



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
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August 4, 2016

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

SUBJECT: LASALLE COUNTY STATION, UNITS 1 AND 2—NRC INTEGRATED  
INSPECTION REPORT 05000373/2016002; 05000374/2016002

Dear Mr. Hanson:

On June 30, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your LaSalle County Station, Units 1 and 2. On Wednesday, July 13, 2016, the NRC inspectors discussed the results of this inspection with Mr. W. Trafton, and other members of your staff. The enclosed report represents the results of this inspection.

Based on the results of this inspection, the NRC has identified two issues that were evaluated under the risk significance determination process as having very low safety significance (Green). The NRC has also determined that two violations are associated with these issues. Because you initiated condition reports to address these issues, these violations are being treated as Non-Cited Violations (NCVs), consistent with Section 2.3.2 of the Enforcement Policy. These NCVs are described in the subject inspection report.

If you contest the violations or significance of these NCVs, 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: (1) the Regional Administrator, Region III; (2) the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and (3) the NRC resident inspectors at the LaSalle County Station.

In addition, if you disagree with the cross-cutting aspect assigned to any finding 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 III, and the NRC resident inspectors at the LaSalle County Station.

B. Hanson

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In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," 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 System (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

***/RA/***

Billy Dickson, Chief  
Branch 5  
Division of Reactor Projects

Docket Nos. 50-373 and 50-374  
License Nos. NPF-11 and NPF-18

Enclosure:  
IR 05000373/2016002; 05000374/2016002

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 05000373; 05000374  
License Nos: NPF-11; NPF-18

Report No: 05000373/2016002; 05000374/2016002

Licensee: Exelon Generation Company, LLC

Facility: LaSalle County Station, Units 1 and 2

Location: Marseilles, IL

Dates: April 1 through June 30, 2016

Inspectors: R. Ruiz, Senior Resident Inspector  
J. Robbins, Resident Inspector  
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Approved by: B. Dickson, Chief  
Branch 5  
Division of Reactor Projects

Enclosure

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## SUMMARY

Inspection Report 05000373/2016002, 05000374/2016002; 04/01/2016–6/30/2016; LaSalle County Station, Units 1 & 2; Plant Modifications, In-Plant Airborne Radioactivity Control and Mitigation

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. Two Green findings were identified by the inspectors. The findings involved non-cited violations (NCVs) of the U.S. Nuclear Regulatory Commission (NRC) requirements. The significance of inspection findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," dated April 29, 2015. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," dated December 4, 2014. All violations of 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," dated February 2014.

### **Cornerstone: Barrier Integrity**

Green. A finding of very low safety significance and a Severity Level IV NCV of Title 10 of the *Code of Federal Regulations* (CFR) 50.59, "Changes, Tests, and Experiments," was identified by the inspectors for the licensee's failure to provide a written evaluation which provided the basis for the determination that exceeding the peak burnup limit of 62 gigawatt days per metric ton of uranium (GWd/MTU) for fuel did not require a license amendment. Specifically, the licensee failed to provide a basis supporting the application of an alternate burnup limit, which exceeded their current licensing basis limits to the radiological consequence analysis or alternate source term (AST) analysis. The licensee entered this issue into the corrective action program (CAP) as Action Request (AR) 02537519 and AR 2537664. Regarding corrective actions, the effected fuel bundles in Unit 1 were removed from the vessel following the last refueling outage in the first quarter of 2016. As for Unit 2, the licensee planned to restore compliance prior to the burnup exceeding the 62 GWd/MTU limit.

The performance deficiency was determined to be more than minor because the inspectors could not reasonably determine that the activity of operating beyond limits documented in the UFSAR would not have required prior NRC approval. The inspectors answered "No" to all of the Barrier Integrity screening questions. Therefore, this issue screens as having very low safety significance (Green). Because violations of 10 CFR 50.59 potentially impede or impact the regulatory process, they are dispositioned using the traditional enforcement process. In accordance with Section 6.1.d.2 of the NRC Enforcement Policy, this violation was categorized as Severity Level IV because the finding screened as having very low safety significance. This finding has a cross-cutting aspect in the area of Human Performance, Design Margins because the licensee did not operate and maintain equipment within design margins [IMC 0310 H.6]. (Section 1R18)

## **Cornerstone: Occupational Radiation Safety**

Green. A finding of very-low safety significance and an associated NCV of 10 CFR 20.1703 was identified by the inspectors on May 11, 2016, for the licensee's failure to implement and maintain written procedures regarding respirator fit testing. The issue was entered into the licensee's CAP as AR 2668632. Corrective actions included invalidating the results for the observed test, removing the qualification from the technician that performed the tests, reaffirmed the procedure requirements with all technicians through a read and sign process, and requested several changes to the fit test procedure RP-AA-444, "Controlled Negative Pressure (CNP) Fit Testing" to improve alignment to requirements in 29 CFR 1910.134, Appendix A, "Fit Testing Procedures (Mandatory)."

The inspectors determined that not consistently performing fit tests in accordance the methods described in 29 CFR 1910.134, Appendix A, was a performance deficiency, the failure of which was reasonably within the licensee's ability to foresee and prevent. This performance deficiency was determined to be more than minor, because it was associated with program and process attribute of the Occupational Radiation Safety cornerstone and affected its objective to ensure adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. Specifically, the respirator fit testing was being used to certify respirator protection factors of workers which were relied upon to provide protection of workers and any discrepancy affected the licensee's ability to control and limit radiation exposures from airborne sources. The inspectors determined that the finding had a very-low safety significance (Green) because the finding did not involve: (1) as-low-as-is-reasonably-achievable planning and controls, (2) a radiological overexposure, (3) a substantial potential for an overexposure, or (4) a compromised ability to assess dose. This finding had a cross-cutting aspect in the area of Human Performance, Resources. Specifically, the licensee did not ensure that personnel equipment, procedures, and other resources were available and adequate to support nuclear safety [IMC 0310 H.1]. (Section 2RS3)

## **REPORT DETAILS**

### **Summary of Plant Status**

#### **Unit 1**

The unit began the inspection period operating at full power. On April 2, 2016, power was reduced to approximately 80 percent to perform a control rod sequence exchange. The unit was restored to full power the following day. On May 19, power was reduced to approximately 65 percent to perform control rod sequence exchange and scram time testing. The unit was restored to full power the next day. The unit remained at full power until the loss of 345 kilovolt transmission lines L0101 and L0102 on June 22, 2016, due to a tornado that occurred north of the facility. Power was reduced to approximately 90 percent on June 22, 2016, was further reduced to approximately 70 percent on June 23, 2016, and remained there until L0102 was temporarily restored on June 30, 2016. Power ascension began on June 30, 2016 and full power was achieved on the next day.

#### **Unit 2**

The unit began the inspection period operating at full power. On May 28, 2016, power was reduced to approximately 65 percent to perform control rod sequence exchange and scram time testing. The unit was restored to full power the next day. The unit remained at full power until the loss of transmission lines L0101 and L0102 on June 22, 2016, due to a tornado that occurred north of the facility. Power was reduced to approximately 70 percent on June 22, 2016 and remained there until L0102 was temporarily restored on June 30, 2016. Power ascension began on June 30, 2016, and was still in progress on the last day of the reporting period. (Full power was achieved on July 5, 2016.)

## 1. REACTOR SAFETY

### Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

#### 1R01 Adverse Weather Protection (71111.01)

##### .1 Readiness of Offsite and Alternate AC Power Systems

###### a. Inspection Scope

The inspectors verified that plant features and procedures for operation and continued availability of offsite and alternate alternating current (AC) power systems during adverse weather were appropriate. The inspectors reviewed the licensee's procedures affecting these areas and the communications protocols between the transmission system operator and the plant to verify that the appropriate information was being exchanged when issues arose that could impact the offsite power system. Examples of aspects considered in the inspectors' review included:

- coordination between the transmission system operator and the plant during off-normal or emergency events;
- explanations for the events;
- estimates of when the offsite power system would be returned to a normal state; and
- notifications from the transmission system operator to the plant when the offsite power system was returned to normal.

The inspectors also verified that plant procedures addressed measures to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system prior to or during adverse weather conditions. Specifically, the inspectors verified that the procedures addressed the following:

- actions to be taken when notified by the transmission system operator that the post-trip voltage of the offsite power system at the plant would not be acceptable to assure the continued operation of the safety-related loads without transferring to the onsite power supply;
- compensatory actions identified to be performed if it would not be possible to predict the post-trip voltage at the plant for the current grid conditions;
- re-assessment of plant risk based on maintenance activities which could affect grid reliability, or the ability of the transmission system to provide offsite power; and
- communications between the plant and the transmission system operator when changes at the plant could impact the transmission system, or when the capability of the transmission system to provide adequate offsite power was challenged.

Documents reviewed are listed in the Attachment to this report. The inspectors also reviewed CAP items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station CAP procedures.

This inspection constituted one readiness of offsite and alternate AC power systems sample as defined in Inspection Procedure (IP) 71111.01-05.



b. Findings

No findings were identified.

.2 Summer Seasonal Readiness Preparations

a. Inspection Scope

The inspectors performed a review of the licensee's preparations for summer weather for selected systems, including conditions that could lead to an extended drought.

During the inspection, the inspectors focused on plant specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Final Safety Analysis Report (UFSAR) and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant specific procedures. Documents reviewed are listed in the Attachment to this report. The inspectors also reviewed CAP items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station CAP procedures. The inspectors' reviews focused specifically on the emergency core cooling systems pump room coolers.

This inspection constituted one seasonal adverse weather sample as defined in IP 71111.01-05.

b. Findings

No findings were identified.

.3 Readiness for Impending Adverse Weather Condition—Severe Thunderstorm Watch

a. Inspection Scope

Since thunderstorms with potential tornados and high winds were forecast in the vicinity of the facility for June 22, 2016, the inspectors reviewed the licensee's overall preparations/protection for the expected weather conditions. On June 21, 2016, the inspectors walked down the licensee's emergency AC power system, because it's safety-related functions could be affected or required as a result of high winds or tornado-generated missiles or the loss of offsite power. The inspectors evaluated the licensee staff's preparations against the site's procedures and determined that the staff's actions were adequate. During the inspection, the inspectors focused on plant-specific design features and the licensee's procedures used to respond to specified adverse weather conditions. The inspectors also toured the plant grounds to look for any loose debris that could become missiles during a tornado. The inspector's evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant. Additionally, the inspectors reviewed the UFSAR and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant specific procedures. The inspectors also reviewed a sample of CAP items to verify that the licensee identified adverse weather issues at an appropriate threshold and dispositioned them through the CAP in accordance with station CAP procedures. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one readiness for impending adverse weather condition sample as defined in IP 71111.01–05.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- Unit 2 reactor core isolation cooling (RCIC) with high pressure core spray (HPCS) out of service; and
- Unit 2 RCIC after return to service following maintenance.

The inspectors selected these systems based on their risk significance relative to the Reactor Safety cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, UFSAR, Technical Specification (TS) requirements, outstanding work orders (WOs), ARs, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted two partial system walkdown samples as defined in IP 71111.04–05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- Fire zone 3I5, Unit 2A residual heat removal (RHR) pump room;
- Fire zone 5D1, Unit 1 HPCS switchgear 687'–0";
- Fire zone 4E2, Unit 2 auxiliary equipment room 731';
- Fire zone 4D3, Unit 1 electrical equipment room, 749';
- Fire zone 4D2, Unit 2 cable spreading room, 749'; and
- Fire zone 2I4, Unit 1 RCIC/low pressure core spray pump A cubicle 693'–4".

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan.

The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event.

Using the documents listed in the Attachment to this report, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP.

Documents reviewed are listed in the Attachment to this report.

These activities constituted six quarterly fire protection inspection samples as defined in IP 71111.05–05.

b. Findings

No findings were identified.

.2 Annual Fire Protection Drill Observation (71111.05A)

a. Inspection Scope

On April 27, 2016, the inspectors observed a fire brigade activation during an unannounced drill based on the scenario of a 480-volt motor control center fire in the auxiliary building. Based on this observation, the inspectors evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were:

- proper wearing of turnout gear and self-contained breathing apparatus (SCBA);
- proper use and layout of fire hoses;
- employment of appropriate firefighting techniques;
- sufficient firefighting equipment brought to the scene;
- effectiveness of fire brigade leader communications, command, and control;
- search for victims and propagation of the fire into other plant areas;
- smoke removal operations;
- utilization of pre-planned strategies;

- adherence to the pre-planned drill scenario; and
- drill objectives.

Documents reviewed are listed in the Attachment to this report.

These activities constituted one annual fire protection inspection sample as defined in IP 71111.05–05.

b. Findings

No findings were identified.

1R06 Flooding (71111.06)

.1 Internal Flooding

a. Inspection Scope

The inspectors reviewed selected risk important plant design features and licensee procedures intended to protect the plant and its safety-related equipment from internal flooding events. The inspectors reviewed flood analyses and design documents, including the UFSAR, engineering calculations, and abnormal operating procedures to identify licensee commitments. The specific documents reviewed are listed in the Attachment to this report. In addition, the inspectors reviewed licensee drawings to identify areas and equipment that may be affected by internal flooding caused by the failure or misalignment of nearby sources of water, such as the fire suppression or the circulating water systems. The inspectors also reviewed the licensee’s CAP documents with respect to past flood-related items identified in the CAP to verify the adequacy of the corrective actions. The inspectors performed a walkdown of the Units 1 and 2, Division 1, core standby cooling system room 5 to assess the adequacy of watertight doors and verify drains and sumps were clear of debris and were operable, and that the licensee complied with its commitments. Documents reviewed during this inspection are listed in the Attachment to this report.

This inspection constituted one internal flooding sample as defined in IP 71111.06–05.

b. Findings

No findings were identified.

1R07 Annual Heat Sink Performance (71111.07)

.1 Heat Sink Performance

a. Inspection Scope

The inspectors reviewed the licensee’s testing of Unit 2B diesel generator (DG) heat exchangers to verify that potential deficiencies did not mask the licensee’s ability to detect degraded performance, to identify any common cause issues that had the potential to increase risk, and to ensure that the licensee was adequately addressing problems that could result in initiating events that would cause an increase in risk. The inspectors reviewed the licensee’s observations as compared against acceptance criteria, the correlation of scheduled testing and the frequency of testing, and the impact

of instrument inaccuracies on test results. Inspectors also verified that test acceptance criteria considered differences between test conditions, design conditions, and testing conditions. Documents reviewed for this inspection are listed in the Attachment to this document.

This annual heat sink performance inspection constituted one sample as defined in IP 71111.07–05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Resident Inspector Quarterly Review of Licensed Operator Requalification (71111.11Q)

a. Inspection Scope

On April 19, 2016, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification training. The inspectors verified that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and that training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator requalification program simulator sample as defined in IP 71111.11–05.

b. Findings

No findings were identified.

.2 Resident Inspector Quarterly Observation During Periods of Heightened Activity or Risk (71111.11Q)

a. Inspection Scope

On June 17, 2016, the inspectors observed control room activities following the loss of line L0101 and L0102. This was an activity that required heightened awareness and was related to increased risk. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms (if applicable);
- correct use and implementation of procedures;
- control board (or equipment) manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications (if applicable).

The performance in these areas was compared to pre-established operator action expectations, procedural compliance and task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator heightened activity/risk sample as defined in IP 71111.11-05.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations

a. Inspection Scope

The inspectors evaluated degraded performance issues for the emergency core cooling systems room coolers, a risk-significant system. The inspectors reviewed events such as where ineffective equipment maintenance had resulted in valid or invalid automatic actuations of engineered safeguards systems and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures;
- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;
- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and

- verifying appropriate performance criteria for structures, systems, and components/functions classified as (a)(2), or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly maintenance effectiveness sample as defined in IP 71111.12–05.

b. Findings

No findings were identified.

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

.1 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- Unit 2 yellow risk for HPCS pump room cooler cleaning;
- Unit 2 yellow risk due for RHR pump room cooler repairs; and
- Units 1 & 2 yellow risk due to loss of lines L0101 and L0102.

These activities were selected based on their potential risk significance relative to the Reactor Safety cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met.

Documents reviewed during this inspection are listed in the Attachment to this report.

These maintenance risk assessments and emergent work control activities constituted three samples as defined in IP 71111.13–05.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functional Assessments (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- Operability Evaluation (OE) 16–001, Unit 0 DG cooling water strainer leak, Revision 0;
- OE 16–002, pipe leak in line 0DG10A–4”, Revision 0;
- OE 16–003, room cooler tube fouling/plugging, Revisions 0, 1, and 2;
- OE 10–005, insufficient diesel fuel oil at peak frequency, Revision 5;
- General Electric Hitachi Safety Information Communication 14–02, Acoustic load and flow-induced load on jet pump, Revision 0; and
- operability of offsite power due to loss of lines L0101 and L0102.

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that 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 TS and UFSAR to the licensee’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. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors reviewed a sampling of CAP documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment to this report.

This operability inspection constituted six samples as defined in IP 71111.15–05.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

.1 (Closed) Unresolved Item 05000373/05000374/2016001–02: Partial Length Rods Exceeded Burnup Limit in Design Basis Method of Analysis

a. Inspection Scope

The inspectors opened this unresolved item (URI) because more information/guidance was needed from the NRC Office of Nuclear Reactor Regulation (NRR) to determine if this issue of concern represented a violation of regulatory requirements. After continuing discussions with the licensee and gathering additional information regarding the licensee’s position, the inspectors corresponded with the appropriate NRR technical branches and 10 CFR 50.59 program owners to discuss the various aspects of this



technical and regulatory issue. After providing the NRR staff with the pertinent information, the inspectors received confirmation from the subject matter experts that the issue of concern described in this URI was in fact a violation of regulatory requirements. See the following section of this report for a detailed description of the inspectors' analysis of this issue.

This URI is closed to the violation described in the following section of this inspection report.

b. Findings

Introduction: The inspectors identified a Severity Level IV NCV of 10 CFR 50.59, "Changes, Tests, and Experiments," having very low safety significance (Green), for the licensee's failure to provide a written evaluation for the determination of exceeding the peak burnup limit of 62 GWd/MTU for fuel did not require a license amendment. Specifically, the licensee failed to provide a basis supporting the application of alternate burnup limits to the radiological consequence analysis or alternate source term analysis.

Description: On August 5, 2015, while performing a routine review of CAP documents, the inspectors identified two documents discussing exposure limits for partial-length fuel rods, AR 02537519, "Part-Length Rods Exposure Limit Basis for AST [Alternate Source Term]" and AR 2537664, "Part-Length Rods (PLR) Exposure Limit Basis for AST." The inspectors recognized the issue being discussed as potentially impacting the licensee's AST commitments. As these commitments were outside the resident office area of expertise and as they were established via license amendment, the inspectors engaged the NRC's Office of Nuclear Reactor Regulation to develop a better understanding of this issue.

Through conversations with Agency subject matter experts, the inspectors focused on two distinct areas of regulatory interest regarding fuel rod design and licensing basis: the thermal mechanical design and the radiological consequence analysis (specifically, the AST commitments/requirements). In the end, the inspectors determined that the licensee had embraced information contained in the thermal-mechanical analysis and applied that information to the radiological consequence analysis. The inspectors concluded that this information was being applied in a manner that had not been previously reviewed or approved.

As this issue involves two distinctly different types of analysis, the thermal-mechanical design and the radiological consequences, each analysis will be discussed independently.

Thermal-Mechanical Design

The fuel assemblies involved in this instance were ATRIUM-10 fuel bundles. The bundles were approved for use, following assessment using an NRC approved method of analysis, "RODEX2A (BWR) Fuel Rod Thermal-Mechanical Evaluation Model." The safety evaluation for this method of analysis was approved for use up to: (1) 62 GWd/MTU rod average burnup and (2) 54 GWd/MTU assembly average burnup for ATRIUM 9 and 10 fuel designs. This analytical model was approved for use by the licensee via a TS amendment requested on June 15, 2001 and approved on November 20, 2001. Subsequent to this approval and in response to questions about the relationship between full-length and partial-length fuel pins, Framatome ANP, a

manufacturer of nuclear fuels, engaged the agency and sought concurrence on a path forward. The resolution was documented in a letter from the NRC to Framatome dated December 17, 2002, entitled "EMF-85-74(P)(A), Revision 0, Supplement 1 and Supplement 2, "RODEX2A (BWR) Fuel Rod Thermal-Mechanical Evaluation Model" - Clarification of Exposure Limit Applicable to FRAMATOME ANP BWR Fuel (TAC NO. MB6335)." An excerpt from the letter is below:

"By letter dated June 27, 2002, you presented a Framatome ANP position regarding the boiling water reactor (BWR) part-length rod exposure limits documented in the approved methodology in Topical Report EMF-85-74(P)(A), Revision 0, Supplement 1 and Supplement 2. The exposure limits are: (1) 62 GWd/MTU rod average for the RODEX2A code, and (2) 54 GWd/MTU assembly average for ATRIUM 9 and 10 fuel designs. These limits are normally approved for full-length fuel rods. Your letter was in response to a recent staff question regarding whether these limits should also apply to part-length rods which could significantly restrict assembly exposure. You provided a table comparing axial exposure distribution between a part-length rod and a full-length rod. The comparison was made in two cases: (1) exposures averaged along an entire full rod length which included an imaginary length containing no fuel for the part-length rod, and (2) exposures averaged only for the length corresponding to the active portion of the part-length rod. The results showed that the exposures in the part-length rod were consistently less than the exposures in the full-length rod.

In a second letter dated September 4, 2002, you reiterated that the part-length rod seldom becomes a limiting rod, except in a rod internal pressure analysis, for thermal, mechanical and safety analyses. Since it has a shorter plenum region than full-length rods, in some instances a part-length rod could become limiting in the internal pressure analysis, that is, highest internal pressure in a bundle. You stated that Framatome ANP will continue to demonstrate that all fuel rods, including full- and part-length rods, meet all the required fuel design and safety criteria. Thus, you proposed a position of applying the exposure limits to the full-length rods only, not the part-length rods.

The staff has reviewed your proposed position including the supporting analysis. Since there are a very limited number of part-length rods in an assembly and the full-length rods bear most critical requirements of fuel thermal-mechanical performance and safety, the staff concludes that the proposed position of applying the exposure limits in the approved methodology to the full-length rods, not the part-length rods, is reasonable and thus acceptable."

The first item to note from the letter is the subject, "RODEX2A (BWR) Fuel Rod Thermal-Mechanical Evaluation Model." The second is that the conclusion reached was based, in part, on the commitment by the applicant to continue to demonstrate that all fuel rods, including full- and partial-length rods, meet all the required fuel design and safety criteria. This letter authorized the use of the RODEX2A model to be used to demonstrate safety and regulatory compliance from a thermal mechanical standpoint even though partial-length pins might experience burnups higher than 62 GWd/MTU. The inspectors did not identify any issues with the thermal-mechanical design aspects of the licensee's 50.59 evaluation.

## Radiological Consequences

On October 23, 2008, the licensee requested to adopt alternate source term, as described in 10 CFR 50.67, following the guidance provided in Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," July 2000. This request was approved by the NRC on June 17, 2010, via License Amendment 197/184.

Similar to the mechanical design analysis, the methods outlined in RG 1.183 contained the same explicit boundary at 62 GWd/MTU. Specifically, footnote 10 of RG 1.183 states:

“The release fractions listed here have been determined to be acceptable for use with currently approved LWR fuel with a peak burnup up to 62 GWd/MTU.”

And footnote 11 states:

“The release fractions listed here have been determined to be acceptable for use with currently approved LWR fuel with a peak burnup up to 62 GWd/MTU provided that the maximum linear heat generation rate does not exceed 6.3 kw/ft peak rod average power for burnups exceeding 54 GWd/MTU. As an alternative, fission gas release calculations performed using NRC approved methodologies may be considered on a case-by-case basis. To be acceptable, these calculations must use a projected power history that will bound the limiting projected plant-specific power history for the specific fuel load.”

These limits were incorporated into the UFSAR revision 21 as documented in section 15.7.4.5, “Radiological Consequences.” Specifically, the UFSAR states, “This analysis is applicable to fuel whose burnup and power limits are bounded by those specified in RG 1.183, footnote 11.” Table 15.7–21, “FHA Parameters AST Analysis,” “Allowable fuel burnup and non-LOCA gap fractions: Table 3 of RG 1.183. Fuel burnup will not exceed 62 GWd/MTU. Linear heat generation rate (LHGR) for fuel >54 GWd/MTU will not exceed 6.3 KW/ft.” Additionally, in revision 21 of the UFSAR, Appendix B, “Conformance to Regulatory Guides,” the only exception noted for RG 1.183 was for ventilation filter efficiencies and had no impact on this issue.

The inspectors first sought to understand what impact, if any, the correspondence between Framatome and the agency would have on an analysis of radiological consequences. The inspectors believed that the Framatome correspondence would only apply to the thermal-mechanical analysis as none of the associated correspondence made reference to AST regulatory requirements or radiological consequence analysis. To verify that understanding was correct, the inspectors caucused with the cognizant technical branches in NRR, who confirmed that the Framatome correspondence was restricted to the mechanical design assessment and that it did not apply to AST or radiological consequence analysis.

Using this information, the inspectors reviewed the licensee’s 50.59 evaluation to assess how they addressed the specific safety and compliance concerns. In the 50.59 screening, the licensee concluded that a 50.59 evaluation was necessary because of the potential adverse impacts on the radiological consequence safety analysis, specifically those based on RG 1.183. The inspectors agreed with this assessment. The summary section of the licensee’s 50.59 evaluation stated:

“A 50.59 Evaluation was performed and it was determined that the Fuel Handling Accident (FHA) was the only accident that required further consideration. The proposed activity includes a minor revision [...] to the FHA analysis of record to address this condition and concluded that the full length rod operating characteristics bound the partial length rods. Furthermore, it was concluded that full length rods are maintained in compliance with the Regulatory Guide 1.183 footnote 11 limit of 62 GWd/MTU and, as such, the partial length rods are in compliance with Regulatory Guide 1.183.”

The inspectors noted that the licensee’s statement above that “the partial length rods are in compliance with Regulatory Guide 1.183” was inaccurate because the partial-length rod burnup was clearly in excess of the RG 1.183 limit of 62 GWd/MTU. The evaluation also appeared to apply the methods discussed in the thermal-mechanical related Framatome correspondence to the implementation of their radiological alternate source term commitments. This approach was also noted in the licensee’s response to one of the evaluation screening questions below:

“The revised FHA design analysis [...] was performed using the NRC approved RG 1.183 methodology. The analysis demonstrated that the operation of partial length rods above 62 GWd/MTU is bounded by operation of the full length rods within the 62 GWd/MTU limit. Therefore, the operation of partial length rods is within the specification of RG 1.183 Footnote 11 and there is no change to the radiological dose consequence methodology.”

Additional examples of the licensee applying the logic discussed in the Framatome correspondence and making the same inaccurate claim of compliance with RG 1.183 can be found in the body of the evaluation, as in the following:

“The proposed activity has not required any new thermal, mechanical, or hydraulic evaluations of the fuel. The revised FHA design analysis [...] complies with the AST methodology, including footnote 11 to RG 1.183. Therefore, since compliance with RG 1.183 is maintained there is no departure from the FHA radiological consequence analysis method of evaluation described in the UFSAR 15.7.4. This conclusion applies to any application of RG 1.183 footnote 11 involving ATRIUM–10 fuel at LaSalle.”

Throughout, the licensee incorrectly asserted compliance with footnote 11, even though the partial-length rod burnup was clearly in excess of the 62 GWd/MTU limit, i.e., not in compliance with the footnote 11 limit. The following excerpt also provided additional insights into the licensee’s rationale:

“The proposed activity only relates to the cladding fission product barrier. The reactor fuel assemblies continue to operate within their licensed acceptance criteria (i.e., fuel thermal limits and other design limits). Operation of full length fuel rods continues to be controlled below the licensed limit of 62 GWd/MTU rod average burnup [...], which is incorporated into the LaSalle licensing basis by Amendment 152/138 [...]. This is the design basis limit for a fission product barrier associated with the proposed activity. References 3 and 4 document the NRC review and acceptance of AREVA’s thermal mechanical disposition and justification for allowing operation with PLR [partial length rods] burnup (exposure) above 62 GWd/MTU. Since the partial length rods are bounded by the full length rods [...] and the full length rods are controlled to the licensed limit

of 62 GWd/MTU, the fuel rod burnup design basis limit for the cladding fission product barrier is not exceeded or altered. It is worth noting that, from a modeling standpoint, the full length rod essentially contains a partial length rod within it along with another portion of fuel above. The portion of the full length rod that corresponds to the partial length rod typically has a burnup higher than the partial length rods and will also exceed 62 GWd/MTU. Thus there is no formal fuel or reload licensing burnup limit for partial length rods as they are bounded by the full length rods for all credible modes of operation.”

Above, the licensee conveyed their interpretation of the limit expressed in RG 1.183. Instead of applying the limit as written, the licensee embraced an evaluation methodology used in the Framatome correspondence regarding the thermal-mechanical analysis. Specifically, the NRC allowed the exclusion of partial-length rods from burnup/exposure limits associated with thermal-mechanical analysis. Although RG 1.183 does not specifically address partial-length rods, the limits were established in such a way that they apply to rods of any length. Therefore, there was no need to specifically address partial-length rods in the RG. The licensee’s responses above demonstrated their incorrect belief that the RG 1.183 limits for burnup did not apply to partial-length rods as long as the burnup/exposure of full-length rods are maintained below the 62 GWd/MTU limit.

Lastly, the inspectors sought out other clarifying sources of information regarding the limit itself. NUREG/CR 6703, “Environment Effects of Extending Fuel Burnup Above 60 GWd/MTU,” dated January 2001, contains the following information:

“Where possible, this report provides analysis of the impacts of increasing peak-rod burnup to levels up to 75 GWd/MTU. However, the present analytical methods for assessing fission gas release from fuel have had only limited benchmarking with actual measurement data at burnups greater than 40 GWd/MTU, and have not been benchmarked at burnups greater than 62 GWd/MTU. Therefore, those aspects of the assessment that are significantly affected by fission gas release are evaluated only to a burnup of 62 GWd/MTU.”

As RG 1.183 was published in July of 2000 and NUREG/CR 6703 was published in January of 2001, the inspectors determined the 62 GWd/MTU value was the state-of-the-art value when RG 1.183 was published. As RG 1.183 limits the use of data found within tables 1, 2, and 3 to burnups up to 62 GWd/MTU, use of alternative approaches, such as those intending to use burnups beyond 62 GWd/MTU, would need to be evaluated on a case-by-case basis as stated in footnote 11. The licensee’s 50.59 evaluation provided a safety analysis that they believe justifies the acceptability of their approach, but makes no reference to the need for prior NRC review or approval.

The inspectors concluded that the licensee’s approach of applying the burnup/exposure limit to full-length rods only, and exceeding the burnup/exposure limits for partial-length rods, without NRC review and approval, was not supported by the 50.59 evaluation. Additionally, the inspectors attributed the position advocated in the licensee’s 50.59 evaluation to the licensee’s incorrect assumption that the methods approved for use in fuel thermal-mechanical analyses (i.e., the intended application of the Framatome correspondence) could be generically applied to other types of analysis without additional NRC review.

Analysis: The inspectors determined that the failure to perform a written evaluation that provided a sufficient basis to support the determination that a license amendment was not required for exceeding the 62 GWd/MTU burnup limit of RG 1.183 (as described in the UFSAR), was contrary to 50.59(d)(1), and was a performance deficiency.

The performance deficiency was determined to be more than minor because the inspectors could not reasonably determine that the activity of operating beyond limits documented in the UFSAR would not have required prior NRC approval. Specifically, the licensee is committed to implement its AST requirements using the methods outlined in RG 1.183. RG 1.183 contains an explicit upper boundary for use of data from tables 1, 2, and 3. The limit was set to a burnup/exposure of 62 GWd/MTU and had also been explicitly incorporated into the UFSAR. The relief granted to Framatome with respect to the thermal-mechanical analysis was similar, but the intended application of that relief only applied to the thermal-mechanical analysis—not the radiological consequence analysis methodology of AST. Absent additional NRC review and approval via the license amendment request process, this relief cannot be applied in a generic fashion to any application other than the subject of the referenced Framatome correspondence.

The inspectors determined the finding could be evaluated in accordance with IMC 0609, “Significance Determination Process,” Attachment 0609.04, “Phase 1 – Initial Screening and Characterization of findings,” Table 3 for the Barrier Integrity cornerstone. The inspectors selected this cornerstone as this issue focused on the evaluation of radiological releases postulated as a result of a fuel handling accident and Tables 2’s inclusion of fuel handling under the Barrier Integrity cornerstone. Table 3 directed entry into 0609 Appendix A, “Significance Determination Process for Findings At-Power.” The inspectors answered “No” to all of the Barrier Integrity screening questions. Therefore, this issue screens as having very low safety significance (Green).

Because violations of 10 CFR 50.59 potentially impede or impact the regulatory process, they are dispositioned using the traditional enforcement process. In accordance with Section 6.1.d.2 of the NRC Enforcement Policy, this violation was categorized as Severity Level IV because the finding screened as having very low safety significance (Green).

This finding had a cross-cutting aspect in the area of human performance, design margins because the licensee did not operate and maintain equipment within design margins. Specifically, on September 23, 2015, partial-length fuel rods on Unit 1 exceeded the burnup/exposure limit of 62 GWd/MTU and the inspectors concluded that the licensee’s 50.59 evaluation did not support the determination that NRC approval was not required [IMC 0310, H.6].

Enforcement: Title 10 of CFR, section 50.59(d)(1) states, in part, that the licensee shall maintain records of changes in the facility, of changes in procedures, and of tests and experiments made pursuant to paragraph (c) of this section. These records must include a written evaluation which provides a basis for the determination that the change, test, or experiment does not require a license amendment.

Contrary to the above, on September 23, 2015, the licensee made changes to the plant as described in the UFSAR, pursuant to 10 CFR 50.59(c), and did not perform an accurate written evaluation which provided the bases for determining that these changes did not require a license amendment. Specifically, the licensee did not provide an accurate written evaluation supporting the determination that exceeding peak burnup

limit of 62 GWd/MTU for fuel, provided that the maximum linear heat generation rate did not exceed 6.3 kw/ft peak rod average power for burnups exceeding 54 GWd/MTU, did not require a license amendment. This limit was documented in UFSAR revision 21, in table 15.7–21, “FHA Parameters AST Analysis” and is located in footnote 11 of RG 1.183 to which the licensee is committed per Amendment 197/184. Additionally, in UFSAR revision 21, appendix B, “Conformance To Regulatory Guides,” the only exception noted for RG 1.183 is for ventilation filter efficiencies which had no effect on this violation. In accordance with the Enforcement Policy, section 6.1.d.2, the violation was classified as a Severity Level IV violation.

The licensee entered this issue into the CAP as AR 02537519 and AR 2537664. Regarding corrective actions, the effected fuel bundles in Unit 1 were removed from the vessel following the last refueling outage in the first quarter of 2016, so that aspect of the violation has been restored to compliance. As for Unit 2, the licensee planned to restore compliance prior to the burnup exceeding the 62 GWd/MTU limit in their current licensing basis. Additionally, the licensee analyzed the downstream effects if this issue regarding storage of the effected spent fuel to ensure compliance.

Because this violation was of very low safety significance, was not repetitive or willful, and was entered into the licensee’s CAP, this violation is being treated as a Severity Level IV NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. **(NCV 05000373; 05000374/2016002–01; Partial-Length Rods Exceeded Burnup Limit in Design Basis Method of Analysis)**

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the following post-maintenance activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- 0VC–YA, hydromotor replacement;
- 0VE–18YA, hydramotor replacement;
- 1VY02A, HPCS pump room cooler cleaning;
- 2VY03A B/C, RHR room cooler cleaning;
- 1AP76E–D6, RCIC pump room sump pump cubicle replacement; and
- Unit 1 open channels A & E functional test.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion); and test documentation was properly evaluated. The inspectors evaluated the activities against TSs, the UFSAR, 10 CFR 50 requirements, licensee procedures, and various

NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed CAP documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

This inspection constituted six post-maintenance testing samples as defined in IP 71111.19–05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

.1 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- Unit 2 A DG 24 hour run, (Routine);
- 2A RHR pump monthly, (Routine);
- Unit 1 RCIC cold quick start, (Routine); and
- Unit 0 DG fuel oil level service water calibration (Routine).

The inspectors observed in-plant activities and reviewed procedures and associated records to determine the following:

- did preconditioning occur;
- the effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;
- as-left setpoints were within required ranges; and the calibration frequency was in accordance with TSs, the UFSAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;



- where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers code, and reference values were consistent with the system design basis;
- where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;
- where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure;
- where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished;
- prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test;
- equipment was returned to a position or status required to support the performance of its safety functions; and
- all problems identified during the testing were appropriately documented and dispositioned in the CAP.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted four routine surveillance testing samples as defined in IP 71111.22, Sections–02 and–05.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on June 16, 2016, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the technical support to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the CAP. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the Attachment to this report.

This emergency preparedness drill inspection constituted one sample as defined in IP 71114.06–06.

b. Findings

No findings were identified.

.2 Training Observation

a. Inspection Scope

The inspector observed a simulator training evolution for licensed operators on April 19, 2016, which required emergency plan implementation by a licensee operations crew. This evolution was planned to be evaluated and included in performance indicator 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 the licensee evaluators noted the same issues and entered them into the CAP. As part of the inspection, the inspectors reviewed the scenario package and other documents listed in the Attachment to this report.

This inspection of the licensee's training evolution with emergency preparedness drill aspects constituted one sample as defined in IP 71114.06–06.

b. Findings

No findings were identified.

**2. RADIATION SAFETY**

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

.1 Engineering Controls (02.02)

a. Inspection Scope

The inspectors reviewed procedural guidance for use of ventilation systems, and assessed whether the systems were used, to the extent practicable, during high-risk activities to control airborne radioactivity and minimize the use of respiratory protection. The inspectors assessed whether installed ventilation airflow capacity, flow path, and filter/charcoal unit efficiencies for selected systems were consistent with maintaining concentrations of airborne radioactivity in work areas below the concentrations of an airborne area to the extent practicable. The inspectors also evaluated whether selected temporary ventilation systems used to support work in contaminated areas were as-low-as-reasonably-achievable (ALARA) and consistent with licensee procedural guidance.

The inspectors reviewed select airborne monitoring protocols to assess whether alarms and set points were sufficient to prompt worker action. The inspectors assessed whether the licensee established trigger points for evaluating levels of airborne beta-emitting and alpha-emitting radionuclides.

These inspection activities constituted one sample as defined in IP 71124.03–05.

b. Findings

No findings were identified.

.2 Use of Respiratory Protection Devices (02.03)

a. Inspection Scope

The inspectors assessed whether the licensee provided respiratory protection devices for those situations where it was impractical to employ engineering controls such that occupational doses were ALARA. For select instances where respiratory protection devices were used, the inspectors assessed whether the licensee concluded that further engineering controls were not practical. The inspectors also assessed whether the licensee had established means to verify that the level of protection provided by the respiratory protection devices was at least as good as that assumed in the work controls and dose assessment.

The inspectors assessed whether the respiratory protection devices used to limit the intake of radioactive materials were certified by the National Institute for Occupational Safety and Health/Mine Safety and Health Administration or have been approved by the NRC. The inspectors evaluated whether the devices were used consistent with their Occupational Safety and Health/Mine Safety and Health Administration certification or any conditions of their NRC approval.

The inspectors reviewed records of air testing for supplied-air devices and SCBA bottles to assess whether the air used met or exceeded Grade D quality. The inspectors evaluated whether plant breathing air supply systems satisfied the minimum pressure and airflow requirements for the devices.

The inspectors evaluated whether selected individuals qualified to use respiratory protection devices had been deemed fit to use the devices by a physician.

The inspectors reviewed training curricula for use of respiratory protection devices to assess whether individuals are adequately trained on donning, doffing, function checks, and how to respond to a malfunction.

The inspectors observed the physical condition of respiratory protection devices ready for issuance and reviewed records of routine inspection for selected devices. The inspectors reviewed records of maintenance on the vital components for selected devices and assessed whether onsite personnel assigned to repair vital components received vendor-provided training.

These inspection activities constituted one sample as defined in IP 71124.03–05.

b. Findings

Introduction: A finding of very-low safety significance (Green) and an associated NCV of 10 CFR 20.1703 was identified by the inspectors on May 11, 2016, for the licensee's failure to implement and maintain written procedures regarding respirator fit testing.

Description: The licensee developed a program for respiratory protection and controls to restrict internal exposure in restricted areas. The NRC established requirements for this program in 10 CFR 20.1703 which states that the licensee shall implement and maintain a respiratory protection program that includes fit testing.

The licensee developed procedure RP-AA-444, "Controlled Negative Pressure (CNP) Fit Testing," Revision 5. Attachment 3 of this procedure lists and describes that five steps that are required to complete the CNP REDON fit test protocol. Specifically,

1. Don & Face Forward
2. Bend at the Waist & Face Forward
3. Shake Head & Face Forward
4. Redon & Face Forward
5. Redon & Face Forward

The inspectors noted that the licensee did not comply with the step instructions for 2 of the 5 steps. Specifically, the test subject was tested in an upright, facing forward, position for step 2 instead of bent at waist with face parallel to the floor and the test subject did not talk, shout, or make noises for step 3.

The licensee performed quantitative respirator fit tests using CNP and appropriate instrumentation to measure the volumetric leak rate of a face piece to quantify the respirator fit. The quality and validity of the CNP fit tests were determined by the degree to which the in-mask pressure tracked the test pressure during the system measurement time of approximately five seconds. However, the licensee must ensure that each test subject being fit tested using this protocol followed the exercise and measurement procedures, including the order of administration, approved by Occupational Safety and Health Administration and described in 29 CFR 1910.134, "Respiratory Protection," Appendix A, "Fit Testing Procedures (Mandatory)," Table A-1, "CNP REDON Quantitative Fit Testing Protocol." The inspectors identified several differences between the licensee procedure and the specified protocols that should be corrected to ensure alignment with the Occupational Safety and Health Administration accepted fit test protocols.

Analysis: The inspectors determined that not consistently performing fit tests in accordance the methods described in 29 CFR 1910.134, Appendix A, was a performance deficiency, the failure of which was reasonably within the licensee's ability to foresee and prevent. This performance deficiency was determined to be more than minor, because it was associated with program and process attribute of the Occupational Radiation Safety cornerstone and affected its objective to ensure adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. Specifically, the respirator fit testing was being used to certify respirator protection factors of workers which were relied upon to provide protection of workers and any discrepancy affected the licensee's ability to control and limit radiation exposures from airborne sources.

In accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," the inspectors determined that the finding had very-low safety significance (Green) because the finding did not involve: (1) ALARA planning and controls, (2) a radiological overexposure, (3) a substantial potential for an overexposure, or (4) a compromised ability to assess dose.

The inspectors determined that the finding had a cross-cutting aspect of human performance, resources. Specifically, the licensee did not ensure that personnel equipment, procedures, and other resources were available and adequate to support nuclear safety [IMC 0310, H.1].

**Enforcement:** Title 10 of CFR, section 20.1703(c) requires, in part, that the licensee implement and maintain a respiratory protection program that includes written procedures regarding respirator fit testing. Licensee procedure RP-AA-444, "Controlled Negative Pressure (CNP) Fit Testing," in part, implements the requirements of 10 CFR 20.1703(c).

Contrary to the above, on May 11, 2016, the licensee did not complete respirator fit tests in accordance with RP-AA-444, "Controlled Negative Pressure (CNP) Fit Testing," Revision 5. Additionally, RP-AA-444, "Controlled Negative Pressure (CNP) Fit Testing," Revision 5, was not written with the same specificity provided in 29 CFR 1910.134, "Respiratory Protection," Appendix A, "Fit Testing Procedures (Mandatory)," Table A-1, "CNP REDON Quantitative Fit Testing Protocol."

The licensee entered this issue into the CAP as AR 2668632. Corrective actions included invalidating the results for the observed test, removing the qualification from the technician that performed the tests, reaffirmed the procedure requirements with all technicians through a read and sign process, and requested several changes to the fit test procedure RP-AA-444 "Controlled Negative Pressure (CNP) Fit Testing" to improve alignment to requirements in 29 CFR 1910.134.

Because the violation was of very-low safety significance, was entered into the licensee's CAP, and was not willful, the violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy. **(NCV 05000373; 05000374/2016002-02, Failure to Implement and Maintain Written Procedures Regarding Respirator Fit Testing)**

- .3 Self-Contained Breathing Apparatus for Emergency Use (02.04)
  - a. Inspection Scope

The inspectors reviewed the status and surveillance records for select SCBAs. The inspectors evaluated the licensee's capability for refilling and transporting SCBA air bottles to and from the control room and operations support center during emergency conditions.

The inspectors assessed whether control room operators and other emergency response and radiation protection personnel were trained and qualified in the use of SCBAs and evaluated whether personnel assigned to refill bottles were trained and qualified for that task.

The inspectors assessed whether appropriate mask sizes and types were available for use. The inspectors evaluated whether on-shift operators had no facial hair that would interfere with the sealing of the mask and that appropriate vision correction was available.

The inspectors reviewed the past 2 years of maintenance records for selected in-service SCBA units used to support operator activities during accident conditions. The inspectors assessed whether maintenance or repairs on an SCBA unit's vital components were performed by an individual certified by the manufacturer of the

device to perform the work. The inspectors evaluated the onsite maintenance procedures governing vital component work to determine whether there was any inconsistencies with the SCBA manufacturer's recommended practices. The inspectors evaluated whether SCBA cylinders satisfied the hydrostatic testing required by the U.S. Department of Transportation.

These inspection activities constituted one sample as defined in IP 71124.03–05.

b. Findings

No findings were identified.

.4 Problem Identification and Resolution (02.05)

a. Inspection Scope

The inspectors assessed whether problems associated with the control and mitigation of in-plant airborne radioactivity were being identified by the licensee at an appropriate threshold and were properly addressed for resolution. Additionally, the inspectors evaluated the appropriateness of the corrective actions for selected problems involving airborne radioactivity documented by the licensee.

These inspection activities constituted one sample as defined in IP 71124.03–05.

b. Findings

No findings were identified.

2RS4 Occupational Dose Assessment (71124.04)

.1 Source Term Characterization (02.02)

a. Inspection Scope

The inspectors evaluated whether the licensee had characterized the radiation types and energies being monitored and that the characterization included gamma, beta, hard-to-detects, and neutron radiation.

The inspectors assessed whether the licensee had developed scaling factors for including hard-to-detect nuclide activity in internal dose assessments.

These inspection activities constituted one sample as defined in IP 71124.04–05.

b. Findings

No findings were identified.

.2 External Dosimetry (02.03)

a. Inspection Scope

The inspectors evaluated whether the licensee's dosimetry vendor was National Voluntary Laboratory Accreditation Program accredited and if the approved irradiation

test categories for each type of personnel dosimeter used were consistent with the types and energies of the radiation present and the way the dosimeter was being used.

The inspectors evaluated the onsite storage of dosimeters before their issuance, during use, and before processing/reading. For personal dosimeters stored onsite during the monitoring period, the inspectors evaluated whether they were stored in low-dose areas with control dosimeters. For personal dosimeters that were taken off-site during the monitoring period, the inspectors evaluated the guidance provided to individuals with respect to care and storage of the dosimeter.

The inspectors evaluated the calibration of active dosimeters. The inspectors assessed the bias of the active dosimeters compared to passive dosimeters and the correction factor used. The inspectors also assessed the licensee's program for comparing active and passive dosimeter results, investigations for substantial differences, and recording of dose. The inspectors assessed whether there were adverse trends for active dosimeters.

These inspection activities constituted one sample as defined in IP 71124.04–05.

b. Findings

No findings were identified.

.3 Internal Dosimetry (02.04)

a. Inspection Scope

The inspectors reviewed procedures used to assess internal dose using whole body counting equipment to evaluate whether the procedures addressed methods for differentiating between internal and external contamination, the release of contaminated individuals, the route of intake and the assignment of dose. The inspectors assessed whether the frequency of measurements was consistent with the biological half-life of the nuclides available for intake. The inspectors reviewed the licensee's evaluation for use of portal radiation monitors as a passive monitoring system to determine if instrument minimum detectable activities were adequate to detect internally deposited radionuclides sufficient to prompt additional investigation. The inspectors reviewed whole body counts and evaluated the equipment sensitivity, nuclide library, review of results, and incorporation of hard-to-detect radionuclides.

The inspectors reviewed procedures used to determine internal dose using in vitro analysis to assess the adequacy of sample collection, determination of entry route and assignment of dose.

The inspectors reviewed the licensee's program for dose assessment based on air sampling, as applicable, and calculations of derived air concentration. The inspectors determined whether flow rates and collection times for air sampling equipment were adequate to allow lower limits of detection to be obtained. The inspectors also reviewed the adequacy of procedural guidance to assess internal dose if respiratory protection was used.

The inspectors reviewed select internal dose assessments and evaluated the monitoring protocols, equipment, and data analysis.

These inspection activities constituted one sample as defined in IP 71124.04–05.

b. Findings

No findings were identified.

.4 Special Dosimetric Situations (02.05)

a. Inspection Scope

The inspectors assessed whether the licensee informs workers of the risks of radiation exposure to the embryo/fetus, the regulatory aspects of declaring a pregnancy, and the specific process to be used for declaring a pregnancy. The inspectors selected individuals who had declared pregnancy during the current assessment period and evaluated whether the monitoring program for declared pregnant workers was technically adequate to assess the dose to the embryo/fetus. The inspectors assessed results and/or monitoring controls for compliance with regulatory requirements.

The inspectors reviewed the licensee's methodology for monitoring external dose in non-uniform radiation fields or where large dose gradients exist. The inspectors evaluated the licensee's criteria for determining when alternate monitoring was to be implemented. The inspectors reviewed dose assessments performed using multi-badging to evaluate whether the assessment was performed consistently with licensee procedures and dosimetric standards.

The inspectors evaluated the licensee's methods for calculating shallow dose equivalent from distributed skin contamination or discrete radioactive particles.

The inspectors evaluated the licensee's program for neutron dosimetry, including dosimeter types and/or survey instrumentation.

The inspectors reviewed select neutron exposure situations and assessed whether dosimetry and/or instrumentation was appropriate for the expected neutron spectra, there was sufficient sensitivity, and neutron dosimetry was properly calibrated. The inspectors also assessed whether interference by gamma radiation had been accounted for in the calibration and whether time and motion evaluations were representative of actual neutron exposure events.

For the special dosimetric situations reviewed in this section, the inspectors assessed how the licensee assigns dose of record. This included an assessment of external and internal monitoring results, supplementary information on individual exposures, and radiation surveys and/or air monitoring results when dosimetry was based on these techniques.

These inspection activities constituted one sample as defined in IP 71124.04–05.

b. Findings

No findings were identified.



.5 Problem Identification and Resolution (02.06)

a. Inspection Scope

The inspectors assessed whether problems associated with occupational dose assessment are being identified by the licensee at an appropriate threshold and are properly addressed for resolution. The inspectors assessed the appropriateness of the corrective actions for a selected sample of problems documented by the licensee involving occupational dose assessment.

These inspection activities constituted one sample as defined in IP 71124.04–05.

b. Findings

No findings were identified.

4. **OTHER ACTIVITIES**

**Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Security**

4OA1 Performance Indicator Verification (71151)

.1 Reactor Coolant System Leakage

a. Inspection Scope

The inspectors sampled licensee submittals for the reactor coolant system (RCS) leakage performance indicator (PI) for Units 1 and 2 for the second quarter 2015 through the first quarter 2016. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute Document 99–02, “Regulatory Assessment Performance Indicator Guideline,” Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee’s operator logs, RCS leakage tracking data, issue reports, event reports and NRC integrated inspection reports for April 2015 through March 2016 to validate the accuracy of the submittals. The inspectors also reviewed the licensee’s issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two RCS leakage samples as defined in IP 71151–05.

b. Findings

No findings were identified.

## 4OA2 Identification and Resolution of Problems (71152)

### .1 Routine Review of Items Entered into the Corrective Action Program

#### a. Inspection Scope

As part of the various baseline IPs discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify they were being entered into the licensee's CAP at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Attributes reviewed included: identification of the problem was complete and accurate; timeliness was commensurate with the safety significance; evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the Attachment to this report.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

#### b. Findings

No findings were identified.

### .2 Daily Corrective Action Program Reviews

#### a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for followup, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished through inspection of the station's daily condition report packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

#### b. Findings

No findings were identified.

### .3 Semiannual Trend Review

#### a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the

results of daily inspector CAP item screening discussed in section 4OA2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the 6-month period of January through June 2016, although some examples expanded beyond those dates where the scope of the trend warranted.

The review also included issues documented outside the normal CAP in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's CAP trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

This review constituted one semiannual trend inspection sample as defined in IP 71152-05.

b. Findings

No findings were identified.

.4 Followup Sample for In-Depth Review: Review of Enforcement Discretion Non-Cited Violations Identified During the LaSalle County Station 2014 Cyber-Security Inspection 2014404 and Associated Corrective Action Documents

a. Inspection Scope

The inspector performed a review of the licensee's CAP and associated documents, specifically AR 2392655, "APC Metered Power Strip Not Assessed in Exelon Critical Digital Asset (CDA) Database (DB);" AR 2393037, "Failure To Identify Security Digital Asset;" AR 2392984, "Security Routers Labeled As Deleted In The CDA Assessment DB;" AR 2399415, "Cyber Security Failure To Identify IS Digital Assets;" AR 2400316, "Failure to Justify of Not Applying a Cyber Technical Control;" AR 1649227, "Milestone 4 Lessons Learned;" AR 1686999, "Cyber Security Milestone 4 Lessons Learned from Limerick;" AR 1687788, "Cyber Security FASA Deficiency #2; CSP Milestone 6 Issues;" and AR 1695445 (Assignment #: 06), "Cyber Security Program Remediation." The inspector interviewed personnel, performed walkdowns, verified the completion of and assessed the adequacy of the corrective actions taken in response to four NRC identified NCVs and three licensee identified NCVs that were given enforcement discretion.

The inspector's review and evaluation was focused on the NRC and licensee identified cyber-security NCVs to ensure corrective actions were: complete, accurate, and timely; considered extent of condition; provided appropriate classification and prioritization; provided identification of root and contributing causes; appropriately focused; action taken resulted in the correction of the identified problem; identified negative trends; operating experience was adequately evaluated for applicability; and applicable lessons learned were communicated to appropriate organizations.

Documents reviewed are listed in the Attachment to this report.

This review constituted a single followup inspection sample for in-depth review as defined in IP 71152-05.

b. Background

In accordance with 10 CFR 73, section 54, "Protection of Digital Computer and Communication Systems and Networks (i.e., the Cyber-Security Rule), each nuclear power plant licensee was required to submit to the NRC for review and approval a cyber-security plan and an associated implementation schedule by November 23, 2009. Temporary Instruction (TI) 2201/004, "Inspection of Implementation of Interim Cyber Security Milestones 1-7" was developed to evaluate and verify each nuclear power plant licensee's ability to meet the interim milestone requirements of the Cyber-Security Rule. On October 24, 2014, the NRC completed an inspection at the LaSalle County Station, Units 1 and 2, which evaluated the interim cyber-security Milestones 1-7. During performance of the TI, seven NCVs were identified and incorporated into the licensee's CAP. These seven NCVs were subsequently given enforcement discretion following the Security Issues Forum Meeting conducted on November 12, 2014. During the week of June 20, 2016, the inspector reviewed the Cyber-Security Milestones 1-7 Inspection NCVs as a PI&R sample. The CAP documents were evaluated to determine the effectiveness of the licensee's corrective actions.

c. Observations

As discussed in the "Inspection Scope" section above, the inspector's review was focused on the licensee's actions to ensure the NCVs corrective actions were appropriately focused to correct the identified problems. In addition, during the inspector's review of the cyber-security inspection's CAP documents the following observations were identified:

- The inspectors reviewed AR 2392655, "APC Metered Power Strip Not Assessed in Exelon CDA Database," dated October 7, 2014, AR 2393037, "Failure To Identify Security Digital Asset," dated October 8, 2014, AR 2392984, "Security Routers Labeled As Deleted In The CDA Assessment DB," dated October 9, 2014, and AR 2399415, "Cyber Security - Failure To Identify IS Digital Assets," dated October 22, 2014. All these ARs were associated with Milestone 2 - "Identification and Documentation of Cyber Security CSs and CDAs" related NCVs and their status were identified as completed. The inspector verified through an independent review of the licensee's actions that the licensee completed an assessment of these digital assets and determined they were CDAs; entered these assets into the licensee's CDA database; and implemented controls in accordance with the regulatory requirements.
- The inspectors reviewed AR 1649227, "Milestone 4 Lessons Learned," dated April 18, 2014, and AR 1686999, "Cyber Security Milestone 4 Lessons Learned from Limerick," dated July 30, 2014. Both ARs were associated with Milestone 4 - "Implementation of Access Control for Portable and Mobile Devices" related NCVs. The status for AR 1649227 and AR 1686999 were identified as open with certain corrective actions completed and implementation of additional corrective actions scheduled. The inspector verified through an independent review of the licensee's actions that the licensee had identified three sub-issues for AR 1649227. Specifically, they were Sub-issue 1 - "Protecting Portable Media

and Digital Test Equipment (DTE) from an Insider Threat,” Sub-issue 2 – “Kiosks are not isolated from Level 0 and only contain a single virus application,” and Sub-issue 3 – “Long standing Scan Exemption on Digital Test Equipment.” The licensee had completed corrective actions for Sub-issues 1 and 2 by instituting administrative as well as physical controls to prevent unauthorized access to portable media (Sub-issue 1) and implementing the use of a new scanning kiosk (Sub-issue 2). Sub-issue 3 remains open pending the acquisition of new digital test equipment that is expected to be onsite in December 2016.

- The inspectors reviewed AR 1687788, “Cyber Security FASA Deficiency #2; CSP Milestone 6 Issues,” dated July 31, 2014, that was associated with a Milestone 6 – “Implementation of Cyber Security Controls for CDAs that Could Adversely Impact the Design Function of Target Set Equipment” related NCV and the status for this AR was identified as completed. The inspector verified through an independent review of the licensee’s actions that the licensee completed an assessment of the digital assets and planned to replace the existing devices with new devices that would allow for the use of additional technical controls, in combination with the physical and administrative controls presently implemented by the site, to protect the assets.
- The inspectors reviewed AR 1695445, Assign No. 06, “Cyber Security Program Remediation;” dated August 22, 2014, that was associated with a Milestone 7 - “Failure to Conduct a Technical Controls Audit Every 12 Months” related NCV and the status for this AR was identified as completed. The inspector verified through an independent review of the licensee’s actions that the licensee completed an assessment of the affected CDAs and the capability to apply technical controls and audit these controls. The manufacturer configured the type of events that could be audited on the applicable CDAs and, at present, all auditable events were logged at the time of the event.

d. Findings

No findings were identified.

4OA5 Other Activities

.1 Followup on Traditional Enforcement Actions Including Violations, Deviations, Confirmatory Action Letters, Confirmatory Orders, and Alternative Dispute Resolution Confirmation Orders (92702)

a. Inspection Scope

In NRC Integrated Inspection Report 05000373; 05000374/2015003, the inspectors documented three deviations for the licensee’s failure to meet three commitments related to the removal of control room ventilation ammonia detectors from the facility’s TS. These deviations were: 05000373; 0500374/2015003–01, “Failure to Maintain a Functional Ammonia Alarm”; 05000373; 0500374/2015003–02, “Failure to Establish Appropriate Agreements to Allow LaSalle County Station to be Notified in a Timely Manner of a Major Offsite Anhydrous Ammonia Release”; and, 05000373;

0500374/20150003-03, "Failure to Ensure That Lease Agreements Prohibit the Use of Anhydrous Ammonia near LaSalle County Station."

The inspectors reviewed the licensee's reply to the Notice of Deviations, received from the licensee on December 9, 2015, (ML15343A343), as well as the corrective action program documents associated with the resolution of these deviations, to determine that adequate corrective actions had been implemented; to verify that the causes of these deviations had been identified, that any potential generic implications had been addressed, and that the licensee's programs and practices had been appropriately enhanced to prevent recurrence.

b. Findings

No findings were identified.

These deviations are considered closed.

4OA6 Management Meetings

.1 Exit Meeting Summary

On Wednesday, July 13, 2016, the inspectors presented the inspection results to Mr. W. Trafton, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

.2 Interim Exit Meetings

Interim exits were conducted for:

- The inspection results for the areas of in-plant airborne radioactivity control and mitigation; and occupational dose assessment with Mr. W. Trafton, Site Vice President, on May 13, 2016.

The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee

W. Trafton, Site Vice-President  
H. Vinyard, Plant Manager  
J. Kowalski, Engineering Director  
K. Aleshire, Corporate Emergency Preparedness Director  
V. Cwietniewicz, Corporate Emergency Preparedness Manager  
G. Ford, Regulatory Assurance Manager  
J. Moser, Radiation Protection Manager  
M. Hayworth, Emergency Preparedness Manager  
D. Wright, Operations Training Manager (Interim)  
A. Schierer, Program Engineering Manager  
G. Chavez, Dry Cask Storage Senior Project Manager  
D. Fuson, Operations Instructor  
J. Keenan, Operations Director  
J. Lindsey, Training Director  
R. Conley, Operation Manager  
N. Faith, Corporate Cyber Security Program Manager  
R. Dunning, Senior Maintenance Specialist

#### U.S. Nuclear Regulatory Commission

B. Dickson, Chief, Reactor Projects Branch Five

## LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

05000373/2016002-01; 05000374/2016002-01	NCV	Partial-Length Rods Exceeded Burnup Limit in Design Basis Method of Analysis (Section 1R18)
05000373/2016002-02; 05000374/2016002-02	NCV	Failure to Implement and Maintain Written Procedures Regarding Respirator Fit Testing (Section 2RS3)

### Closed

05000373/2016002-01; 05000374/2016002-01	NCV	Partial-Length Rods Exceeded Burnup Limit in Design Basis Method of Analysis (Section 1R18)
05000373/2016001-02; 05000374/2016001-02	URI	Partial Length Rods Exceeded Burnup Limit in Design Basis Method of Analysis (Section 1R18)
05000373/2016002-02; 05000374/2016002-02	NCV	Failure to Implement and Maintain Written Procedures Regarding Respirator Fit Testing (Section 2RS3)
05000373/2015003-01; 05000374/2015003-01	DEV	Failure to Maintain a Functional Ammonia Alarm (Section 4OA5)
05000373/2015003-02; 05000374/2015003-02	DEV	Failure to Establish Appropriate Agreements to Allow LaSalle County Station to be Notified in a Timely Manner of a Major Offsite Anhydrous Ammonia Release (Section 4OA5)
05000373/2015003-03; 05000374/2015003-03	DEV	Failure to Ensure That Lease Agreements Prohibit the Use of Anhydrous Ammonia near LaSalle County Station (Section 4OA5)

### Discussed

None



## LIST OF DOCUMENTS REVIEWED

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspector reviewed the documents in their entirety, but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

### 1R01 Adverse Weather Protection

#### **WORKING DOCUMENTS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date</u></b>
WO 1843212-01	LOS-ZZ-A2 Preparation for Summer Operations Att B	4/18/2016

#### **MISCELLANEOUS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
	Currently Open LaSalle Work Orders from ComEd	6/9/2016
OP-AA-108-107-1002	Interface Procedure Between ComEd/Peco and Exelon Generation (Nuclear/Power) For Transmission Operations	9
WC-AA-107	Letter from Bill Trafton, Site VP to D. Enright, Sr. VP of Nuclear Operations, Exelon Generation: Certification of 2016 Summer Readiness	5/6/2016
WC-AA-8003	Interface Procedure Between ComEd/Peco and Exelon Generation (Nuclear/Power) For Design Engineering and Transmission Planning Activities	6

### 1R04 Equipment Alignment

#### **ACTION REQUESTS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>
2677095	NRC Identified Issue with M-101, Sheet 2
2677107	NRC ID: NRC Question Regarding RHR MCR PANELS

#### **FIGURES AND DRAWINGS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
M-101	P&ID Reactor Core Isolation Coolant System (RCIC)	AR
M-101	P&ID Reactor Core Isolation Coolant System (RCIC)	BH
M-101	P&ID Reactor Core Isolation Coolant System (RCIC)	BL

1R05 Fire Protection

**FIGURES AND DRAWINGS**

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<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
STD-EB-716	Straight Cable Tray with Drain Point	12/10/1976
1E-1-3202A	Piece Parts & Covers Reactor Bldg. Plan El. 673'-4", Col. 12-L59 E-J	C

**MISCELLANEOUS**

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<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
FZ-2I4	LaSalle County Generating Station Pre-Fire Plan, Unit 1 Elevation 673'-4" LPCS/RCIC Pump Cubicle	1
FZ-3I5	LaSalle County Generating Station Pre-Fire Plan, RX Bldg. 673'-4" Elev. U2 RHR Pump Room "A" Cubicle	1
FZ-4D2	Aux. Bldg. 749'0" Elev. U2 Cable Spreading Room	0
FZ-4D3	Aux. Bldg. 749'0" Elev. U1 Electrical Equipment Room	0
FZ-4E2	Aux. Bldg. 731'0" Elev. U2 Auxiliary Equipment Room	2
FZ-5D1	LaSalle County Generating Station Pre-Fire Plan, TB. Bldg. 687'0" Elev. U1 HPCS Switchgear Area	1
FZ-SB13	Fire Drill Scenario No. 16-21, Unit 1 SWGR - 731'-0"	0

1R06 Flood Protection Measures

**PROCEDURES**

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<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
LMS-ZZ-04	Water Tight Door Inspection	6
LOA-FLD-001	Flooding	19
LOS-PF-M1	ECCS/CSCS Water Tight Door Surveillance	0

**ACTION REQUESTS**

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<b><u>Number</u></b>	<b><u>Description or Title</u></b>
2509182	NOS ID: PDS for Negative Trend with Floatable Items
2515691	Floatable Material ACE Corrective Actions Ineffective
2537838	NRSB ID: FM in Sump Pump Storage Pipe
2570259	Level 3 OPEX Evaluation Needed for WS Piping Leak
2589901	Degraded Condition Observed on CSCS Piping Line 2DG19BB-2.5"

**FIGURES AND DRAWINGS**

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
M-1400	Diesel Generator Room Ventilation System Elev. 674'- 0"	E
M-1464	P & ID CSCS Equipment Cooling System	D

**WORKING DOCUMENTS**

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
WO 1564377-01	Watercraft Door Inspection	7/31/2014
WO 1687976-01	Watercraft Door Inspection	10/27/2015
WO 1910489-01	OPS Perform LOS-P-M1 Att 2A (Week 2, 6, 11)	4/20/2016
WO 1914239-01	OPS Perform LOS-PF-M1 Att 1A (Week 4, 9, 13)	5/13/2016

1R07 Heat Sink Performance

**ACTION REQUESTS**

<u>Number</u>	<u>Description or Title</u>
2664754	2E22-S001 HX Inspection Results
2665934	2B DG HX Coating Inspection

**MISCELLANEOUS**

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
2E22-S001	HX Inspection Report for 2B DG Heat Exchanger	5/2/2016
EPN 2E22-S001	Eddy Current Final Results —Unit 2 HPCS DG Cooler	5/8/2012
ML-NDE-017	NDE Procedure Approval: Eddy Current Examination of Non-Ferromagnetic Heat Exchanger Tubing	02

1R11 Licensed Operator Requalification Program

**PROCEDURES**

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
OP-AA-101-111	Roles and Responsibilities of On-Shift Personnel	9
OP-AA-101-113	Operator Fundamentals	9
OP-AA-101-111-1001	Operations Standards and Expectations	17
OP-AA-101-113-1006	4.0 Crew Critique Guidelines	7

1R12 Maintenance Effectiveness

**ACTION REQUESTS**

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**Number   Description or Title**

1606497   Need WO for 2VY03A Cooler Cleaning

**WORKING DOCUMENTS**

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<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
S16-03	Unit 0 Standing Order, VY Cooler Differential Pressures	0,1,2,3

**MISCELLANEOUS**

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<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
EC 405581	VY Cooler Heat Transfer with Tubes Plugged for Op Eval 16-003	000
EC 405589	VY Cooler Pressure Drop for Op Eval 16-003	000

1R13 Maintenance Risk Assessments and Emergent Work Control

**PROCEDURES**

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<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
WC-AA-104	Integrated Risk Management	23
WC-AA-101-1004	Online Maintenance for Limiting Condition for Operation of Systems or Components	7
WC-AA-101-1006	Online Risk Management and Assessment	2
OP-AA-108-117	Protected Equipment Program	4

**ACTION REQUESTS**

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**Number   Description or Title**

2686463   NRC Question on Diesel Generator Protection

1R15 Operability Determinations and Functional Assessments

**ACTION REQUESTS**

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**Number   Description or Title**

2685726   Request for Information on RR Loop Flow vs RR Seal Temps  
2689311   NRC Question on Pool Swell Op Eval (OE 12-003)

**WORKING DOCUMENTS**

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
OE 10-005	Potential Non-Conservative Tech Spec for EDG Fuel Oil	13
OE 16-001	0 DG Cooling Water Strainer Leak, AR 2623463	0
OE 16-002	Pipe Leak in Line 0DG10A-4	0
OE 16-003	Core Standby Core Cooling Changes in dP Tube Fouling Issue, AR 2665463	0

**MISCELLANEOUS**

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
AR 1437633-83	2012 Regulatory Assurance Management Requests — Develop WCAP-17308 Implementation Plan	6/8/2016
	Operability Evaluation Log	6/7/2016

1R19 Post-Maintenance Testing

**PROCEDURES**

<u>Number</u>	<u>Description or Title</u>	<u>Revision</u>
LOP-DG-04	Diesel Generator Special Operations	66

**ACTION REQUESTS**

<u>Number</u>	<u>Description or Title</u>
1699477	ACE Needed to Evaluate VC and VE Issues for Common Causes
1699477	Document ACE – VC and VE Issues
2452541	0VE04CA “A” VE Train Suction Pressure Above Max Set Point
2511304	0VE04CA – “A” VE Compressor No Pumpdown
2514366	A VE Compressor 0VE04CA Surging
2665018	2A RHR Room Cooler DP is High
2665459	0A VC Compressor Does Not Pump Down
2666341	2B D/G Expansion Tank Coolant Level Higher Than Normal

**WORKING DOCUMENTS**

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
Clearance 124949	Checklists 5&7; 2VY03A Chemically Clean S.E. Cubicle Area Cooler (B/C RHR)	6/10/2016
WO 1703347-20, 21	MM 2VY03A Cooler Cleaning	6/10/2016
WO 1758389-07	Klockner Moeller MCC 1AP76E-D6 Cubicle Replacement	6/20/2016
WO 1871569-02	OP PMT: Verify 0VE04CA Runs Sat	5/11/2016
WO 1923081-13,14	Chemical Cleaning of Waterside of 1VY02A Cooler	6/1/2016
WO 805643-9,10	Contingency to Repair Leaking Tubes for 2VY03A Cooler	6/10/2016

**MISCELLANEOUS**

<u>Number</u>	<u>Description or Title</u>	<u>Date or Revision</u>
	2VY02A Cooler Cleaning Activities Log	6/1 – 6/3/2016
	System Health Report—LAS   Common Unit   VC – Control Room Ventilation	Q4-2015
	System Health Report—LAS   Common Unit   VE – Aux Elect Equip Room HVAC	Q4-2015
AR 2665463	Unit 0 Standing Order, VY Cooler Differential Pressures, Log S16–03, Rev. 2	5/24/2016
CALC 97–198	Design Analysis Approval, Thermal Model of ComEd/LaSalle Station Unit 1 and 2 LPCS Pump Room Coolers	A 00
EC 393769	Design Consideration Summary: U1, Online 2014 Replacement of Klockner Moeller Cubicles	0

1R22 Surveillance Testing**ACTION REQUESTS**

<u>Number</u>	<u>Description or Title</u>
1695180	ODG Fuel Oil Storage Tank Low Level Alarm
2438827	RM — D OPRM Failed During LOP–RP–04
2489422	1C51B–S750B Bypass Contact to OPRM Module Failed
2534581	RM — OPRM D MUX Test Failure
2571589	ODO01T Level Low
2576396	G OPRM Enable/Bypass Switch Intermittent Contact Issue
2584971	RM — IB OPRM Internally Bypassed Temporarily
2611795	RM — B OPRM Internally Bypassed
2636375	RM OPRM B Did Not Trip During ODA Test
2648739	RM — Intermittent Failure of Bypass Signal to OPRM F
2672619	RM — Unexpected OPRM Trouble Alarm 1H13–P603–B507

**WORKING DOCUMENTS**

<u>Number</u>	<u>Description or Title</u>	<u>Date</u>
LOS–DG–R2H	Tech Spec Surveillance, 2A Diesel Generator 24 Hour Run Surveillance	4/22/2016
LOS–RH–Q1	Tech Spec Surveillance, Unit 2, 2A RHR	5/19/2016
WO 1763659–01	DG 0 Fuel Oil Storage Tank Level SW & Ind	6/13/2016
WO 1887190–01	LIS–NR–317A OPRM Channels A & E Functional Test	6/20/2016
WO 1910473–01	LOS–RI–Q5 U1 RCIC Cold-Quick Start Att 1A	5/23/2016

## 1EP6 Drill Evaluation

### **MISCELLANEOUS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date</u></b>
	LaSalle 2016 Off-Year Exercise Evaluation Report	6/16/2016
	Final LaSalle 2016 Pre Exercise Evaluation Report	6/15/2016

## 2RS3 In-Plant Airborne Radioactivity Control and Mitigation

### **PROCEDURES**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
	Generic Respiratory Protection Training Student Guide	12/2015
RP-AA-302	Determination of Alpha Levels and Monitoring	7
RP-AA-401	Operational ALARA Planning and Controls	21
RP-AA-440	Respiratory Protection Program	12
RP-AA-441	Evaluation and Selection Process for Radiological Respirator Use	6
RP-AA-444	Controlled Negative Pressure (CNP) Fit Testing	5
RP-AA-700-1301	Calibration, Source Check, Operation and Set-Up of the Eberline Beta Air Monitoring, Model AMS-4	3
RP-AA-825	Maintenance, Care and Inspection of Respiratory Protective Equipment,	8
RP-LA-826	Pneumatic/Air System Quality Surveillance	5

### **MISCELLANEOUS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date</u></b>
	Quarterly Service Air and Self Contained Breathing Apparatus Test Results	1/25/2016
Course Code N-LA-RP-RESP	Respiratory Protection Equipment – MSA Firehawk M7 SCBA	2/18/2009
S/N LAB270737	Posi3 USB Test Results Complete SCBA Test	6/23/2014
S/N LAB270743	Posi3 USB Test Results Complete SCBA Test	6/23/2014
S/N LAB270743	Posi3 USB Test Results Complete SCBA Test	6/2/2015
S/N LAB270746	Posi3 USB Test Results Complete SCBA Test	6/23/2014
S/N LAB270746	Posi3 USB Test Results Complete SCBA Test	6/1/2015

## 2RS4 Occupational Dose Assessment

### **PROCEDURES**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
RP-AA-203-1001	Personnel Exposure Investigation	9
RP-AA-210	Dosimetry Issue, Usage and Control	26
RP-AA-220	Bioassay Program	11

## **PROCEDURES**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
RP-AA-220	Annual Review of the Bioassay Program Year 2016, Attachment 3	3/31/2016
RP-AA-220-1001	Collection and Handling of In Vitro Bioassay Samples	2
RP-AA-230	Operation of the Canberra FASTSCAN Whole Body Counter (WNC) Using ABACOS Plus	3
RP-AA-270	Prenatal Radiation Exposure	7
RP-AA-301	Radiological Air Sampling Program	8

### 40A1 Performance Indicator Verification

## **PROCEDURES**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
LOS-AA-W1	Technical Specifications Weekly Surveillances	76

## **MISCELLANEOUS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date or Revision</u></b>
	Plan of the Day, Unidentified and Identified Leakage	1/28/2016
	U1 and U2 Dry Well Drain Flow Data	1 <sup>st</sup> Qtr 2016
B 3.4.5	Reactor Coolant System, RCS Operational Leakage	0
B 3.4.7-1	Reactor Coolant System, RCS Leakage Detection Instrumentation	53

### 40A2 Identification and Resolution of Problems

## **PROCEDURES**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Revision</u></b>
IT-AA-204	Critical Digital Asset (CDA) Access Control Per Requirements of 10 CFR 73.54	2
IT-AA-207	Critical Digital Asset (CDA) Continuous Monitoring Per Requirements of 10 CFR 73.54	2
MA-AA-716-235	Control of CDA Portable Media and Portable Devices	4

## **ACTION REQUESTS**

<b><u>Number</u></b>	<b><u>Description or Title</u></b>
267644	NRC ID'D WGE 2671701 Clarification Needed for EOC Review
2631245	Adverse Trend in CB&I Industrial Safety Performance
2639919	Maintenance Rule (A)(1) Determination for LAS-1-AP-02
2649230	Document L1R16 CD&I Performance Review Document
2676056	Misinterpretation of Vendor Supplied Product
2684745	L0101 and L0102 Unexpected Loss During Storm



## **ACTION REQUESTS**

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<b><u>Number</u></b>	<b><u>Description or Title</u></b>
2684795	RM–Emergent Load Drop of 100 MWE on Unit 1 Requested by PJM
1500293	Cyber Security: Milestone 4 Issues with Portable Media
1522309	Cyber Security: Scoping of Physical Security Digital Assets
1538259	Cyber Security – IT actions
1649227	Milestone 4 Lessons Learned
1686999	Cyber Security Milestone 4 Lessons Learned from Limerick
1687788	Cyber Security FASA Deficiency #2; CSP Milestone 6 Issues
1695445	Cyber Security Program Remediation
2392665	APC Metered Power Strip Not Assessed in Exelon CDA Database
2392984	Security Routers Labeled As Deleted In The CDA Assessment DB
2393037	Failure To Identify Security Digital Assets
2399415	Cyber Security – Failure to Identify IS Digital Assets
2400196	Cyber: INSS not Identified as Critical Digital Asset
2400316	Failure to Justify of Not Applying a Cyber Technical Control
2572077	Cyber Security – Limerick NRC Inspection Results

## **ACTION REQUESTS GENERATED FROM NRC OR IEMA INSPECTION**

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<b><u>Number</u></b>	<b><u>Description or Title</u></b>
2677095	NRC Identified Issue with M–101, Sheet 2
2677107	NRC ID: NRC Question Regarding RHR MCR PANELS
2686463	NRC Question on Diesel Generator Protection

## **WORKING DOCUMENTS**

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<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date</u></b>
AR 2664168	Apparent Cause Investigation of Gap Identified in Supplemental Worker Performance due to Lapses in Standards and Behaviors	5/2/2016

## **MISCELLANEOUS**

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<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date</u></b>
	AR Search for Rework	6/29/2016
	LaSalle Performance Improvement Effectiveness Data	5/25/2016
	LaSalle Performance Improvement Effectiveness Data	6/22/2016
	LaSalle Performance Improvement Effectiveness Data	4/20/2016
	Maintenance Rule A1 Assessments List	2 <sup>nd</sup> Qtr 2016
	Summary Listing of Open Work Arounds and Challenges	2 <sup>nd</sup> Qtr 2016
	Top Ten Plant Health Issues List	2 <sup>nd</sup> Qtr 2016
	LaSalle County Station, Units 1 AND 2 – Inspection of Temporary Instruction 2201/004, “Inspection of Implementation of Interim Cyber Security Milestones 1–7” Inspection Report 05000373/2014404; 05000374/2014404	11/26/2014

**MISCELLANEOUS**

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<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date</u></b>
E31-R001C	Cyber Security Assessment	10/26/2014
E31-R001C	Cyber Security Assessment	6/15/2015
E31-R001C	Cyber Security Assessment	6/20/2016
NRC Request 005	LaSalle PI&R Inspection 2016 – Failure to Conduct a Technical Controls Audit Every 12 Months	6/21/2016
RA16-040	Status of Corrective Actions for 2014 LaSalle Cyber Inspection	6/15/2016

4OA5 Other Activities

**MISCELLANEOUS**

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<b><u>Number</u></b>	<b><u>Description or Title</u></b>	<b><u>Date</u></b>
	Reply to a Notice of Deviation, Exelon	12/9/2015
Doc 4551989	Amendment to Crop and Pasture License	2016
GL 89-13	Heat Exchanger Visual Inspections List	2016

## LIST OF ACRONYMS USED

AC	Alternating Current
ADAMS	Agencywide Documents Access Management System
ALARA	As-Low-As-Is-Reasonably-Achievable
AR	Action Request
AST	Alternate Source Term
BWR	Boiling Water Reactor
CAP	Corrective Action Program
CDA	Critical Digital Asset
CFR	Code of Federal Regulations
CNP	Controlled Negative Pressure
DB	Database
DG	Diesel Generator
FHA	Fuel Handling Accident
GWd/MTU	Gigawatt Days per Metric Ton of Uranium
HPCS	High Pressure Core Spray
IMC	Inspection Manual Chapter
IP	Inspection Procedure
LHGR	Linear Heat Generation Rate
NCV	Non-Cited Violation
NRC	U.S. Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation
OE	Operability Evaluation
PARS	Publicly Available Records System
PI	Performance Indicator
PI&R	Problem Identification and Resolution
RCIC	Reactor Core Isolation Cooling
RG	Regulatory Guide
RCS	Reactor Coolant System
RHR	Residual Heat Removal
SCBA	Self-Contained Breathing Apparatus
TI	Temporary Instruction
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
WO	Work Order

B. Hanson

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Sincerely,

*/RA/*

B. Dickson, Chief  
Branch 5  
Division of Reactor Projects

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