



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
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LISLE, IL 60532-4352

July 22, 2015

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

SUBJECT: BYRON STATION, UNITS 1 AND 2, NRC INTEGRATED INSPECTION REPORT
NOS. 05000454/2015002; 05000455/2015002; AND 07200068/2015001

Dear Mr. Hanson:

On June 30, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Byron Station, Units 1 and 2. The enclosed report documents the results of this inspection, which were discussed on July 9, 2015, with the Byron Plant Manager, Mr. T. Chalmers, and other members of your staff.

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

The NRC inspectors did not identify any findings or violations of more than minor significance.

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 (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/

Eric R. Duncan, Chief
Branch 3
Division of Reactor Projects

Docket Nos. 50-454; 50-455; 72-68
License Nos. NPF-37; NPF-66

Enclosure: Inspection Report 05000454/2015002;
05000455/2015002; 07200068/2015001
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 05000454; 05000455; 07200068
License Nos: NPF-37; NPF-66

Report No: 05000454/2015002; 05000455/2015002;
07200068/2015001

Licensee: Exelon Generation Company, LLC

Facility: Byron Station, Units 1 and 2

Location: Byron, IL

Dates: April 1 through June 30, 2015

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Approved by: E. Duncan, Chief
Branch 3
Division of Reactor Projects

Enclosure

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SUMMARY

Inspection Report 05000454/2015002, 05000455/2015002, 07200068/20150001; 04/01/2015 – 06/30/2015; Byron Station, Units 1 and 2; Routine Integrated Inspection Report

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. This report also covers an inspection by regional inspectors of operational activities associated with an Independent Spent Fuel Storage Installation (ISFSI), at the Byron Station, Units 1 and 2. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process" Revision 5, dated February 2014.

Inspector-Identified and Self-Revealed Findings

No findings were identified.

Licensee-Identified Violations

No violations were identified.

REPORT DETAILS

SUMMARY OF PLANT STATUS

Unit 1

The unit began the period at full power and operated at or near full power until April 11, 2015, when power was lowered to 74 percent to support maintenance on the Unit 2 system auxiliary transformers (SAT 242-1 and SAT 242-2) and associated switchyard buses. The unit was restored to full power the same day and remained at full power until May 2, 2015, when power was lowered to 82 percent at the request of the transmission system operator for maintenance on offsite lines. The unit was restored to full power the same day and remained at full power until May 10, 2015, when power was lowered to 91 percent at the request of the transmission system operator for maintenance on offsite lines. The unit was restored to full power the same day and remained at or near full power the remainder of the inspection period.

Unit 2

The unit began the period at full power and operated at or near full power until April 24, 2015, when power was lowered to 73 percent to support maintenance on the Unit 1 system auxiliary transformers (SAT 142-1 and SAT 142-2) and associated switchyard buses. The unit was restored to full power on April 26, 2015, and remained at full power until May 15, 2015, when power was lowered to 74 percent to support continued maintenance on the Unit 1 SATs and associated switchyard buses. The unit was restored to full power on May 17, 2015, and remained at or near full power the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R01 Adverse Weather Protection (71111.01)

.1 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 Corrective Action Program (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 corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- diesel generator heating, ventilation, and air conditioning (HVAC)
- miscellaneous auxiliary HVAC

This inspection constituted one seasonal adverse weather sample as defined in Inspection Procedure (IP) 71111.01–05.

b. Findings

No findings were identified.

.2 Readiness for Impending Adverse Weather Condition—Tornado Warning

a. Inspection Scope

Since thunderstorms with potential tornados and high winds were forecast in the vicinity of the facility for April 8-9, 2015, the inspectors reviewed the licensee's overall preparations/protection for the expected weather conditions. On April 8, 2015, the inspectors walked down the condensate storage tanks and essential service water cooling tower areas, in addition to the licensee's emergency alternating current (AC) power systems, because their 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 compared the licensee staff's preparations with the site's procedures and determined whether 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 search for any loose debris that could become a missile hazard during a tornado. The inspectors 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 corrective action procedures.

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:

- 1A containment spray during 1B containment spray unavailability during testing

- 2A auxiliary feedwater during 2B auxiliary feedwater unavailability during preventative maintenance
- 2B residual heat removal during 2A residual heat removal unavailability during preventative 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, the UFSAR, Technical Specification (TS) requirements, outstanding work orders (WOs), issue reports (IRs), 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.

These activities constituted three 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 the availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- FZ 11.5A-1, 11.5B-1; Auxiliary Building 414'-0" Elevation, Unit 1, Electrical Penetration Area
- FZ 11.5A-2, 11.5B-2; Auxiliary Building 414'-0" Elevation, Unit 2, Electrical Penetration Area
- FZ 11.6-1; Auxiliary Building 426'-0" Elevation, Division 12, Electrical Penetration Area
- FZ 11.6-2; Auxiliary Building 426'-0" Elevation, Division 22, Electrical Penetration Area

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 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.

These activities constituted four 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 June 6, 2015, the inspectors observed a fire brigade activation for a scenario in which a simulated fire started in the Electrical Maintenance Tool Crib. 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;
- 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.

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 Underground Vaults

a. Inspection Scope

The inspectors selected underground bunkers/manholes subject to flooding that contained cables whose failure could disable risk-significant equipment. The inspectors determined whether the cables were submerged, whether splices were intact, and whether appropriate cable support structures were in place. In those areas where dewatering devices were used, such as a sump pump, the device was operable and level alarm circuits were set appropriately to ensure that the cables would not be submerged. In those areas without dewatering devices, the inspectors verified that drainage of the area was available, or that the cables were qualified for submergence conditions. The inspectors also reviewed the licensee's corrective action documents with respect to past submerged cable issues identified in the CAP to verify the adequacy of the corrective actions. The inspectors performed a walkdown of the following underground bunkers/manholes subject to flooding:

- Manhole 1MP
- Manhole 1L
- Manhole 1M

This inspection constituted one underground vaults sample as defined in IP 71111.06-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program (71111.11)

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

a. Inspection Scope

On May 12, 2015, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator regualification training to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and 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;
- the 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
- the 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.

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 April 24, 2015, the inspectors observed main control room operators performing a control room ventilation (VC) surveillance test. This activity was related to the heightened activity in preparing for the planned SAT 242-1 outage. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- the 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
- the ability to identify and implement appropriate TS actions.

Performance in these areas was compared to pre-established operator action expectations, procedural compliance and successful task completion requirements.

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 involving the following risk-significant system:

- area radiation monitors (AR-01 function).

The inspectors reviewed events including those in which 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 SSCs/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.

As an additional sample, the inspectors also reviewed the licensee's Periodic Maintenance Rule (a)(3) assessment for the period of July 2012 through December 2013 to verify that the licensee performed the assessment appropriately and balanced reliability and unavailability.

This inspection constituted two quarterly maintenance effectiveness samples 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:

- 1B residual heat removal suction work window with estimated low Unit 2 transient grid voltage and SAT 242-2 out-of-service for maintenance on April 21, 2015;
- 1C reactor containment fan cooler work window with SAT 142-1 out-of-service for maintenance and auxiliary feedwater surveillances on May 11, 2015;
- 2B auxiliary feedwater pump out-of-service with SAT 142 cross-tied to Unit 2 on May 18, 2015; and
- 2A residual heat removal, 2A containment spray, and 2A component cooling water out-of-service for maintenance on June 8, 2015.

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.

These maintenance risk assessments and emergent work control activities constituted four 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:

- ECR 418446, Applicability of EC 401577 – 1A SX Pump Cubicle Cooler Inspection;
- IR 2481534, 1AF018A Leaking By;
- Clearance 124966; Unit Two Diesel Driven Auxiliary Feedwater Pump Day Tank Level Isolation; and
- IR 2491258, 2PA55J Trip Lights Lit Causing Delay of SAT Outage.

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 the 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 sample of corrective action 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 four samples as defined in IP 71111.15–05.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

.1 Plant Modifications

a. Inspection Scope

The inspectors reviewed the following modification:

- EC 401655: Add Connection Downstream of 1WG022C to Line 1WG12CA-1/4" (temporary).

The inspectors reviewed the configuration changes and associated 10 CFR 50.59 safety evaluation screening against the design basis, the UFSAR, and the TSs, as applicable, to verify that the modification did not affect the operability or availability of the affected system. The inspectors, as applicable, observed ongoing and completed work activities to ensure that the modification was installed as directed and was consistent with the design control documents; the modification operated as expected; post-modification testing adequately demonstrated continued system operability, availability, and reliability; and that operation of the modification did not impact the operability of any interfacing systems. As applicable, the inspectors verified that relevant procedure, design, and licensing documents were properly updated. Lastly, the inspectors discussed the plant modification with operations, engineering, and training personnel to ensure that the individuals were aware of how the operation with the plant modification in place could impact overall plant performance.

This inspection constituted one temporary modification sample as defined in IP 71111.18-05.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

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

- 0B diesel fire pump run following replacement of lube oil pressure switch and 2-year preventative maintenance activities;
- 1B residual heat removal pump run following preventative maintenance activities;
- 1B residual heat removal pump refueling water storage tank suction isolation valve stroke time test following torque switch replacement;

- 1B auxiliary feedwater pump run following deflector ring oil leak; and
- 2A residual heat removal pump run and visual inspection following valve maintenance.

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 Part 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 corrective action 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.

This inspection constituted five 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:

- 1BOSR 5.5.8.SI.5-1a; Unit One, Group A Inservice Testing (IST) Requirements for Safety Injection Pump 1SI01PA (IST);
- 2BOSR 3.1.9-1; Unit Two, Reactor Coolant Pump Bus Underfrequency Semi-Annual Surveillance (Routine);
- 2BOSR 3.1.9-2; Unit Two, Reactor Coolant Pump Bus Undervoltage Semi-Annual Surveillance (Routine);

- 2BOSR 4.13.1-1; Unit Two, Reactor Coolant System Water Inventory Balance Surveillance Computer Calculation (RCS);
- 1BOSR 5.5.8.SX.5-1c; Comprehensive Inservice Testing (IST) Requirements for the Essential Service Water Pump 1SX01PA and Unit 1 SX Pumps Discharge Check Valves (IST); and
- 1BOSR 3.2.3-1; Unit One, Undervoltage Simulated Start of 1A AF Pump Monthly Surveillance (Routine)

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

- did preconditioning occur;
- were the effects of the testing adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- were acceptance criteria clearly stated, demonstrate operational readiness, and consistent with the system design basis;
- was plant equipment calibration correct, accurate, and properly documented;
- were as-left setpoints within required ranges; and was the calibration frequency in accordance with TSs, the UFSAR, plant procedures, and applicable commitments;
- was measuring and test equipment calibration current;
- was the test equipment used within the required range and accuracy and were applicable prerequisites described in the test procedures satisfied;
- did test frequencies meet TS requirements to demonstrate operability and reliability;
- were tests performed in accordance with the test procedures and other applicable procedures;
- were jumpers and lifted leads controlled and restored where used;
- were test data and results accurate, complete, within limits, and valid;
- was test equipment removed following testing;
- where applicable for IST activities, was testing performed in accordance with the applicable version of Section XI of the ASME code, and were reference values consistent with the system design basis;
- where applicable, were test results not meeting acceptance criteria addressed with an adequate operability evaluation or was the system or component declared inoperable;
- where applicable for safety-related instrument control surveillance tests, was reference setting data accurately incorporated in the test procedure;
- was equipment returned to a position or status required to support the performance of its safety function following testing;
- were all problems identified during the testing appropriately documented and dispositioned in the licensee's CAP;
- where applicable, were annunciators and other alarms demonstrated to be functional and were annunciator and alarm setpoints consistent with design documents; and
- where applicable, were alarm response procedure entry points and actions consistent with the plant design and licensing documents.

This inspection constituted three routine surveillance testing samples, two inservice testing samples, and one reactor coolant system leak detection inspection sample as defined in IP 71111.22, Sections–02 and–05.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Training Observation

a. Inspection Scope

On May 26, 2015, the inspectors observed a simulator training evolution for licensed operators 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.

The 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

Cornerstones: Occupational and Public Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

This inspection constituted a partial sample as defined in IP 71124.01-05.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed all licensee performance indicators for the Occupational Exposure Cornerstone for follow-up. The inspectors reviewed the results of the Radiation Protection Program audits (e.g., licensee's quality assurance audits or other independent audits). The inspectors reviewed any reports of operational occurrences related to occupational radiation safety since the last inspection. The inspectors reviewed the results of the audit and operational report reviews to gain insights into overall licensee performance.

b. Findings

No findings were identified.

.2 Radiological Hazard Assessment (02.02)

.a Inspection Scope

The inspectors determined if there had been changes to plant operations since the last inspection that may have resulted in a significant, new, radiological hazard for onsite workers or members of the public. The inspectors evaluated whether the licensee assessed the potential impact of these changes and had implemented periodic monitoring, as appropriate, to detect and quantify the radiological hazard.

The inspectors conducted walkdowns of the facility, including radioactive waste processing, storage, and handling areas to evaluate material conditions and performed independent radiation measurements to verify conditions.

b. Findings

No findings were identified.

.3 Radiation Worker Performance (02.07)

.a Inspection Scope

The inspectors reviewed the radiological problem reports since the last inspection for which the cause of the event was found to be a human performance error. The inspectors evaluated whether there was an observable pattern, traceable to a similar cause. The inspectors assessed whether this perspective matched the corrective action approach taken by the licensee to resolve the reported problems. The inspectors discussed with the radiation protection manager any problems with the corrective actions planned or taken.

b. Findings

No findings were identified.

.4 Radiation Protection Technician Proficiency (02.08)

a. Inspection Scope

The inspectors reviewed the radiological problem reports since the last inspection for which the cause of the event was found to be a radiation protection technician error. The inspectors evaluated whether there was an observable pattern, traceable to a similar cause. The inspectors assessed whether this perspective matched the corrective action approach taken by the licensee to resolve the reported problems.

b. Findings

No findings were identified.

.5 Problem Identification and Resolution (02.09)

a. Inspection Scope

The inspectors evaluated whether problems associated with radiation monitoring and exposure control were being identified by the licensee at an appropriate threshold, and were properly addressed for resolution in the licensee's CAP. The inspectors assessed the appropriateness of the corrective actions for a selected sample of problems documented by the licensee that involved radiation monitoring and exposure controls. The inspectors assessed the licensee's process for applying operating experience to their plant.

b. Findings

No findings were identified.

2RS2 Occupational As-Low-As-Reasonably-Achievable Planning and Controls (71124.02)

These inspection activities supplement those documented in IR 05000454/2014002 and 05000455/2014002, and constitute a partial sample as defined in IP 71124.02-05.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed pertinent information regarding plant collective exposure history, current exposure trends, and ongoing or planned activities in order to assess current performance and exposure challenges. The inspectors reviewed the plant's 3-year rolling average for collective exposure.

The inspectors reviewed the site-specific trends in collective exposures and source term measurements.

The inspectors reviewed site-specific procedures associated with maintaining occupational exposures As-Low-As-Reasonably-Achievable (ALARA), which included a review of processes used to estimate and track exposures from specific work activities.

b. Findings

No findings were identified.

.2 Radiological Work Planning (02.02)

a. Inspection Scope

The inspectors selected the following work activities of the highest exposure significance.

- B1R19 Reactor Head: Disassemble/Reassemble – All Activities;
- B1R19 Reactor Nozzle Covers: All Activities;
- B1R19 Reactor Head and Upper Internals Move and Rx Flange Inspection; and
- B2R18 Reactor Head Penetration Six Repairs.

The inspectors assessed whether the licensee's planning identified appropriate dose mitigation features, considered alternate mitigation features, and defined reasonable dose goals. The inspectors evaluated whether the licensee's ALARA assessment had taken into account decreased worker efficiency from use of respiratory protective devices and/or heat stress mitigation equipment (e.g., ice vests). The inspectors determined whether the licensee's work planning considered the use of remote technologies (e.g., teledosimetry, remote visual monitoring, and robotics) as a means to reduce dose, and the use of dose reduction insights from industry operating experience and plant-specific lessons learned. The inspectors assessed the integration of ALARA requirements into work procedure and radiation work permit documents.

The inspectors determined whether post-job reviews were conducted and if identified problems were entered into the licensee's CAP.

b. Findings

No findings were identified.

.3 Verification of Dose Estimates and Exposure Tracking Systems (02.03)

a. Inspection Scope

The inspectors reviewed the assumptions and basis (including dose rate and man-hour estimates) for the current annual collective exposure estimate for reasonable accuracy for select ALARA work packages. The inspectors reviewed applicable procedures to determine the methodology for estimating exposures from specific work activities and the intended dose outcome.

The inspectors evaluated whether the licensee established measures to track, trend, and, if necessary, to reduce occupational doses for ongoing work activities. The inspectors assessed whether trigger points or criteria were established to prompt additional reviews and/or additional ALARA planning and controls.

The inspectors evaluated the licensee's method of adjusting exposure estimates, or re-planning work, when unexpected changes in scope or emergent work were encountered. The inspectors assessed whether adjustments to exposure estimates (intended dose) were based on sound radiation protection and ALARA principles, or if they were just adjusted to account for failures to control the work. The inspectors evaluated whether the frequency of these adjustments called into question the adequacy of the original ALARA planning process.

b. Findings

No findings were identified.

.4 Source Term Reduction and Control (02.04)

a. Inspection Scope

The inspectors used licensee records to determine the historical trends and current status of significant tracked plant source terms known to contribute to elevated facility aggregate exposure. The inspectors assessed whether the licensee had made

allowances or developed contingency plans for expected changes in the source term as the result of changes in plant fuel performance issues or changes in plant primary chemistry.

b. Findings

No findings were identified.

.5 Problem Identification and Resolution (02.06)

a. Inspection Scope

The inspectors evaluated whether problems associated with ALARA planning and controls are being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee's CAP.

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 Safety System Functional Failures

a. Inspection Scope

The inspectors sampled licensee submittals for the Safety System Functional Failures performance indicator (PI) for Byron Unit 1 and Unit 2 for the period from the third quarter of 2014 through the first quarter of 2015. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73," definitions and guidance, were used. The inspectors reviewed the licensee's operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, IRs, event reports and NRC Integrated Inspection Reports for the period of July 1, 2014, through March 31, 2015, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's IR database to determine if any problems had been identified with the PI data collected or transmitted for this indicator.

This inspection constituted two safety system functional failure samples as defined in IP 71151-05.

b. Findings

No findings were identified.

.2 Reactor Coolant System Leakage

a. Inspection Scope

The inspectors sampled licensee submittals for the Reactor Coolant System (RCS) Leakage PI for Unit 1 and Unit 2 for the period from the second quarter of 2014 through the first quarter of 2015. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in NEI 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, IRs, event reports, and NRC integrated inspection reports for the period of April 1, 2014, through March 31, 2015, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's IR database to determine if any problems had been identified with the PI data collected or transmitted for this indicator.

This inspection constituted two reactor coolant system leakage samples as defined in IP 71151-05.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152)

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

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

a. Inspection Scope

As part of the various baseline inspection procedures 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: 1) identification of the problem was complete and accurate; 2) timeliness was commensurate with the safety significance; 3) 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 4) 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 follow-up, 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 IR 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 Semi-Annual 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 1, 2015, through June 30, 2015, 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 semi-annual trend inspection sample as defined in IP 71152-05.

b. Findings

No findings were identified.

.4 Selected Issue Follow-Up Inspection: FLEX Diesel Generators Wired for Incorrect Phase Rotation

a. Inspection Scope

During a review of items entered in the licensee's CAP, the inspectors identified a corrective action item which documented that the diesel generators that were part of the licensee's Diverse and Flexible Coping Strategy (FLEX) had an incorrect phase rotation (IR 2470325). The licensee documented that with this incorrect phase rotation, any components that would have been powered by the FLEX diesel generators that could be adversely impacted by a reverse phase rotation (i.e. motor-operated pumps and valves) would not operate as intended. At the time that the licensee discovered this issue, neither Byron Units 1 nor 2 were required to be in compliance with Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events." However, the licensee had already implemented the FLEX Strategy Guidelines (BFSGs) that directed the use of the FLEX diesel generators for Unit 2. The inspectors reviewed the licensee's corrective actions, the BFSG procedures and procedure revisions, standing orders, and interim guidance.

The inspectors assessed the following attributes while reviewing the licensee's corrective actions associated with the issue:

- the identified problem was documented in the CAP in a complete, accurate, and timely manner;
- operability and reportability issues were evaluated and dispositioned in a timely manner;
- extent of condition, generic implications, and previous occurrences were considered;
- corrective actions were appropriately focused to correct the problem;
- corrective actions were completed in a timely manner commensurate with the safety significance of the issue;
- action taken resulted in the correction of the identified problem;
- operating experience was adequately evaluated for applicability; and
- applicable lessons learned were communicated to appropriate organizations and implemented.

This review constituted one in-depth problem identification and resolution sample as defined in IP 71152-05.

b. Findings

No findings were identified.

.5 Selected Issue Follow-Up Inspection: Control Room Ventilation Controller Reset Issues

a. Inspection Scope

During an observation of Control Room operations during control room ventilation (VC) surveillance BOP VC-5, "Placing the Control Room HVAC System Makeup Filter Train and Recirculation Charcoal Absorber in Operation," the inspectors noted that the 0B VC fan tripped unexpectedly. The associated issue report, IR 2490672, indicated that VC flow controllers 0FIC-VC235 and 0FIC-VC236 had a known condition that required them

to be reset after any calibration work, and therefore, the controller should have already been reset and a fan trip avoided. The reset was not accomplished because changes to work instructions and procedures had not been completely incorporated. The inspectors reviewed past IRs related to VC controller reset issues, TS Limiting Condition for Operation (LCO) 3.7.10 and its basis, 10 CFR 50.72 requirements, as well as current WOs and procedures.

The inspectors assessed the following attributes while reviewing the licensee corrective actions associated with the issue:

- the identified problem was documented in the CAP in a complete, accurate, and timely manner;
- operability and reportability issues were evaluated in a timely manner;
- extent of condition, generic implications, and previous occurrences were considered;
- corrective actions were appropriately focused to correct the problem;
- corrective actions were completed in a timely manner commensurate with the safety significance of the issue; and
- operating experience was adequately evaluated for applicability.

The inspectors determined that this issue represented a performance deficiency of only minor significance because, in accordance with IMC 0612, Appendix E, "Work in Progress Findings," Example 5.b, the issue was discovered prior to returning the equipment to service.

This review constituted one in-depth problem identification and resolution sample as defined in IP 71152–05.

b. Findings

No findings were identified.

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

.1 (Closed) Licensee Event Report (LER) 05000454/2015-002-00: Byron Unit 1, Reactor Trip Resulting from a Phase to Phase Fault on the 1E Main Power Transformer

Byron Station, Unit 1 tripped from full power on March 3, 2015, at 1101 hours, as previously documented in IR 05000454/2015001; 05000455/2015001. An ice formation on the Phase B Bus bar dropped onto the high voltage bushings directly below it, causing a phase-to-phase fault between Phase A and Phase B on the 1E Main Power Transformer (MPT). The event occurred as a result of the physical configuration of the bus bar relative to the MPT bushings. The bus bar, being directly above the MPT bushings, was subject to a phase-to-phase short when ice from the bus bar fell onto the bushings. The event was reported in accordance with 10 CFR 50.73(a)(2)(iv)(A) for any event or condition that resulted in an automatic actuation of any of the systems listed in 10 CFR 50.73(a)(2)(iv)(B). Documents reviewed are listed in the Attachment to this report. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153–05.

4OA5 Other Activities

.1 Operation of an ISFSI at Operating Plants (60855.1)

a. Inspection Scope

(1) Review of Loading and Storage Operations

The inspectors observed and evaluated select licensee loading, processing, and transfer operations of the third canister during the licensee's 2015 dry fuel storage campaign to verify compliance with the applicable certificate of compliance (CoC) conditions, the associated TSSs, and approved ISFSI procedures. Specifically, the inspectors observed: loading and independent verification of fuel assemblies placed into a multi-purpose canister (MPC); movement of the transfer cask (HI-TRAC) from the spent fuel pool to the decontamination area; decontamination and surveying; welding and non-destructive testing of the MPC lid; hydrostatic testing; forced helium dehydration; and restrained vertical transfer operations. The licensee used the Holtec International HI-STORM 100 Cask System for this campaign.

The inspectors reviewed procedures used to perform ISFSI preparation, loading, sealing, transfer, monitoring, and storage activities. The inspectors reviewed applicable heavy loads procedures and inspection documentation to determine compliance with the site's heavy loads program. The inspectors reviewed select documents, in part, after the licensee completed certain loading activities.

The inspectors reviewed the licensee's evaluations associated with fuel characterization and selection for storage. The inspectors reviewed the licensee's evaluation to characterize fuel as intact fuel, damaged fuel, or fuel debris. The licensee did not plan to load any damaged fuel assemblies or fuel debris during this campaign. The inspectors reviewed the campaign cask fuel selection packages to verify that the licensee was loading fuel in accordance with the CoC approved contents.

The inspectors reviewed a number of condition reports and the associated corrective actions since the last ISFSI inspection. The inspectors also reviewed 72.48 screenings and changes to the licensee's 10 CFR 72.212 evaluations since the last ISFSI inspection.

The inspectors performed a walk down of the ISFSI pad to assess the material condition of the pad and the loaded HI-STORM 100 storage casks. The inspectors reviewed the licensee's radiation monitoring program. Additionally, the inspectors performed independent radiation surveys around the ISFSI pad and storage casks.

(2) Review of ISFSI Activities for Determination of No Adverse Impact on Site Operation or Technical Specifications

The inspectors reviewed the licensee's actions to address URI 05000454/2010004-02; 05000455/2010004-02, "Relying on the Use of Friction as a Restraining Force When the HI-TRAC is Placed on Top of the HI-STORM." An unresolved item (URI) was identified by the inspectors regarding regulatory requirements and acceptable analytical methods to demonstrate seismic adequacy during vertical transfer operations during a postulated design basis earthquake event. Vertical transfer operations refer to the condition when a HI-TRAC containing a MPC loaded with spent fuel is resting on a HI-STORM.

Specifically, the inspectors identified a number of concerns pertaining to the licensee's calculations performed to demonstrate that the free-standing (unrestrained) configuration evaluated during vertical transfer operations would not tip-over or excessively slide during a postulated design basis seismic event. The calculation evaluated multiple freestanding bodies responding to the input seismic motion with friction at various contact surfaces acting as resisting forces.

In response to the inspectors' concerns, the licensee decided to abandon the plan to use a free-standing vertical transfer configuration within the fuel handling building and instead provided physical restraint of the systems during the 2010, 2012, and 2015 loading campaigns. The licensee has completed revised calculations that demonstrated a free-standing configuration during vertical transfer operations would not tip-over or excessively slide during a postulated design basis seismic event, with the intent of removing physical restraints during future campaigns. The revised calculations required a new removable grillage platform containing a low friction surface material that supported the base of the HI-STORM in the fuel handling building and a modified mating device that transferred the weight of the HI-TRAC to the HI-STORM.

The inspectors, with the assistance of the Division of Spent Fuel Management (DSFM), reviewed the licensee's revised calculations to the vertical transfer configuration and fuel handling building structure to ensure the stability and structural integrity of an unrestrained stack-up. The results of the dynamic nonlinear time history analysis indicated that the maximum expected rocking angles were less than the minimum acceptable rocking angle with a factor of safety of at least 2.0 and maximum expected sliding distances were less than the minimum clearance distance to the fuel handling building structure and/or adjacent SSCs with a factor of safety of at least 3.0. The evaluations for SSCs required to implement unrestrained vertical transfer operations determined that they remained within code allowables for the design basis loads during a seismic event. As a result, the licensee determined the proposed activity will not impact plant operations, nor does it adversely affect the function of any plant equipment or structure that was used in establishing the plant or ISFSI Design Basis.

Since the licensee delayed their plans to perform free-standing vertical transfer evolutions when the NRC concerns were raised, and the licensee's revised calculations demonstrated dynamic stability of free-standing vertical transfer operations within the fuel handling building, the inspectors determined that the Unresolved Item should be closed.

b. Findings

No violations of NRC requirements were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On July 9, 2015, the inspectors presented the inspection results to Mr. T. Chalmers, Byron Plant Manager, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that any report input documents that were proprietary were properly identified and dispositioned.

.2 Interim Exit Meetings

Interim exits were conducted for:

- The inspection results for the areas of radiological hazard assessment and exposure controls, and occupational ALARA planning and controls with Mr. R. Kearney, Site Vice President, and other members of the licensee's staff on April 17, 2015, and
- The results of the ISFSI operational inspection with Mr. R. Kearney, Site Vice President, and other members of the licensee's staff on May 1, 2015.

The inspectors confirmed that none of the potential report input discussed was considered proprietary. Proprietary material received during the inspection was returned to the licensee.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

R. Kearney, Site Vice President
T. Chalmers, Plant Manager,
A. Corrigan, Regulatory Assurance
L. Zurawski, Regulatory Assurance
D. Johnson, Reactor Services Manager
B. Barton, Radiation Protection Manager
K. Greenlee, Radiation Protection
J. Reed, Radiation Protection Technical Support Manager
J. Armstrong, Security
S. Kerr, Training
Z. Cox, Nuclear Oversight
B. Jacobs, Project Management
P. O'Neill, Maintenance
G. Voss, Design Engineering
T. Barren, Dry Cask Storage Campaign Coordinator
D. Peterson, Dry Cask Storage Program Manager
E. Hernandez, Operations
R. Lawlor, Operations
C. Keller, Engineering
T. Rice, System Engineering

U.S. Nuclear Regulatory Commission

E. Duncan, Chief, Reactor Projects Branch 3
J. Ellegood, Acting Chief, Reactor Projects Branch 3
J. McGhee, Senior Resident Inspector
C. Zoia, Acting Senior Resident Inspector
J. Draper, Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

05000454/2015-002-00	LER	Byron Unit 1, Reactor Trip Resulting from a Phase to Phase Fault on the 1E Main Power Transformer (Section 4OA3)
05000454/2010004-02 05000455/2010004-02	URI	Relying on the Use of Friction as a Restraining Force When the HI-TRAC Is Placed on Top of the HI-STORM (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.

Section 1R01

- NRC Operating Experience Smart Sample (OpESS) 2012/01; High Wind Generated Missile Hazards
- IR 2482049; NRC Identified Housekeeping Items
- MA-AA-716-026; Revision 12; Station Housekeeping/Material Condition Program
- BAP 400-28; Revision 1; Byron Station Housekeeping/Material Condition Program
- OBOA ENV-1; Revision 114; Adverse Weather Conditions, Unit 0
- WC-AA-107; Revision 15; Seasonal Readiness
- EN-MW-402-0005; Revision 2; Extreme Heat Implementation Plan
- NO-AA-220-1009-F-SUM; Revision 0; Summer Readiness MDA Template
- LTR File 1.10.0101; May 15, 2015; Certification of 2015 Summer Readiness
- IR 2512008; 1VD13Y Grille Damage
- IR 2483041; 2VD02CB Failure to Start
- IR 2477398; VV Grating Extremely Dirty
- IR 2512014; 0VV01CA Tripping on Startup
- IR 2489517; Byron Summer Readiness Maintenance Review Results
- IR 2490281; MPFF on DG Ventilation
- IR 1661128; 1A DG Room Temperature is Erratic
- IR 2397420; Outside Air Damper on 2A DG Room has Failed Open
- IR 2416984; Failed PMT: 2B DG Room Exhaust Fan

Section 1R04

- IR 1344231; Inactive Boric Acid Leak on 1CS004A
- BOP CS-M1A, Revision 3; Containment Spray System Train "A" Valve Lineup
- BOP CS-M1C, Revision 2; Containment Spray System Train "C" Valve Lineup
- BOP CS-E1A, Revision 1; Containment Spray System Train "A" Electrical Lineup
- M-46, Sheet 1A, Revision AN; Diagram of Containment Spray
- M-46, Sheet 1B, Revision AR; Diagram of Containment Spray
- M-46, Sheet 1C, Revision AL; Diagram of Containment Spray
- M-122, Revision BC; Diagram of Auxiliary Feedwater
- BOP AF-M2A, Revision 7; Auxiliary Feedwater System Train "A" Valve Lineup
- BOP AF-E2A, Revision 1; Auxiliary Feedwater Train "A" Electrical Lineup
- BOP RH-E2, Revision 1; Unit Two Residual Heat Removal System Electrical Lineup
- BOP RH-E2B, Revision 3; Unit Two Train B Residual Heat Removal System Electrical Lineup
- BOP RH-M2, Revision 12; Unit Two Residual Heat Removal System Valve Lineup
- BOP RH-M2B, Revision 10; Unit Two Train B Residual Heat Removal System Valve Lineup
- BOP RH-M2C, Revision 1; Unit Two Residual Heat Removal System Valve Lineup

Section 1R05

- Pre-Fire Plan FZ 11.5A-2, 11.5B-2, Revision 1; Aux Bldg 414'-0" Elev Unit 2 Electrical Penetration Area
- Pre-Fire Plan FZ 11.6-1, Revision 1; Aux Bldg 426'-0" Elev Division 12, Elec Penetration Area
- Pre-Fire Plan FZ 11.6-2, Revision 1; Aux Bldg 426'-0" Elev Division 22, Elec Penetration Area
- IR 639849; NOS ID: Potential Fire Seal Discrepancy EPN 38413
- Pre-Fire Plan FZ 11.5A-1, 11.5B-1, Revision 1; Aux Bldg 414'-0" Elev Unit 1 Electrical Penetration Area
- IR 2511880; Missing Fireproofing on Plate Girder – FZ 11.5A-2
- Byron Station Fire Drill Assessment for Scenario 15-01, June 6, 2015
- Fire Drill Scenario 15-01, EMD Tool Crib Fire, January 7, 2015
- IR 2511443; 4.0 Critique Crew-D Unannounced Fire Drill

Section 1R11

- TQ-AA-155-F05, Revision 2; Simulator Evaluation Form – CREW D for LORT Cycle 15-3
- TQ-AA-155Revision 4; Conduct of Simulator Training and Evaluation
- TQ-AA-150, Revision 11; Operator Training Programs

Section 1R12

- IR 1503294; 2AR11J No Pulses Received
- Maintenance Rule System Basis Document; AR System – AR01, June 1, 2015
- IR 1540507; 1RT-AR026 Loss of Pulses
- IR 1197462; Loss of Communications All U1 Steam Line Rad Monitors
- IR 1203000; Received No Pulses Received Alarm for 0AR-061
- IR 1241709; 1AR22J Failed “No Pulses Received”
- IR 2505818; RMS Loop 1 Communications Failure
- IR 1695835; Unexpected Alarm – No Pulses Received on 2AR23J
- IR 1693370; 0AR57J Monitor Communication Failure
- IR 1680550; 0AR63J Loss of Communications
- IR 1652082; 2RT-AR026 Failed “No Pulses Received”
- ER-AA-310-1007, Revision 4; Maintenance Rule – Periodic (a)(3) Assessment
- Byron Station Maintenance Rule Periodic Assessment #12; March 31, 2014
- Byron Station Maintenance Rule Expert Panel Meeting Notes; January 22, 2104
- (a)(2) Determination for Function PS-02; January 22, 2014
- IR 2514705; (a)(3) Assessment Report Discrepancy

Section 1R13

- OP-AA-108-117, Revision 4; Protected Equipment Program
- 0BOA ELEC-1 with Interim Change 15-0-002 included for Degraded Switchyard Voltage During Unit 2 Single SAT Operation for SAT 242-1 (EC 401329 results)
- Byron Station’s Plan of the Day (POD) for April 21, 2015
- Byron Station’s Plan of the Day (POD) for May 11, 2015
- Protected Equipment Tracking Log; June 7, 2015

Section 1R15

- ECR 418446; Applicability of EC 401577- 1A SX Pump Cubicle Cooler Inspection
- EC 401577; Revision 0; SX Pump Operability with a Single Cooler Coil
- E6000-3001, Revision I; Cubicle Cooler Model SRCC43A4 5-Row Coil
- BYR10-012, Revision 0; Air to Water Cubicle Cooler Heat Exchanger Tube Plugging Evaluation
- VA-100, Revision 5; ESF Pump Cubicle Energy Calculation
- IR 2481531; 1AF018A Leaking By
- EC 383308, Revision 2; Small Voids in 2A & 2B SX to AF Suction Piping
- EC 384393, Revision 0; Review of Voided Pipe Between AF006 and AF017
- Clearance 124966; 2AF01PB-2B AF Work Window Boundary Report 05/19/2015
- 1BOSR 7.5.4-4, Revision 18; Unit 1 Diesel Driven AFW Pump Monthly Surveillance
- BAR 2-3-D6, Revision 5, AF Pump DO Day Tank Level Low Alarm
- IR 2491258; 2PA55J Trip Lights Lit Causing Delay of SAT Outage
- BAR 2-20-E5, Revision 3; SAT 242-1 Loss of Phase
- BAR 2-20-E6, Revision 3; SAT 242-2 Loss of Phase
- BAR 2-20-A1, Revision 10; Loss of Offsite Power

Section 1R18

- IR 2476140; Gland Water Leakage Increased Upstream of 1WG022C – 1C FW Pp
- M-57, Sheet 1B, Revision AG; Diagram of Gland Water
- EC 401655, Revision 1; Add Connection Downstream of 1WG022C to Line 1WG12CA-1/4"
- WO 1750706; Leak Upstream of 1WG022C

Section 1R19

- IR 2481637; Conditional Release of Pressure Switch for 0PSL-FP044
- WO 1651495; Perform 18 Mo Insp of FP Pump Diesel Engine in Support
- BIP 2500-159, Revision 1; Calibration of Fire Pump Diesel Overspeed Trip
- IR 2479948; 0B FP Pump Overspeed Trip Test
- WO 1698483; Perform 2Y PM on Diesel Driven Fire Pump
- 0BOSR 10.b.6-1, Revision 17; Diesel Fire Pump Monthly Surveillance
- BOP FP-5, Revision 17; Manual Startup and Shutdown of the Diesel Driven Fire Pump
- BOP FP-7, Revision 9; Test Mode Startup and Shutdown of the Diesel Driven Fire Pump
- WO 1805522; 1RH01PB Group A IST Requirements for Residual Heat Removal
- 1BOSR 5.5.8.RH.5-2a, Revision 6; Unit One Group A Inservice Testing Requirements for Residual Heat Removal Pump 1RH01PB
- 1BOSR 0.5-2.SI.1-2, Revision 8; Unit One 1SI8821B, 1SI8812B, 1SI8804B and 1SI8920 Stroke Test
- IR 2489023; Torque Readings High on 1SI8812B
- BHP 4200-116, Revision 19; Diagnostic Testing and Inspection of Motor Operated Valves
- WO 1733606; MOV PM, Actuator Inspection, Diagnostic Testing
- MOV PVT Interval Performance Review for 1SI8812B; 4/23/15
- MIDACALC Results for 1SI8812B; 3/18/15

- IR 2506940; 1B AF Pump Oil Leak – Required Shutdown
- WO 1834987; 1B AF Pump Oil Leak – Required Shutdown
- 450-B50090, Revision 7; Pump Lube System Schematic
- WO 1827455; 1B AF Pump Surv
- 1BOSR 7.5.4-2, Revision 1; Unit One Diesel Driven Auxiliary Feedwater Pump Monthly Surveillance
- WO 1819226-01; 2RH01PA Group A IST Requirements for Residual Heat Removal Pump
- WO 1752346-01; Unit 2 (RH-2-1) ASME Section XI Pressure Test

Section 1R22

- WO 1798546; 1SI01PA Group A IST Requirements for Safety Injection Pump
- 1BOSR 5.5.8.SI.5-1a, Revision 1; Unit One Group A Inservice Testing (IST) Requirements for Safety Injection Pump 1SI01PA
- BOP SI-1, Revision 15; Safety Injection System Startup
- 2BOSR 4.13.1-1, Revision 30; Unit Two Reactor Coolant System Water Inventory Balance Surveillance Computer Calculation
- IR 2500329; Exceeded U2 RCS Leakrate Deviation Action Level III & II
- IR 2500035; 2LT-0112 Requires Calibration
- IR 2498201; U2 RCS Leakrate
- ER-AP-331-1003, Revision 7; RCS Leakage Monitoring and Action Plan
- IR 2497373; Action Deviation Level 3 for RCS Leakrate
- IR 2499599; Exceeded U2 RCS Leakrate Deviation Action Level III
- IR 2496992; Active Leak or Reactor Coolant with Boric Acid Buildup Found
- 1BOSR 5.5.8.SX.5-1c, Revision 6; Comprehensive IST Requirements for the SX Pump 1SX01PA and Unit 1 SX Pumps Discharge Check Valves
- WO 1813075; 1SX01PA Comprehensive IST REQ for Essential Service Water PU
- ER-AA-425, Revision 1; Implementation of the Technical Specification Surveillance Frequency Control Program
- ER-AA-425-1001, Revision 1; Surveillance Test Interval (STI) Evaluation Form
- ER-AA-425-1002, Revision 1; Engineering Evaluation of Proposed Surveillance Test Interval Changes
- STI BY-14-002, Revision 0; Revise the RCP Bus Undervoltage/Underfrequency Quarterly Surveillance frequency from Quarterly (92D) to Semi-Annual (184D)
- NEI-04-10, Revision 1; Risk-Informed Method for Control of Surveillance Frequencies
- WO 1783414; Reactor Coolant Pump Bus Underfrequency Surv
- WO 1783413; Reactor Coolant Pump Bus Undervoltage Surveillance
- 2BOSR 3.1.9-1, Revision 5; Unit Two Reactor Coolant Pump Bus Underfrequency Semi-Annual Surveillance
- 2BOSR 3.1.9-2, Revision 4; Unit Two Reactor Coolant Pump Bus Undervoltage Semi-Annual Surveillance

Section 1EP6

- EP-AA-112-100-F-01, Revision U; Shift Emergency Director Checklist
- EP-AA-1002, Addendum 3, Revision 0; Emergency Action Levels for Byron Station
- NEI 99-02, Revision 7; Regulatory Assessment Performance Indicator Guideline

Section 2RS1

- RP-AA-460, Revision 26; Controls for High and Locked High-Radiation Areas
- RP-AA-460-001, Revision 5; Controls for Very-High Radiation Areas
- RP-AA-460-002, Revision 2; Additional High-Radiation Exposure Control
- RP-AA-376, Revision 8; Radiological Postings, Labeling and Markings
- RP-AA-376-1001, Revision 11; Radiological Posting, Labeling, and Marking Standard
- AR 15002832; NOS ID: Rad Practices Do Not Meet RP Management Expectations

Section 2RS2

- B1R19; Radiation Protection Refueling Outage Report; dated Spring 2014
- B2R18; Radiation Protection Refueling Outage Report; dated Fall 2014
- Byron Generating Station 2015 – 2019 Dose Excellence Plan; Revision 0
- RP-AA-400, Revision 11; ALARA Program
- RP-AA-400-1001, Revision 4; Establishing Collective Radiation Exposure Annual Business Plan Goals
- RP-AA-400-1002, Revision 1; Dose Equalization
- RP-AA-400-1006, Revision 4; Outage Exposure Estimating and Tracking
- RP-AA-401, Revision 19; Operational ALARA Planning and Controls
- RP-AA-401-1001, Revision 5; Dose Reporting Guidance
- RP-AA-401-1002, Revision 6; Radiological Risk Management
- AR 1533875; Potential Trend in ALARA Performance
- AR 2442093; Procedure Familiarization of RP-AA-400
- Radiation Work Permit and Associated ALARA files; RWP 10015400; (B2R18) Rx Head Penetration Six Repairs
- Radiation Work Permit and Associated ALARA files; RWP 10015280; (B1R19) Rx Head: Disassemble/Reassemble – All Activities
- Radiation Work Permit and Associated ALARA files; RWP 1015281; (B1R19) Rx Nozzle Covers: All Activities
- Radiation Work Permit and Associated ALARA files; RWP 10015284; (B1R19) Rx Head and Upper Internals Move and Rx Flange Inspection

Section 4OA1

- IR 2460585; Deviation Action Level I per ESOMS on U2 RCS
- IR 1688768; U-1 RCS Leak Rate Has Increased Above The Baseline
- IR 2463823; U2 Deviation Action Level II Exceeded
- IR 2401878; U-1 Exceeded Deviation Action Level I
- ER-AA-310-1005, Revision 7, Attachment 2; (a)(1) Determination Issue 1610517
- ER-AA-310-1005, Revision 7, Attachment 2; (a)(1) Determination Issues 1687240 & 2443549
- IR 1499413; MRFF for U2 SU FW PP Occurred on 03/20/2013
- IR 1498784; R3 U2 S/U FW AOP Did Not Develop Pressure
- IR 1668008; Switch Out of Tolerance
- IR 2481584; Need to Submit FAQ for December 2014 Downpower

Section 4OA2

- IR 2470325; FLEX Diesel Generators (0FX01KA, 0FX01KB, 0FX01KC, 0FX01KD)
- Standing Order 15-006, Revision 0; FLEX Generators Interim Actions to Adjust Phase Rotation

- 0BFSG-5, Revision 0; Initial Assessment and FLEX Equipment Staging Unit 0
- 0BFSG-5, Revision 1; Initial Assessment and FLEX Equipment Staging Unit 0
- 2BFSG-5, Revision 0; Initial Assessment and FLEX Equipment Staging Unit 2
- 2BFSG-5, Revision 1; Initial Assessment and FLEX Equipment Staging Unit 2
- IR 2518498; Aggregate Review Needed for Byron Oil Sample Results
- IR 2519773; High Wear Levels in 1B DG #2 Starting Air Compressor
- IR 2519777; High Wear Levels in 2A DG #1 Starting Air Compressor
- IR 2519785; High Wear Levels in 2B DG #1 Air Compressor
- IR 2519932; Adverse Trend for DG Starting Air Compressors
- IR 2510376; Visible Wear Metal in 1B DG Starting Air Compressor A Oil
- IR 2490023; Oil Analysis Trend for 1A Aux FW Pp (Non-emergent)
- IR 2222893; High Wear Particulate Count in the 1AF01PB Pump Oil
- IR 1549596; Elevated WPC in 2A AF Pump Bearing Oil Sample (Non-emergent)
- IR 1559222; Follow Up from 2A AF Pump Bearing Oil Sample (Non-emergent)
- IR 2490021; Oil Analysis Trend 2A Aux FW Pp (Non-emergent)
- IR 1487772; 2B AF Diesel Driven PTO Lube Oil Trending Results Elevated
- IR 1490450; Create WR to Change 2B AF Pump PTO Oil
- IR 1507194; 2B AF Diesel PTO Lube Oil WPC Trending Results Elevated
- IR 1545125; 2B AF Diesel PTO Lube Oil Sample WPC Results Elevated
- IR 1551212; Elevated Particulate in 2AF01PB Engine Oil (Non Emergent)
- IR 1616493; 2B AF Pump PTO Oil Trend
- IR 1645262; Continued Oil Trending of 2AF01PB PTO
- IR 2467428; 2B AF Pp PTO Oil Trend
- IR 2484796; 2B AF PTO Bearing Oil Trend
- IR 2486270; NOS ID: Acceptance of Abnormal 2B AF PTO Oil Results
- IR 1536816; 1B CC Pump Outer Pump Oil Color Is Getting Darker
- IR 1556325; Cloudy Oil in the Outboard Bearing Oiler on 1B CC Pump
- IR 1568475; 1B CC Pump Outboard Oil Bubbler Cloudy
- IR 1630599; Confirmatory Oil Sample Needed for 1CC01PB (R3)
- IR 1536818; 2A CC Pump Outer Pump Oil Color Is Getting Darker
- IR 1668631; Mislabeled Oil Samples for 2A CC Pump
- IR 2484387; 2B Component Cooling Pump Oil Results
- IR 2499112; Dark Oil Sample from 2CC01PB-OPB
- IR 2509865; Ops Focus – 2A RH Window Risk with 2B CC Pump Degraded
- IR 2520590; NRC Identified: Latest Rev of 0BOL 3.7 Inaccurate
- IR 2503255; 0LL019E Trickle Charge Light Not Illuminating
- IR 2503254; 1LL048E Trickle Charge Light Not Illuminating
- IR 2502334; 0LL099E Trickle Charge Light Not Illuminating
- IR 2496140; Nut Loose on Handwheel
- IR 2496162; Difference in Insulation Between 0A and 0B VC Chillers
- IR 2496160; Difference Between 0A and 0B VC Chillers
- IR 2496166; Partially Dented Fins on 1B CS Pump Cubicle Cooler
- IR 2496164; Debris in WF Screens
- IR 2502654; Unused Fitting Inside Support Beam
- IR 2502658; Hose and Material Staged with Expired Date on Sign
- IR 2502656; Graffiti on Unit 2 VP WO Tank
- IR 2502661; Screw Missing on MCC 233X6
- IR 2502663; Conduit Pulled Out of Nut

- IR 2490672; 0VC03CB Tripped on System PMT – Controller Failed to Reset
- IR 0881912; 0VC03CA Makeup Fan Tripped on Low Flow
- IR 0903750; 0FIC-VC235 Controller Glitch
- IR 1135814; 0B VC Makeup Fan Tripped – Suspect Damper Issue
- IR 1135816; 0VC03CB Makeup Fan Trip
- IR 1136075; STS 535 (0FIC-VC235) Need Plan to Ensure Auto Control
- IR 1480445; 0VC08Y Did Not Reposition When 0VC03CB Was Started
- IR 1480493; Resetting STS Controllers After Current Loop is Broken

Section 4OA3

- LER 05000454 2015-002-00; Byron Unit 1 Reactor Trip Resulting from a Phase to Phase Fault on the 1E Main Power Transformer, May 1, 2015
- PORC Meeting 15-009; Byron RCR for 3/3/15 U1 Rx Trip, April 30, 2015
- RCR for IR 2462764; 1E Main Power Transformer (MPT) Trip, April 20, 2015

Section 4OA5

- 2014 Annual Radiological Effluent Release Report
- 50.59 Applicability Review; HI-STORM/HI-TRAC Unrestrained Stackup Supports; Revision 1
- 50.59 Evaluation; Issuance of Dry Cask MPC Lift Sling and MPC Lid Rigging Procurement Specifications; Revision 0
- 50.59 Evaluation; Unrestrained HI-TRAC/HI-STORM stack-up configuration in the Fuel Handling Building; Revision 0
- 72.212 Evaluations Report, Revision 004
- 72.48 Evaluation; HI-STORM/HI-TRAC Unrestrained Stack-up Supports; Revision 00
- 72.48 Screening; HI-STORM/HI-TRAC Unrestrained Stack-up Supports; Revision 00
- 8MC-GTAW, Revision 15; Welding Procedure Specification
- BFP FH-62, Revision 0; HI-STORM/MPC Delivery
- BFP FH-63, Revision 4; HI-STORM Inspection
- BFP FH-69, Revision 15; HI-TRAC Movement within the Fuel Building
- BFP FH-70, Revision 17; HI-TRAC Loading Operations
- BFP FH-71, Revision 21; MPC Processing
- BFP FH-74, Revision 3; MPC Reflood
- BFP FH-79, Revision 6; MPC Alternate Cooling
- BFP FH-82, Revision 3; MPC Unloading Operations
- BFP FH-83, Revision 5; Spent Fuel Cask Contingency Actions
- BFP FH-85, Revision 3; Dry Cask Storage Special Lifting Device Annual Testing
- BFP FH-86, Revision 1; Annual ISFSI Concrete Pad and HI-STORM Cask Integrity Inspection
- BYR14-170, Revision 0; Fuel Selection Packages BYR-0019 through BYR-0024 for Byron 2015 ISFSI
- Byron 2015 Spent Fuel Loading Campaign Readiness Assessment
- Byron Nuclear Oversight Management Directed Readiness Assessment – 2015 ISFSI Readiness; dated January 23, 2015
- Byron Report of 10 CFR 72.48 Screenings and Evaluations since April 2013
- Byron Report of ISFSI CRs since April, 2013
- Byron Station Unrestrained Calculations Differences; dated April 27, 2015
- Calculation BRW-13-0043-S, Revision 0; Evaluation of Unrestrained Freestanding Stack-up at Byron/Braidwood

- EC 390048, Revision 000; HI-STORM/HI-TRAC Unrestrained Stack-up Supports
- ECR 0000411444; Need Engineering Evaluation and Approval to Use Alternate Concrete Report Materials that are Not Pre-Approved Per NSWP-S-02; September 17, 2013
- ECR 0000415233; Grout Break Not Meeting Criteria on ISFSI Pad; August 26, 2014
- GQP 9.2, Revision 8; High Temperature Liquid Penetrant Examination and Acceptance Standards for Welds, Base Materials, and Cladding
- GQP 9.6, Revision 1; Visual Examination of Welds
- H2-MON-002, Revision 5; Hydrogen Monitoring for Holtec Canisters
- HI-2146082, Revision 0; HI-STORM CoC Radiation Protection Program Dose Rate Limits
- ISFSI FLS Training Matrix Report
- ISFSI Non-Destructive Evaluation Training Documentation
- ISFSI Reactor Services Training Matrix Report
- ISFSI Supervision Training Matrix Report
- ISFSI Welder Qualification Documentation
- PI-CNSTER-OP-EXE-H-01, Revision 9; Closure Welding of Holtec Multi-Purpose Canisters at Exelon Facilities
- RP-AA-401, Revision 18; ALARA Plan for Dry Cask Activities with Added Controls – (6 Casks)
- RP-BY-304-1001, Revision 3; HI-TRAC Radiation Survey
- RP-BY-304-1002, Revision 4; HI-STORM Radiation Survey
- RP-BY-304-1003, Revision 2; Independent Spent Fuel Storage Installation Radiation Survey
- WO 1513005; Lift Yoke Inspection
- WO 1513506; MPC Lift Cleat Inspection
- WO 1517046; HI-TRAC Trunnion Inspection
- WO 1659955; HI-STORM Lift Bracket Inspection
- WO 1690585; Fuel Handling Building Crane Yearly Mechanical Inspection
- WO 1775382; HI-TRAC Visual Inspection for Compliance
- WO 1806945-01; Fuel Handling Building Crane Monthly Mechanical Inspection

LIST OF ACRONYMS USED

AC	Alternating Current
ADAMS	Agencywide Document Access Management System
ALARA	As-Low-As-Is-Reasonably-Achievable
ARM	Area Radiation Monitor
BFSG	Flex Strategy Guidelines
CAM	Continuous Air Monitor
CAP	Corrective Action Program
CFR	<i>Code of Federal Regulations</i>
CoC	Certificate of Compliance
DC	Direct Current
DG	Diesel Generator
DSFM	Division of Spent Fuel Management
FLEX	Flexible Coping Strategy
IP	Inspection Procedure
IPEEE	Individual Plant Examination of External Events
IR	Inspection Report
IR	Issue Report
ISFSI	Independent Spent Fuel Storage Installation
ISI	Inservice Inspection
IST	Inservice Testing
LCO	Limiting Condition for Operation
LER	Licensee Event Report
LLC	Limited Liability Corporation
MPC	Multi-Purpose Canister
MPT	Main Power Transformer
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
PARS	Publicly Available Records System
PI	Performance Indicator
PI&R	Problem Identification and Resolution
PM	Planned or Preventative Maintenance
RCS	Reactor Coolant System
RP	Radiation Protection
RPR	Radiological Problem Reports
RPS	Radiation Protection Specialist
RPS	Reactor Protection System
SAT	System Auxiliary Transformer
SSC	System, Structure, and Component
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
VC	Control Room Ventilation
VD	Diesel Generator HVAC
VV	Miscellaneous Auxiliary HVAC
WO	Work Order

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

SUBJECT: BYRON STATION, UNITS 1 AND 2, NRC INTEGRATED INSPECTION REPORT NOS.
05000454/2015002; 05000455/2015002; AND 07200068/2015001

Dear Mr. Hanson:

On June 30, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Byron Station, Units 1 and 2. The enclosed report documents the results of this inspection, which were discussed on July 9, 2015, with the Byron Plant Manager, Mr. T. Chalmers, and other members of your staff.

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

The NRC inspectors did not identify any findings or violations of more than minor significance.

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 (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/

Eric R. Duncan, Chief
Branch 3
Division of Reactor Projects

Docket Nos. 50-454; 50-455; 72-68
License Nos. NPF-37; NPF-66

Enclosure: Inspection Report 05000454/2015002;
05000455/2015002; 07200068/2015001
w/Attachment: Supplemental Information

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Letter to Mr. Bryan C. Hanson from Mr. Eric R. Duncan dated July 22, 2015.

SUBJECT: BYRON STATION, UNITS 1 AND 2, NRC INTEGRATED INSPECTION REPORT
NOS. 05000454/2015002; 05000455/2015002; AND 07200068/2015001

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