather could challenge these systems, and to ensure Exelon personnel had adequately prepared for these challenges. The inspectors reviewed station procedures, including Exelon's seasonal weather preparation procedures and applicable operating procedures. The inspectors performed walkdowns of the selected systems to ensure station personnel identified issues that could challenge the operability of the systems during hot weather conditions. Documents reviewed for each section of this inspection report are listed in the Attachment.

###### b. Findings

No findings were identified.

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

##### a. Inspection Scope

The inspectors performed a review of plant features and procedures for the operation and continued availability of the offsite and alternate AC power systems to evaluate readiness of the systems prior to seasonal high grid loading. The inspectors reviewed Exelon's procedures affecting these areas and the communications protocols between the transmission system operator and Exelon. This review focused on changes to the established program and material condition of the offsite and alternate AC power equipment. The inspectors assessed whether Exelon established and implemented appropriate procedures and protocols to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system. The inspectors evaluated the material condition of the associated equipment by interviewing electricians, reviewing action requests (ARs), and walking down portions of the offsite and AC power systems including the station 13A switchyard.

b. Findings

No findings were identified.

1R04 Equipment Alignment

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

a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- 'A' spent fuel pool (SFP) cooling on April 22, 2016
- 'C' charging pump on May 4, 2016
- Turbine-driven auxiliary feedwater (AFW) following quarterly surveillance testing on May 26, 2016
- Component cooling water (CCW) after surveillance testing on June 2, 2016

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 system performance of their intended safety functions. The inspectors also performed field walkdowns of accessible portions of the systems to determine if 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.

1R05 Fire Protection

Resident Inspector Quarterly Walkdowns (71111.05Q – 6 samples)

a. Inspection Scope

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

- Screen house building basement on April 21, 2016
- Water treatment room on April 28, 2016
- Air handling room on May 6, 2016
- Control room on May 24, 2016
- Standby AFW building and annex on May 27, 2016
- Intermediate building radiological side operations floor on June 22, 2016

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06 – 1 sample)

Internal Flooding Review

a. Inspection Scope

The inspectors reviewed the UFSAR, the site flooding analysis, and plant procedures to identify internal flooding susceptibilities for the site. The inspectors review focused on the circulating water and condenser pit areas. The inspectors verified the adequacy of equipment seals located below the flood line, floor and water penetration seals, common drain lines and sumps, sump pumps, level alarms, control circuits, and Garlock flexible pipe connections. The inspectors assessed the adequacy of operator actions that Exelon had identified as necessary to cope with flooding in these areas and also reviewed the CAP to determine if Exelon was identifying and correcting problems associated with both flood mitigation features and site procedures for responding to flooding.

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 June 14, 2016, the inspectors observed licensed operator simulator training which included failed fuel, a loss of heat sink, and an Alert declaration and a Site Area Emergency declaration. 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 classifications 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 May 25, 2016, the inspectors observed and reviewed a power reduction, and turbine-driven AFW surveillance test. The inspectors observed the control room briefings to verify the briefings were in accordance with Exelon's administrative procedure HU-AA-1211, "Pre-Job Briefings," Revision 010. Additionally, the inspectors verified that procedure use, crew communications, and coordination of activities between work groups similarly met established expectations and standards.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q – 3 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, maintenance rule expert panel minutes, 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.

- Maintenance rule (a)(3) evaluation on May 2, 2016
- 12A transformer in (a)(2) on June 9, 2016
- Main steam in (a)(1) on June 30, 2016

b. Findings

No findings were identified.

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

a. Inspection Scope

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

- Planned maintenance on the 'B' CCW heat exchanger and the 'C' charging pump on May 2 and 3, 2016
- Planned maintenance on the 'B' EDG on May 6, 2016
- Planned maintenance on the 'A' EDG on May 19, 2016
- Planned maintenance on the diesel fire pump on June 8, 2016
- Unplanned maintenance on the 'A' residual heat removal (RHR) pump on June 17, 2016

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15 – 6 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:

- Westinghouse SFP analysis on April 15, 2016
- Station service transformer 14 fuse 3B drawing high current on April 29, 2016
- 'A' RHR pump increased seal leakage immediate operability determination on June 16, 2016
- Ammonia detector change from 7-day to 30-day technical requirement on June 20, 2016
- Safety injection system check valve low differential pressure on June 22, 2016
- Ammonia detector restoration to full functionality after extended period of maintenance on June 30, 2016

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

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18 – 2 samples)

.1 Temporary Modification

a. Inspection Scope

The inspectors reviewed temporary modification Engineering Change Package (ECP) 15-000125, "Engineering Evaluation of Retention Tank Bypass Procedurally Controlled Temporary Configuration Change," Revision 0000, to determine whether the modification affected the safety functions of systems that are important to safety. The inspectors reviewed 10 CFR 50.59 documentation and post-modification testing results and conducted field walkdowns of the modification to verify that the temporary modification did not degrade the design bases, licensing bases, and performance capability of the affected systems.

b. Findings

No findings were identified.

.2 Permanent Modification

a. Inspection Scope

The inspectors evaluated a modification to the safety-related bus 14 and bus 16 station service transformer fans. The inspectors verified that the design bases, licensing bases, and performance capability of the affected systems were not degraded by the modification. In addition, the inspectors reviewed modification documents associated with the upgrade and design change that included reconfiguring the power such that each of the three cooling fan motors per bus were fused independently such that a failure or fault on a single fan will not result in a simultaneous loss of power to all three fans. The inspectors also interviewed engineering personnel to determine if the modification was installed and operating as designed.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 – 6 samples)

a. Inspection Scope

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

- ISFSI fuel handling tool planned maintenance on April 28, 2016
- 'C' charging flex line replacement on May 3, 2016
- 'B' EDG planned maintenance on May 7, 2016
- 'A' EDG planned maintenance on May 19, 2016
- Diesel fire pump planned maintenance on June 8, 2016
- 'A' RHR pump emergent maintenance on June 19, 2016

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 – 6 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-27.2, Tendon Surveillance Program on April 4, 2016
- STP-O-13.11.19, Smoke Detector Testing Zone Z02 on April 12, 2016
- STP-O-13.4.1, B5B Fire Pump Annual Flow Test on April 24, 2016
- CH-PRI-SAMP-SPECIAL, Liquid Sampling Outside Nuclear Sample Room on May 4, 2016

- STP-O-16QT, Auxiliary Feedwater Turbine Pump – Quarterly on May 25, 2016 (inservice test)
- S-12.4, RCS [Reactor Coolant System] Leakage Surveillance Record Instructions on June 2, 2016

b. Findings

No findings were identified.

**Cornerstone: Emergency Preparedness**

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04 – 1 sample)

a. Inspection Scope

Exelon implemented various changes to Ginna's EALs, Emergency Plan, and implementing procedures. Exelon determined that, in accordance with 10 CFR 50.54(q)(3), changes made to the EALs, Emergency Plan, and its lower-tier implementing procedures, had not resulted in any reduction in effectiveness of the Plan, and that the revised Plan continued to meet the standards in 50.47(b) and the requirements of 10 CFR 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities."

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

b. Findings

Introduction. Exelon identified that they had inadvertently made a change to the Ginna Emergency Plan. The NRC determined that this error is a preliminary White finding under the Reactor Oversight Process and a violation of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.54 (q)(2), "Emergency Plans," because Exelon did not maintain the effectiveness of Ginna's Emergency Plan such that it met the requirements of Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," and the planning standards of 10 CFR 50.47(b). Specifically, Exelon implemented a revision to the emergency action level (EAL) table for the fission product barrier matrix that was incorrect with respect to the EAL threshold associated with potential loss of containment barrier. This could have resulted in an untimely declaration of a General Emergency or a failure to declare a Site Area Emergency during an actual event.

Description. In February 2008, Ginna began the process of transitioning to Nuclear Energy Institute (NEI) 99-01, "Methodology for Development of Emergency Action Levels," Revision 5, by commissioning a contractor to prepare the new EALs in accordance with NEI 99-01. The EAL-TECHBASIS, "EAL Technical Basis," Revision 04800, became effective on November 22, 2010. Section 4.0, "Containment,"



provides the minimum heat removal equipment required to maintain containment operability. For containment pressures  $\geq 28$  pounds per square inch gauge (psig), a minimum of two containment recirculation fan cooler (CRFC) units and one containment spray (CS) pump are required.

Using the revised EAL technical basis, the Exelon staff compared the Ginna wording and the NEI initiating conditions on EAL Table F-1, block C.6 for potential loss of containment barrier. The table wording was changed to include a '<' symbol as follows: "Containment pressure  $\geq 28$  psig and < two CRFC units and one CS pump." On December 23, 2013, the wording in Table F-1 was again changed such that the new wording was as follows: "Containment pressure  $\geq 28$  psig AND < two CRFC units AND < one CS pump operating per design." This change to Table F-1 was developed based on comments from a prior training class to better clarify that the '<' symbol applied to both the two CRFC units and one CS pump. The resolution to the comment was to add a '<' symbol before the one CS pump. The change was considered to be for clarification only.

The inaccuracy with Table F-1 was discovered during development of a training scenario on April 22, 2016. In the training scenario development process, a shift manager typically reviews the proposed scenario. It was during this review that a shift manager discovered the inaccurate wording of EAL Table F-1. Upon discovery, the shift manager consulted the EAL technical basis document and verified that the statement in the containment barrier potential loss, block C.6, was inconsistent with the EAL technical basis document. The EAL technical basis specifies that a minimum of two CRFC units and one CS pump are required. The statement as written on the EAL Table F-1 would not account for a situation where  $\geq 2$  CRFC units are operating but zero CS pumps are operating or  $\geq 1$  CS operating and < two CRFC units are operating. The emergency directors are not required to refer to EAL technical basis when making an EAL declaration.

The impact of the error is a potential delay or failure to identify a potential loss of containment barrier. Using the fission product barrier matrix criteria, any loss or any potential loss of containment results in a Notice of Unusual Event. The loss or potential loss of any two fission product barriers results in a Site Area Emergency. The loss of any two fission product barriers and loss or potential loss of the third barrier results in a General Emergency. Thus for certain initiating conditions, such as a loss-of-coolant accident (LOCA) or a steam line break inside containment, the criterion in block C.6 is the primary indication of a potential loss of containment because it represents a high containment pressure and less than adequate containment heat removal capabilities to ensure design limits will not be exceeded. This is likely the first potential loss of containment criterion met for these initiating conditions. As such, the appropriate emergency declaration would likely have been delayed until a subsequent loss or potential loss of containment criterion is met or an alternate General Emergency/Site Area Emergency criterion is met. As a result, the declaration could be untimely for a General Emergency thus delaying issuance of protective action recommendations to ensure public health and safety. For certain initiating conditions, such as a medium break LOCA with no fuel damage, a Site Area Emergency may not be declared at all even if one is warranted.

On April 22, 2016, Exelon issued a standing order to inform plant personnel of the EAL table wording discrepancy. The standing order stated that the EAL table incorrectly interprets plant-specific basis information, and the language in the plant-specific technical basis is correct. The standing order provided some additional clarity on the minimum number of operating equipment required. Subsequently, Exelon revised EP-AA-1012 Addendum 3, "Emergency Action Levels for Ginna Station," with the new EAL table wording as follows: "Containment  $\geq$  28 psig **AND either** of the following conditions: • < 2 CRFC units operating • <1 CS pump operating."

Analysis. Exelon's failure to maintain Ginna's Emergency Plan in accordance with the requirements of 10 CFR 50.54(q) is a performance deficiency that was within Exelon's ability to foresee and correct and should have been prevented. Specifically, on December 23, 2013, a change to Ginna's EAL Table F-1 was made resulting in a potential effect on the capability to assess, classify, and declare an emergency condition within 15 minutes after the availability of indications to plant operators that an EAL has been exceeded. Exelon implemented a revision to the EAL table for the fission product barrier matrix that was inconsistent with respect to the EAL threshold associated with potential loss of containment barrier, as defined in the EAL technical basis. This could have resulted in an untimely declaration of a General Emergency or a failure to declare a Site Area Emergency during an actual event.

Using IMC 0612, Appendix B, "Issue Screening," issued September 7, 2012, the performance deficiency was determined to be more than minor because it impacted the procedure quality attribute of the Emergency Preparedness cornerstone and adversely affected the associated cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, Exelon's EAL table was revised without the adequate technical reviews resulting in a discrepancy between the EAL table and the EAL technical basis. The EAL table wording of Table F-1 containment barrier potential loss, block C.6 did not direct actions consistent with the minimum required operable equipment in all situations and could have resulted in a delayed General Emergency declaration or a failure to declare a Site Area Emergency.

The inspectors utilized IMC 0609, Appendix B, "Emergency Preparedness Significance Determination Process [SDP]," issued September 22, 2015, to determine the significance of the performance deficiency. The performance deficiency is associated with the emergency classification system planning standard and is considered a risk-significant planning standard function. The inspectors were directed by the SDP to compare the performance deficiency with the examples in Section 5.4, "10 CFR 50.47 (b)(4), Emergency Classification System," to evaluate the significance of this performance deficiency. In accordance with Section 5.4, when an EAL has been rendered ineffective such that any General Emergency declaration would not be declared, but due to other EALs, an appropriate declaration would be made in a degraded manner or any Site Area Emergency would not be declared for a particular off-normal event, a degradation of risk-significant planning standard function (b)(4) is determined; and the finding is White. This significance determination is preliminary. In accordance with IMC 0310, "Aspects Within the Cross-Cutting Areas," issued December 4, 2014, the finding has a cross-cutting aspect in the area of Human Performance, Change Management, because Exelon did not use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority.

Specifically, Exelon did not maintain a clear focus on nuclear safety when implementing changes to the EALs resulting in a significant unintended consequence, the potential to make an untimely emergency declaration [H.3]. This assigned cross-cutting aspect is dependent on the final significance determination being White.

Enforcement. 10 CFR 50.54(q)(2) requires that a holder of a license under this part shall follow and maintain the effectiveness of an emergency plan that meets the requirements in Appendix E to this part; and for nuclear power reactor licensees, the planning standards of § 50.47(b).

10 CFR 50.47(b)(4) requires that a standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee.

Appendix E, Section IV.C.2, requires that nuclear reactor licensees shall establish and maintain the capability to assess, classify, and declare an emergency condition within 15 minutes after the availability of indications to plant operators that an EAL has been exceeded and shall promptly declare the emergency condition as soon as possible following indication of the appropriate emergency classification level.

Contrary to the above, from December 23, 2013, until April 22, 2016, Exelon did not maintain the effectiveness of Ginna's Emergency Plan such that it met the requirements of Appendix E and the planning standards of 10 CFR 50.47(b). Specifically, Exelon did not use an emergency classification and action level scheme that maintained the licensee's capability to assess, classify, and declare an emergency condition within 15 minutes after the availability of indications to plant operators that an EAL has been exceeded. This could have resulted in an untimely declaration of a General Emergency or a failure to declare a Site Area Emergency during an actual event. Exelon implemented a revision to the EAL table for the fission product barrier matrix that was incorrect with respect to the EAL threshold associated with potential loss of containment barrier. Immediate corrective actions included Exelon entering this issue into its CAP (AR 02659732) and issuing a standing order to inform plant personnel of the EAL table wording discrepancy. In accordance with IMC 0612 and the NRC Enforcement Policy, the issue was preliminarily determined to be a White finding. This violation is being treated as an apparent violation pending a final significance determination.

**(AV 5000244/2016002-01, Incorrect Emergency Action Level Table)**

1EP6 Drill Evaluation (71114.06 – 1 sample)

Training Observations

a. Inspection Scope

On June 21, 2016, the inspectors observed a simulator training evolution for Exelon licensed operators which required Emergency Plan implementation by an operations crew. Exelon planned for this evolution to be evaluated and included in performance indicator (PI) data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also

attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that Exelon evaluators noted the same issues and entered them in the CAP.

b. Findings

No findings were identified.

**2. RADIATION SAFETY**

**Cornerstone: Public Radiation Safety and Occupational Radiation Safety**

2RS8 Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation (71124.08 – 6 samples)

a. Inspection Scope

The inspectors verified the effectiveness of Exelon's programs for processing, handling, storage, and transportation of radioactive material. The inspectors used the requirements of 49 CFR Parts 170 through 177; 10 CFR Parts 20, 37, 61, and 71; applicable industry standards; regulatory guides; and procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors conducted an in-office review of the solid radioactive waste system description in the UFSAR, the process control program, and the recent radiological effluent release report for information on the types, amounts, and processing of radioactive waste disposed. The inspectors reviewed the scope of quality assurance audits performed for this area since the last inspection.

Radioactive Material Storage (1 sample)

The inspectors observed radioactive waste container storage areas and verified that Exelon had established a process for monitoring the impact of long-term storage of the waste.

Radioactive Waste System Walkdown (1 sample)

The inspectors walked down the following and evaluated:

- Accessible portions of liquid and solid radioactive waste processing systems to verify current system alignment and material condition
- Abandoned in place radioactive waste processing equipment to review the controls in place to ensure protection of personnel
- Changes made to the radioactive waste processing systems since the last inspection
- Processes for transferring radioactive waste resin and/or sludge discharges into shipping/disposal containers
- Current methods and procedures for dewatering waste

Waste Characterization and Classification (1 sample)

The inspectors identified radioactive waste streams and reviewed radiochemical sample analysis results to support radioactive waste characterization. The inspectors reviewed the use of scaling factors and calculations to account for difficult-to-measure radionuclides.

Shipment Preparation (1 sample)

The inspectors reviewed the records of shipment packaging, surveying, labeling, marking, placarding, vehicle checks, emergency instructions, disposal manifest, shipping papers provided to the driver, and licensee verification of shipment readiness.

Shipping Records (1 sample)

The inspectors reviewed selected non-excepted package shipment records.

Problem Identification and Resolution (1 sample)

The inspectors assessed whether problems associated with radioactive waste processing, handling, storage, and transportation were identified at an appropriate threshold and properly addressed in Exelon's CAP.

b. Findings

No findings were identified.

**4. OTHER ACTIVITIES**

4OA1 Performance Indicator Verification (71151 – 3 samples)

.1 Safety System Functional Failures (1 sample)

a. Inspection Scope

The inspectors sampled Exelon's submittals for the Safety System Functional Failures (MS05) PI for the period of April 1, 2015, through March 31, 2016. To determine the accuracy of the PI data reported during those periods, inspectors used definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7; and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 10 CFR 50.73." The inspectors reviewed Exelon's operator narrative logs, operability assessments, maintenance rule records, maintenance WOs, ARs, event reports, and NRC integrated inspection reports to validate the accuracy of the submittals.

b. Findings

No findings were identified.

.2 Reactor Coolant System Specific Activity and Reactor Coolant System Leak Rate  
(2 samples)

a. Inspection Scope

The inspectors reviewed Exelon's submittal for the RCS specific activity (BI01) and RCS leak rate (BI02) PIs for the period of April 1, 2015, through March 31, 2016. To determine the accuracy of the PI data reported during those periods, the inspectors used definitions and guidance contained in NEI 99-02, Revision 7. The inspectors also reviewed RCS sample analysis and control room logs of daily measurements of RCS leakage, and compared that information to the data reported by the PI. Additionally, the inspectors observed surveillance activities that determined the RCS identified leakage rate, and chemistry personnel taking and analyzing an RCS sample.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

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

b. Findings

No findings were identified.

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

(Closed) Licensee Event Report (LER) 05000244/2016-001-00: Loss of Station Auxiliary Transformer 12A Resulting in Automatic Start of Emergency Diesel Generator 'A' due to Undervoltage Signals to Safeguards Buses 14 and 18

On February 11, 2016, Ginna experienced a loss of station auxiliary transformer 12A causing EDG 'A' to automatically start due to undervoltage signals to safeguard bus 14 and bus 18. After the event, the inspectors reviewed the response of the plant and of the operators. No abnormalities were identified, and the inspectors did not identify any new issues during the review of the LER. This LER is closed.

#### 40A5 Other Activities

##### Operation of an ISFSI at Operating Plants (60855, 60855.1)

###### a. Inspection Scope

From May 23 to 27, 2016, the inspectors observed and evaluated Exelon's loading of DSC-7, the first of four spent fuel canisters scheduled to be loaded during Exelon's ISFSI dry cask campaign. The inspectors also reviewed Exelon's activities related to long-term operation and monitoring of their ISFSI. The inspectors evaluated compliance with the COC, TSs, regulations, and licensee procedures.

The inspectors observed the heavy load movement of the transfer cask and the empty DSC to the SFP and loading of spent fuel assemblies into the DSC-7. Inspectors also observed other cask processing operations including welding of the DSC inner top cover, nondestructive examination of the lid weld, vacuum drying, and surveying. During performance of these activities, the inspectors verified that procedure use, communication, and coordination of ISFSI activities met established standards and requirements. The inspectors attended Exelon briefings to assess their ability to identify critical steps of the evolution, potential failure scenarios, and human performance tools to prevent errors. The inspectors reviewed loading and monitoring procedures and evaluated Exelon's adherence to these procedures. The inspectors also reviewed the training of personnel assigned to ISFSI activities.

The inspectors reviewed Exelon's program associated with fuel characterization and selection for storage. The inspectors reviewed cask fuel selection packages to verify that Exelon was loading fuel in accordance with the COC, TSs, and procedures. The inspectors confirmed that Exelon did not plan to load any damaged fuel assemblies during this campaign. The inspectors reviewed recordings made of the fuel assemblies loaded into DSC-7 to ensure the loading was in accordance with Exelon's loading plan.

The inspectors reviewed radiation protection procedures and radiation work permits associated with the ISFSI loading campaign. The inspectors observed radiation protection technicians as they provided job coverage for the cask loading workers. The inspectors reviewed survey data maps and radiological records from the DSC loading to confirm that measured radiation survey levels were within limits specified by the TSs and consistent with values specified in the final safety analysis report.

The inspectors performed a walkdown of the heavy haul path and ISFSI pad to assess the material condition of the path, pad, and the loaded horizontal storage modules. The inspectors also verified that transient combustibles were not being stored on the haul path, ISFSI pad, or in the vicinity of the horizontal storage modules. The inspectors also confirmed that transient combustible material entry onto the ISFSI pad was controlled in accordance with procedures.

The inspectors reviewed the CAP, ARs, audit reports, and self-assessments that were generated since Exelon's last loading campaign to ensure that issues were being properly identified, prioritized, and evaluated commensurate with their safety significance.

b. Findings

Introduction. A self-revealing Severity Level IV NCV of 10 CFR 72.150, "Instructions, Procedures, and Drawings," was identified when Exelon failed to maintain a positive helium pressure during bulk water removal on May 25, 2016. Specifically, site procedure GMM-24-02-ISFSI01A, "ISFSI Operations Using Areva Equipment," Revision 00000, did not provide a method of monitoring the pressure in the DSC to ensure that a slight helium overpressure on the DSC was present. As a result, the DSC was unexpectedly exposed to a negative pressure for approximately 17 hours causing an unplanned entry into TS 1.2.17A of the general license for Transnuclear's standardized NUHOMS horizontal storage modular storage system, COC 1004, Amendment 10, "32PT DSC Vacuum Drying Duration Limit."

Description. On May 25, 2016, ISFSI loading operations were performed in the cask processing building. DSC-7 was loaded with spent fuel, the inner top cover was welded to the DSC shell, and bulk water removal was in progress. The bulk water removal was being performed in accordance with site procedure, GMM-24-02-ISFSI01A. At approximately 11:00 p.m., Exelon personnel identified a negative pressure on the DSC when removing the Swagelok body fitting from the DSC vent port. Exelon personnel retightened the Swagelok body fitting, stopped work, and entered the appropriate TS action statement for the unexpected condition.

During bulk water removal, procedure GMM-24-02-ISFSI01A directed the removal of approximately 450 gallons through the siphon port while maintaining a helium purge on the vent port. The procedure directed the staff to adjust the flowmeter as necessary to maintain a slight helium overpressure, approximately 1 to 3 psig, on the DSC during the pump down. Exelon personnel set the flowmeter to approximately 80 standard cubic feet per minute in an effort to achieve a pressure of 1 to 3 psig. However, without a method of monitoring the helium pressure, the staff was unable to monitor, adjust, and maintain the pressure between 1 to 3 psig.

Exelon determined that the pump used to transfer the bulk water overcame the introduction of helium to maintain a positive pressure inside the DSC. As a result, the DSC was exposed to a negative pressure and TS 1.2.17a was entered. Exelon entered site procedure GMM-24-02-ISFSI15, "ISFSI Abnormal Events and Recovery Actions," Revision 00100, and created a detailed work plan to bring the pressure in the DSC back to approximately 2.5 psig. On May 26, at approximately 4:00 p.m., the pressure in the DSC reached approximately 2.5 psig and Exelon exited TS 1.2.17a prior to exceeding the 31 hour TS action statement limit. Corrective actions included Exelon entering the condition into its CAP (AR 02674062), developing a detailed work plan to return the DSC to a positive pressure, and revising the procedure.

Analysis. The inspectors determined that Exelon did not have adequate instructions and procedures to ensure that a slight helium overpressure was maintained on the DSC in accordance with 10 CFR 72.150 during bulk water removal on May 25, 2016. As a result, the DSC was unexpectedly exposed to a negative pressure for approximately 17 hours causing made an unplanned entry into TS 1.2.17a of the general license for Transnuclear's standardized NUHOMS horizontal storage modular storage system, COC 1004, Amendment 10. Because the issue involved ISFSI operations, the inspectors evaluated this performance deficiency in accordance with the traditional



enforcement process, consistent with the guidance in Section 2.2 of the NRC Enforcement Policy. The inspectors determined this violation was most similar to Severity Level IV example 6.3.d.3 from the Enforcement Policy, "A licensee fails to implement procedures including, but not limited to, recordkeeping, surveys, and inventories." Therefore, the inspectors determined that this was a Severity Level IV violation. Because this violation involved the traditional enforcement process and was not associated with ISFSI support programs conducted under a 10 CFR 50 license, the inspectors did not assign a cross-cutting aspect to this violation.

Enforcement. 10 CFR 72.150 states, in part, that the licensee, applicant for a license, certificate holder, and applicant for a COC shall prescribe activities affecting quality by documented instructions, procedures, or drawings of a type appropriate to the circumstance and shall require that these instructions, procedures, and drawings be followed. Contrary to the above, Exelon did not prescribe activities affecting quality by documented instructions or procedures of a type appropriate to the circumstance. Specifically, on May 25, 2016, Exelon procedure GMM-24-02-ISFSI01A did not provide a method of monitoring the pressure in the DSC to ensure that a slight helium overpressure on the DSC was present during bulk water removal. However, because the violation was of very low safety significance and was entered into Exelon's CAP (AR 02674062), this violation is being treated as an NCV consistent with Section 2.3.2 of the Enforcement Policy. **(NCV 07200067/2016001-01, Inadequate Procedure Led to Unexpected Negative Pressure on Dry Shielded Canister)**

#### 4OA6 Meetings, Including Exit

On July 12, 2016, the inspectors presented the inspection results to Mr. Joseph Pacher, Site Vice President, and other members of the Ginna staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

### **ATTACHMENT: SUPPLEMENTARY INFORMATION**

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

J. Pacher, Site Vice President  
 W. Carsky, Plant Manager  
 D. Blankenship, Director, Site Operations  
 M. Cazzolli, ISFSI Program Manager  
 R. Everett, Director, Site Engineering  
 K. Garnish, Senior Manager, Operations Support and Services  
 S. Gillen, Reactor Services Manager  
 K. Gould, Manager, Radiation Protection  
 T. Harding, Manager, Site Regulatory Assurance  
 S. Holmes, Radwaste Supervisor  
 J. Jackson, Director, Emergency Preparedness  
 P. Swift, Director, Site Work Management  
 B. Wade, Superintendent, Shift Operations  
 S. Wihlen, Director, Site Maintenance

**LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED**Open

05000244/2016002-01	AV	Incorrect Emergency Action Level Table (Section 1EP4)
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Opened/Closed

07200067/2016001-01	NCV	Inadequate Procedure Led to Unexpected Negative Pressure on Dry Shielded Canister (Section 4OA5)
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Closed

05000244/2016-001-00	LER	Loss of Station Auxiliary Transformer 12A Resulting In Automatic Start of Emergency Diesel Generator 'A' due to Undervoltage Signals to Safeguards Buses 14 and 18 (Section 4OA3)
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## LIST OF DOCUMENTS REVIEWED

### **Section 1R01: Adverse Weather Protection**

#### Procedures

O-6.9, Ginna Station Operating Limits for Station 13A Transmission, Revision 035  
 O-23, Hot Weather Seasonal Readiness Walkdown, Revision 013  
 WC-AA-107, Seasonal Readiness, Revision 016

#### Action Requests

02659556	02675334	02683653	02686530
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#### Miscellaneous

Operations Standing Order 2016-0007, Revision 0  
 Reptask P201574, Station 13A

### **Section 1R04: Equipment Alignment**

#### Procedures

S-3.2A, Charging and Volume Control System Pre-Startup Alignment, Revision 05200  
 S-3.2B, Placing In Service and Removing From Service CVCS Mixed Bed Demineralizers,  
 Revision 01300  
 S-9, SFP Cooling System Operation, Revision 010  
 STP-O-30.9, Component Cooling Water Flow Path Verification, Revision 00003  
 T-41A, Alignment of Auxiliary Feedwater System Prior to Power Operation, Revision 08301

#### Drawings

33013-1245, Auxiliary Coolant Component Cooling Water Piping and Instrumentation Drawing  
 (P&ID), Revision 035  
 33013-1246, Sheet 1 of 2, Auxiliary Coolant Component Cooling Water, Revision 017  
 33013-1246, Sheet 2 of 2, Auxiliary Coolant Component Cooling Water P&ID, Revision 014  
 33013-1248, Auxiliary Cooling Spent Fuel Pool Cooling P&ID, Revision 044  
 33013-1250, Station Service Cooling Water Safety-Related P&ID, Revision 039  
 33013-1264, Chemical and Volume Control Letdown P&ID, Revision 028  
 33013-1265, Sheet 1 of 2, Chemical and Volume Control System Charging P&ID, Revision 012  
 33013-1265, Sheet 2 of 2, Auxiliary Building Chemical Volume Control System Charging P&ID,  
 Revision 027

### **Section 1R05: Fire Protection**

#### Procedures

FRP-12.0, Intermediate Building Main Steam Header Floor, Revision 009  
 FRP-16.0, Air Handling Room, Revision 009  
 FRP-20.0, Control Room, Revision 009  
 FRP-30.0, Screen House Basement, Revision 009  
 FRP-35.0, Standby Auxiliary Feedwater Building and Annex, Revision 008  
 FRP-36.0, Service Building Basement, Revision 011  
 FRP-36.1, Service Building Main Floor, Revision 00302

Drawings

21488-0115, Fire Barrier General Arrangement Sheet Standby Auxiliary Feedwater Building Elevation Penetration Locations, Revision 007  
33013-2548, Fire Response Plan Service Building plan Basement Elevation 253 feet 6 inches, Revision 010  
33013-2551, Fire Response Plan Containment Structure and Intermediate Building Plan – Operating Floor Elevation 278 feet 4 inches and 274 feet 6 inches, Revision 007  
33013-2552, Fire Response Plan Auxiliary Building Plan – Operating Floor Elevation 271 feet 0 inches, Revision 015  
33013-2554, Fire Response Plan Service Building Plan – Office, Elevation 271 feet 0 inches, Revision 013  
33013-2559, Fire Response Plan Control Building Plan Views, Revision 013  
33013-2570, Fire Response Plan Screen House Plan – Elevation 212 feet 6 inches and 243 feet 6 inches, Revision 002

**Section 1R06: Flood Protection Measures**

Miscellaneous

Electric Power Research Institute Licensed Material, Section 4, Condition-Based Monitoring  
Garlock Sealing Technologies Inspection Spreadsheet dated October 19, 2015  
Garlock Sealing Technologies Inspection Report dated October 15, 2015  
UFSAR, Chapter 3, Design of Structures, Components, Equipment, and Systems, Section 3.4, Revision 23

**Section 1R11: Licensed Operator Regualification 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

**Section 1R12: Maintenance Effectiveness**

Procedures

ER-AA-310, Implementation of the Maintenance Rule, Revision 009  
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 005  
ER-AA-310-1004, Maintenance Rule – Performance Monitoring, Revision 013  
ER-AA-310-1005, Maintenance Rule – Dispositioning Between (A)(1) and (A)(2), Revision 007

Action Requests

01701495                      01704771                      01963313

Miscellaneous

Maintenance Rule (a)(3) Periodic Maintenance Effectiveness Assessment May 21, 2014, to November 6, 2015  
Maintenance Rule Database  
Maintenance Rule Expert Panel Minutes for April 22, 2016

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

OP-AA-108-117, Protected Equipment Program, Revision 004  
 OPG-PROTECTED-EQUIPMENT, Operations Protected Equipment Program, Revision 01500  
 WC-AA-104, Integrated Risk Management, Revision 023

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

CPI-ANALYZER-234, Control Room Train 'A' Toxic Gas Analyzers Calibration, Revision 01304  
 LS-AA-104-1001, 50.59 Review Coversheet Form, Revision 0004  
 LS-AA-104-1003, 50.59 Screening Form, Revision 0004  
 RE-8.4, Spent Fuel Pool Coupon Tree Surveillance, Revision 00404  
 RE-100, Material Transfer Report Closeout and Transmittal Form, Revision 01401  
 STP-O-17.7AQ, Control Room Toxic Gas Monitor Train 'A' Operability, Revision 00002

Action Requests

01701235	01921392	02640909	02659556
02660713	02674631	02674849	02677137
02678534	02680604	02681603	02681604
02683226	02683682	02685427	

Miscellaneous

50.59 Screening Number A-2016-063, TRM Change Package TRMCP-2016-0004, Revision 000  
 CALC-2010-0022, Verification of Spent Fuel Pool LCO 3.7.13 Compliance, Revision 0  
 DA-NS-2000-053, Control Room Toxic Hazards Analysis, Revision 1  
 ECP-15-000283-103-01, Design Consideration Summary, Revision 0000  
 ECP-15-000283-1003-12-01, Design Attribute Review, Revision 0000  
 ECP-15-000283-CN-001, Ginna Spent Fuel Pool Criticality Analysis, Revision 0000  
 ECP-15-000283-ATTACHMENT-1, ECP-15-000283 Attachment 1, Westinghouse Spent Fuel  
 Rack Criticality Analysis Methodology, Revision 0  
 Letter to All Nuclear Power Reactors dated April 7, 2016  
 NRC Generic Letter 2016-01, Monitoring of Neutron-Absorbing Materials in Spent Fuel Pools  
 OPEVAL-15-001, Potential Non-conservative Impact on the SFP Criticality Analysis Due  
 to Power Uprate, Revision 0  
 OPEVAL-16-003, Safety-Significant Station Service Transformer 14 Fuse 3B Is Drawing Higher  
 Current Than Expected, Revision 000  
 Pressurized Water Reactor Owners Group Generic Licensing Action to Address Westinghouse  
 Nuclear Safety Advisory Letter, NSAL-09-5, "Relaxed Axial Offset Control FQ Tech Spec  
 Actions" (PA-LSC-060)." Letter to NRC dated October 12, 2010  
 Response to Pressurized Water Reactor Owners Group Letter Regarding Non-Conservative  
 Technical Specifications and Timely Submittal of a License Amendment Request. Letter  
 to Pressurized Water Reactor Owners Group dated January 21, 2011

### **Section 1R18: Plant Modifications**

#### Procedures

ECP-15-000125, Engineering Evaluation of Retention Tank Bypass Procedurally Controlled Temporary Configuration Change, Revision 0000  
ECP-15-000349, Isolate Bus 14 and 16 Fan Cooler Motors, Revision 0000

#### Action Requests

02659556                      02660713

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

#### Procedures

RE-100, Preparation, Review, and Approval of Fuel Movement Sequence Sheets and Document Closeout, Revision 015  
RF-8.4, Fuel and Core Component Movement in the Spent Fuel Pool, Revision 063  
STP-O-12.1, Emergency Diesel Generator 'A', Revision 018  
STP-O-12.2, Emergency Diesel Generator 'B', Revision 017  
STP-O-13, Fire Pump Operation and System Alignment, Revision 003  
STP-O-31C, Charging Pump 'C' Inservice Test, Revision 00700

#### Miscellaneous

IQ Review Preventive Maintenance Frequency Change for Bus Tie Breaker 17/18, April 29, 2016

### **Section 1R22: Surveillance Testing**

#### Procedures

CH-PRI-SAMP-SPECIAL, Liquid Sampling Outside Nuclear Sample Room, Revision 02000  
S-12.4, RCS Leakage Surveillance Record Instructions, Revision 05801  
STP-O-13.4.1, B5B Fire Pump Annual Flow Test, Revision 00200  
STP-O-13.11.19, Smoke Detector Testing Zone Z02 (Auxiliary Building Area Basement West and RHR Pit), Revision 00000  
STP-O-16QB, Auxiliary Feedwater Pump 'B' – Quarterly, Revision 007  
STP-O-16QT, Auxiliary Feedwater Turbine Pump – Quarterly, Revision 01100  
STP-O-27.2, Tendon Surveillance Program, Revision 00400

#### Miscellaneous

Regulatory Guide 1.35, Inservice Inspection of UngROUTED Tendons in Prestressed Concrete Containments  
Regulatory Guide 1.35.1, Determining Prestressing Forces for Inservice Inspection of Prestressed Concrete Containments, Revision 3

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

#### Procedure

EAL-TECHBASIS, EAL Technical Basis, Revision 04800  
EP-AA-1012 Addendum 3, Emergency Action Levels for Ginna Station, Revision 02

#### Miscellaneous

NEI 99-01, Methodology for Development of Emergency Action Levels, Revision 5

**Section 1EP6: Drill Evaluation**Miscellaneous

2<sup>nd</sup> Quarter 2016 Emergency Response Organization Integrated Drill, Revision 0

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

RP-AA-600, Radioactive Material-Waste Shipments, Revision 014

RP-AA-600-1001, Exclusive Use and Emergency Response Information, Revision 009

RP-AA-600-1002, Highway Route Controlled Quantity/Advance Notification for Radioactive/Waste Shipments, Revision 005

RP-AA-600-1003, Radioactive Waste Shipments to Barnwell and the Defense Consolidation Facility, Revision 009

RP-AA-600-1004, Radioactive Waste Shipments to Energy Solutions' Clive Utah Disposal Site Containerized Waste Facility, Revision 012

RP-AA-600-1005, Radioactive Material and Non-Disposal Site Waste Shipments, Revision 018

RP-AA-600-1006, Shipment of Category 1 Quantities of Radioactive Material or Waste (Category 1 RAMQC), Revision 011

RP-AA-600-1007, Radioactive Waste Shipments to Energy Solutions' Clive Utah Disposal Facility Bulk Waste Facility, Revision 007

RP-AA-600-1008, Radioactive Waste Shipments to Waste Control Specialists Disposal Facility, Revision 004

RP-AA-600-1009, Shipment of Category 2 Quantities of Radioactive Material or Waste (Category 2 RAMQC), Revision 002

RP-AA-600-1010, Use and Operation of WMG Software for Creating Containers, Samples, Waste Streams, and Waste Types, Revision 002

RP-AA-601, Surveying Radioactive Material Shipments, Revision 020

RP-AA-602, Packaging of Radioactive Material Shipments, Revision 020

RP-AA-602-1001, Packaging of Radioactive Material/Waste Shipments, Revision 016

RP-AA-602-1002, Loading Dry Active Waste and Other Waste Forms for Energy Solutions Waste Acceptance Guide (WAG-501), Revision 000

RP-AA-602-1003, Radioactive Material/Waste Shipments Transported via Rail, Revision 001

RP-AA-603, Inspection and Loading of Radioactive Material Shipments, Revision 010

RP-AA-605, 10 CFR 61 Program, Revision 006

RP-AA-607, Radioactive Material Shipped in Accordance With IATA (International Air Transport Association) Requirements, Revision 005

RPA-RW-PCP, Process Control Program, Revision 01102

Action Requests

02499641	02505813	02564028	02598641
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Shipments

2015-034	2015-067	2015-068	2015-069
1041-09-0001			

Miscellaneous

10 CFR 61 Scaling Factors (dry active waste, primary resin, RCS filters, CNSI resin)

NOSA-GIN-15-15, Northeast Radwaste Audit dated December 17, 2015

NRWSHP-1000, DOT/79-19 Training for Support of Radioactive and Asbestos Shipments,  
Revision 004

**Section 40A1: Performance Indicator Verification**

Procedures

CH-PRI-SAMP-ROOM, Sampling in the Nuclear Sample Room, Revision 01701  
S-12.4, RCS Leakage Surveillance Record Instructions, Revision 05801

Miscellaneous

LMS Nuclear Web Qual Tool, N-GN-CY-GIM-SHIFT Qualified Shift Chemistry Technician  
NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 7

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

Procedures

PI-AA-125, Corrective Action Program (CAP) Procedure, Revision 004  
PI-AA-127, Passport Action Tracking Management Procedure, Revision 002.01

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

Action Request

02625128

**Section 40A05: Other Activities**

Procedures

GMM-24-02-ISFSI01A, ISFSI Operations Using Areva Equipment, Revision 00000  
GMM-24-02-ISFSI15, ISFSI Abnormal Events and Recovery Actions, Revision 00100  
HTPT-DSC-AREVA, High Temperature Liquid Penetrant Examination using the Color Contrast  
Solvent – Removable Method, Revision 00000  
OU-AA-630-1001, Guidance for Dry Cask Storage/ISFSI Inspection Surveillance Program,  
Revision 000  
PI-AA-125, Corrective Action Program (CAP) Procedure, Revision 004

Action Requests

02389117	02495543	02528124	02536721
02558232	02588402	02612477	02623616
02627324	02670881	02671181	02671504
02673651	02673941	02674062	

Work Orders

C92908905	C93157878	C93157902	C93213680
C93350801			

Calculations

CEG002-CALC-001, Fire Hazards Evaluation for the DCS Cask Hauling and Storage,  
Revision 002, dated March 4, 2016  
CEG002-CALC-002, Explosion Hazards Evaluation for the DCS Cask Hauling and Storage,  
Revision 002, dated March 4, 2016



DA-NS-16-002, Fuel Selection Packages GIN-0007 through GIN-0010 – ISFSI, Revision 0  
DA-NS-16-003, Alternate Fuel Assembly/Component List for 2016 ISFSI Campaign, Revision 0

Miscellaneous

As Low As Reasonably Achievable Plan No. 16-07, ISFSI Activities  
FS1-0025883, Ginna DFS Vacuum Sipping Final Report, Revision 1  
Memorandum FNF-12-0006, RCS Radionuclide Data and Known Fuel Failures at R.E. Ginna  
Nuclear Power Plant dated February 29, 2012  
PI-AA-126-1005-F-01, Ginna Spent Fuel Loading Campaign Readiness Assessment dated  
April 18, 2016  
REG32PT-S125-A16-007, Final Verification Recording DSC-7 dated May 24, 2016  
Response to Areva Trans Nuclear Technical Bulletins 2013-01, 2015-01, and 2016-01  
Survey No. 2016-00337, ISFSI Apron Map 740 dated March 20, 2016  
Survey No. 2016-00338, Ten HSM Unites Map 742 dated March 10, 2016

**LIST OF ACRONYMS**

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
AC	alternating current
AFW	auxiliary feedwater
AR	action request
CAP	corrective action program
CCW	component cooling water
COC	certificate of compliance
CRFC	containment recirculation fan cooler
CS	containment spray
DSC	dry shielded canister
EAL	emergency action level
ECP	engineering change package
EDG	emergency diesel generator
IMC	Inspection Manual Chapter
ISFSI	independent spent fuel storage installation
LCO	limiting condition for operation
LER	licensee event report
LOCA	loss of coolant accident
MSLB	main steam line break
NCV	non-cited violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission, U.S.
P&ID	piping and instrumentation drawing
PI	performance indicator
PORC	Plant Operations Review Committee
psig	pounds per square inch gauge
RCS	reactor coolant system
RHR	residual heat removal
SDP	significance determination process
SFP	spent fuel pool
SSC	structure, system, and component
TS	technical specification
UFSAR	Updated Final Safety Analysis Report
WO	work order