UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352

January 22, 2016

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

SUBJECT: QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2
NRC INTEGRATED INSPECTION REPORT 05000254/2015004;
05000265/2015004

Dear Mr. Hanson:

On December 31, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Quad Cities Nuclear Power Station, Units 1 and 2. The enclosed report documents the results of this inspection, which were discussed on January 5, 2016, with Mr. S. Darin and other members of your staff.

Based on the results of this inspection, the NRC inspectors did not identify any findings or violations of more than minor significance. One licensee-identified violation is listed in Section 4OA7 of this report.

If you contest the subject or severity of this non-cited violation, 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 a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission–Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532–4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001; and the Resident Inspector Office at the Quad Cities Nuclear Power 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 Inspector at the Quad Cities Nuclear Power Station.

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/

Karla Stoedter, Chief
Branch 1
Division of Reactor Projects

Docket Nos. 50–254; 50–265
License Nos. DPR–29; DPR–30

Enclosure:
IR 05000254/2015004; 05000265/2015004

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50–254; 50–265
License Nos:	DPR–29; DPR–30
Report No:	05000254/2015004; 05000265/2015004
Licensee:	Exelon Generation Company, LLC
Facility:	Quad Cities Nuclear Power Station, Units 1 and 2
Location:	Cordova, IL
Dates:	October 1 through December 31, 2015
Inspectors:	R. Murray, Senior Resident Inspector K. Carrington, Resident Inspector R. Baker, Operations Engineer M. Garza, Emergency Preparedness Inspector M. Jeffers, Reactor Inspector R. Ng, Project Engineer, Branch 1 B. Palagi, Senior Operations Engineer N. Valos, Senior Reactor Analyst C. Mathews, Illinois Emergency Management Agency
Approved by:	K. Stoedter, Chief Branch 1 Division of Reactor Projects

Enclosure

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SUMMARY

Inspection Report 05000254/2015004, 05000265/2015004; 10/01/2015–12/31/2015;
Quad Cities Nuclear Power Station, Units 1 & 2; Routine Integrated Inspection Report.

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. 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" Revision 5, dated February 2014.

NRC-Identified and Self-Revealed Findings

No findings were identified during this inspection.

Licensee-Identified Violations

Violations of very low safety significance that were identified by the licensee have been reviewed by the NRC. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. One licensee-identified violation is documented in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 1

The unit operated at or near full power for the entire inspection period, with the exception of planned power reductions for turbine testing and control rod pattern adjustments, in addition to power changes as requested by the transmission system operator.

Unit 2

The unit operated at or near full power for the entire inspection period, with the exception of planned power reductions for turbine testing and control rod pattern adjustments, in addition to power changes as requested by the transmission system operator.

1. REACTOR SAFETY

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

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:

- Safe shutdown make-up pump system during Unit 1 reactor core isolation cooling (RCIC) system planned maintenance;
- Unit 1/2 emergency diesel generator (EDG) during planned maintenance on Unit 2 EDG; and
- Unit 2 RCIC system during Unit 2 high pressure coolant injection (HPCI) system planned 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, Updated Final Safety Analysis Report (UFSAR), Technical Specification (TS) requirements, outstanding work orders (WOs), condition reports, 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 corrective action program

(CAP) with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted three partial system walkdown samples as defined in Inspection Procedure (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 (FZ) 11.1.3, Reactor Building, Elevation 554', Unit 1 HPCI, HPCI Access Tunnel and Southwest Corner Room 2B Core Spray;
- FZ 11.1.4, Unit 2 Reactor Building, Elevation 554', HPCI Pump Room;
- FZ 11.3.1, Unit 2 Reactor Building, Elevation 554', Southwest Corner Room 2B Core Spray and RCIC; and
- FZ 1.1.1.4, Unit 1 Reactor Building, Elevation 647'.

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 four quarterly fire protection inspection samples as defined in IP 71111.05–05.

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 November 10 and 11, 2015, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification training and testing. 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 December 14, 2015, the inspectors observed operators in the Unit 1 control room conduct power changes as requested by the transmission system operator. Operators reduced power to approximately 87 percent thermal power and subsequently returned the plant to full power during the same shift. This was an activity that required heightened awareness or 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;
- 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

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.

.3 Biennial Written and Annual Operating Test Results (71111.11A)

a. Inspection Scope

The inspectors reviewed the overall pass/fail results of the Annual Operating Test, as administered by the licensee from October 5, 2015, through November 13, 2015, and required by 10 CFR 55.59(a). The results were compared to the thresholds established in Inspection Manual Chapter 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process," to assess the overall adequacy of the licensee's Licensed Operator Requalification Training (LORT) program to meet the requirements of 10 CFR 55.59.

This inspection constituted one annual licensed operator requalification inspection sample as defined in IP 71111.11A.

b. Findings

No findings were identified.

.4 Biennial Review (71111.11B)

a. Inspection Scope

The following inspection activities were conducted during the week of October 5, 2015, to assess: (1) the effectiveness and adequacy of the facility licensee's implementation and maintenance of its Systems Approach to Training (SAT) based LORT program implemented to satisfy the requirements of 10 CFR 55.59; (2) conformance with the requirements of 10 CFR 55.46 for use of a plant reference simulator to conduct operator licensing examinations and for satisfying experience requirements; and (3) conformance with the operator license conditions specified in 10 CFR 55.53. Documents reviewed are listed in the Attachment to this report.

- Problem Identification and Resolution (10 CFR 55.59(c); SAT Element 5 as Defined in 10 CFR 55.4): The inspectors evaluated the licensee's ability to assess the effectiveness of its LORT program and their ability to implement appropriate corrective actions to maintain its LORT Program up to date. The inspectors reviewed documents related to the plant's operating history and associated responses (e.g., Plant Issues Matrix and Plant Performance Review reports;

recent examination and inspection reports; and Licensee Event Reports). The inspectors reviewed the use of feedback from operators, instructors, and supervisors, as well as the use of feedback from plant events and industry experience information. The inspectors reviewed the licensee's quality assurance oversight activities, including licensee training department self-assessment reports.

- Licensee Requalification Examinations (10 CFR 55.59(c); SAT Element 4 as Defined in 10 CFR 55.4): The inspectors reviewed the licensee's program for development and administration of the LORT biennial written examination and annual operating tests to assess the licensee's ability to develop and administer examinations that were acceptable for meeting the requirements of 10 CFR 55.59(a).

  - The inspectors reviewed the methodology used to construct the examination including content, level of difficulty, and general quality of the examination/ test materials. The inspectors also assessed the level of examination material duplication from week-to-week of the operating tests conducted during 2015. The inspectors reviewed the written examination given during the inspection week and associated answer keys to check for consistency and accuracy.

  - The inspectors observed the administration of the annual operating test to assess the licensee's effectiveness in conducting the examinations, including the conduct of pre-examination briefings, evaluations of individual operator and crew performance, and post-examination analysis. The inspectors evaluated the performance of one crew Group 1 and Group 2, in parallel with the facility evaluators during four dynamic simulator scenarios, and evaluated various licensed crew members concurrently with facility evaluators during the administration of several job performance measures.

  - The inspectors assessed the adequacy and effectiveness of the remedial training conducted since the last requalification examination and the training planned for the current examination cycle to ensure that the licensee addressed weaknesses in licensed operator or crew performance identified during training and plant operations. The inspectors reviewed remedial training procedures and individual remedial training plans.

- Conformance with Examination Security Requirements (10 CFR 55.49): The inspectors conducted an assessment of the licensee's processes related to examination physical security and integrity (e.g., predictability and bias) to verify compliance with 10 CFR 55.49, "Integrity of Examinations and Tests." The inspectors reviewed the facility licensee's examination security procedure, and observed the implementation of physical security controls (e.g., access restrictions and simulator input/output (I/O) controls) and integrity measures (e.g., security agreements, sampling criteria, bank use, and test item repetition) throughout the inspection period.

- Conformance with Simulator Requirements (10 CFR 55.46): The inspectors assessed the adequacy of the licensee's simulation facility (simulator) for use in operator licensing examinations and for satisfying experience requirements.

The inspectors reviewed a sample of simulator performance test records (e.g., transient tests, malfunction tests, scenario based tests, post-event tests, steady state tests, and core performance tests), simulator discrepancies, and the process for ensuring continued assurance of simulator fidelity in accordance with 10 CFR 55.46. The inspectors reviewed and evaluated the discrepancy corrective action process to ensure that simulator fidelity was being maintained. Open simulator discrepancies were reviewed for importance relative to the impact on 10 CFR 55.45 and 55.59 operator actions, as well as on nuclear and thermal hydraulic operating characteristics.

- Conformance with Operator License Conditions (10 CFR 55.53): The inspectors reviewed the facility licensee's program for maintaining active operator licenses to assess compliance with 10 CFR 55.53 (e) and (f). The inspectors reviewed the procedural guidance and the process for tracking on-shift hours for licensed operators, and which control room positions were granted watch-standing credit for maintaining active operator licenses. Additionally, medical records for 10 licensed operators were reviewed for compliance with 10 CFR 55.53(l).

This inspection constitutes one biennial licensed operator requalification inspection sample as defined in IP 71111.11B.

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 systems:

- service water and radwaste radiation effluent monitors; and
- Unit 1 4kV 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 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:

- Work week profile 15–43–06 (10/19/2015): Unit 2 online risk yellow during planned Unit 2 EDG 2-year maintenance window and Unit 2 125 Vdc maintenance;
- Work week profile 15–45–08 (11/02/2015): Unit 2 online risk yellow during planned testing and maintenance on Unit 2 HPCI system;
- Emergent work on Unit 2 EDG circulating oil pump on 11/24/2015;
- Emergent work on Unit 1/2 EDG fuel oil transfer pump on 12/02/2015; and
- Work week profile 15–53–03 (12/28/2015): Both units yellow risk during 1/2 EDG planned maintenance with impending winter storm warning.

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 five 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:

- Issue Report (IR) 2419635: Unit 1 EDG Fuel Oil Transfer Pump Did Not Meet In-service Testing Requirements;
- IR 2571995: 1–3999–700, HPCI Room Cooler Service Water Supply Header Check Valve Failed;
- IR 2575346: Unit 2 EDG Invalid High Temperature Alarm; and
- IR 2591780: Unit 2 EDG Unplanned Limiting Condition for Operation [due to circulating oil pump failure].

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 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.

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:

- QCMMS 6600–03: Unit 2 EDG overspeed testing following 2-year preventive maintenance activities;
- QCOS 5740–09: Unit 2 HPCI room cooler testing following planned maintenance; and
- QCOS 2300–07: Unit 2 HPCI system comprehensive performance testing following planned 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. Documents reviewed are listed in the Attachment to this report.

This inspection constituted three 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 activity 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:

- QCOS 0203–07: Unit 2 Online Automatic Blowdown Logic Test (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 USAR, 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 one routine surveillance testing sample as defined in IP 71111.22, Sections–02 and–05.

b. Findings

No findings were identified.

1EP2 Alert and Notification System Evaluation (71114.02)

.1 Alert and Notification System Evaluation

a. Inspection Scope

The inspectors reviewed documents and conducted discussions with Emergency Preparedness (EP) staff and management regarding the operation, maintenance, and periodic testing of the back-up and primary Alert and Notification System (ANS) in Quad Cities Nuclear Power Station's plume pathway Emergency Planning Zone. The

inspectors reviewed monthly trend reports and the daily and monthly operability records from July 2013 through June 2015. Information gathered during document reviews and interviews was used to determine whether the ANS equipment was maintained and tested in accordance with Emergency Plan commitments and procedures. Documents reviewed are listed in the Attachment to this report.

This ANS inspection constituted one sample as defined in IP 71114.02–06.

b. Findings

No findings were identified.

1EP3 Emergency Response Organization Staffing and Augmentation System (71114.03)

.1 Emergency Response Organization Staffing and Augmentation System

a. Inspection Scope

The inspectors reviewed and discussed with plant EP management and staff the emergency plan commitments and procedures that addressed the primary and alternate methods of initiating Emergency Response Organization (ERO) on-shift and augmentation staffing levels. The inspectors reviewed reports and a sample of CAP records of unannounced, off-hour augmentation call-in tests, which were conducted between July 2013 and June 2015, to determine the adequacy of the drill critiques and associated corrective actions. The inspectors also reviewed a sample of the EP training records of 18 ERO personnel, who were assigned to key and support positions, to determine the status of their training as it related to their assigned ERO positions. Documents reviewed are listed in the Attachment to this report.

This ERO augmentation testing inspection constituted one sample as defined in IP 71114.03–06.

b. Findings

No findings were identified.

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

a. Inspection Scope

The regional inspectors performed an in-office review of the latest revisions to the Emergency Plan, Emergency Action Levels (EAL), and EAL Bases document to determine if these changes decreased the effectiveness of the Emergency Plan. The inspectors also performed a review of the licensee's 10 CFR 50.54(q) change process and Emergency Plan change documentation to ensure proper implementation for maintaining Emergency Plan integrity.

The NRC review was not documented in a Safety Evaluation Report and did not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection. The specific documents reviewed during this inspection are listed in the Attachment to this report.

This EAL and Emergency Plan Change inspection constituted one sample as defined in Inspection Procedure 71114.04-06.

b. Findings

Introduction: An Unresolved Item (URI) was identified because additional information is required to determine whether a performance deficiency that is more than minor exists, and if a violation of 10 CFR 50.54(q)(2), which requires a licensee to develop and maintain an emergency plan that meets the requirements of 10 CFR 50.47(b), and 10 CFR Part 50, Appendix E, had occurred. The licensee identified an issue of concern when the Quad Cities General Abnormal procedures (QGAs) were revised with a new value for Minimum Steam Cooling Reactor Pressure Vessel Water Level (MSCRWL) but the associated EALs that use the MSCRWL value as an EAL threshold were not revised.

Description: On March 12, 2015, the QGAs were revised with a new value for MSCRWL. However, the site EALs that should use the revised QGA value as an EAL threshold value were not revised. The licensee scheduled the revisions of the QGAs to support implementation of changes that were associated with the diverse and flexible coping strategies (FLEX) implementation and the site's transition to new Optima2 fuel. Both of the changes were scheduled to be implemented in March 2015 during the Quad Cities Unit 1 Refueling Outage as part of a revision package. Because of the new fuel, the MSCRWL value changed from -166 inches to -190 inches. On April 28, 2015, the licensee identified the EALs were not changed to correspond with the new MSCRWL values incorporated in the QGAs. The specific EALs that are affected are MG2 and FG1, which are used to determine if a General Emergency should be declared based on the MSCRWL value. Since the value remained at -166 inches, the licensee concluded that the issue could have potentially caused, under certain conditions, the site to declare a General Emergency earlier than needed and issue an unnecessary Protective Action Recommendation (PAR) to the public. Following identification of the issue, the licensee implemented the appropriate changes to EALs MG2 and FG1 on April 30, 2015.

Since there was a discrepancy between the QGAs and the EAL threshold values that could have affected the timely and accurate classification of a General Emergency, a potential performance deficiency exists. However, in order to determine if the performance deficiency is more than minor significance, additional information is needed.

The URI was identified pending additional information and inspection follow-up. Specifically, additional information is required to: understand if the discrepancy in the MSCRWL values documented in the QGAs and the EALs would have led to an overclassification of a General Emergency and issuance of an unnecessary PAR; understand if there are events that could be postulated where the -166 inches could be exceeded without reaching the -190 inches; and understand the timeline from when the fuel was transitioned to Optima2 until the discovery of this issue. This information will assist the inspectors to determine if the performance deficiency is more than minor and if a violation of 10 CFR 50.54(q)(2) occurred. **(URI 05000254/2015004-01; 05000265/2015004-01; EAL Threshold Values Were Not Revised)**

1EP5 Maintenance of Emergency Preparedness (71114.05)

.1 Maintenance of Emergency Preparedness

a. Inspection Scope

The inspectors reviewed a sample of Nuclear Oversight audits of the Quad Cities Station's EP Program completed between July 2013 and June 2015 to determine if the independent assessments met the requirements of 10 CFR 50.54(t). The inspectors also reviewed samples of CAP records associated with the 2014 Biennial Exercise, as well as various EP drills conducted between July 2013 and June 2015, in order to determine whether the licensee fulfilled drill commitments and to evaluate the licensee's efforts to identify and resolve identified issues. The inspectors reviewed a sample of EP items and corrective actions related to the facility's EP Program and activities to determine whether corrective actions were completed in accordance with the site's CAP. Documents reviewed are listed in the Attachment to this report.

This correction of EP weaknesses and deficiencies inspection constituted one sample as defined in IP 71114.05–06.

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 October 28, 2015, 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 Center 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 corrective action program. 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.

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 Mitigating Systems Performance Index—Emergency Alternating Current Power System

a. Inspection Scope

The inspectors sampled licensee submittals for the Mitigating Systems Performance Index (MSPI)—Emergency Alternating Current Power System performance indicator (PI) for Quad Cities Generating Station, Units 1 and 2, for the period from the 4th quarter 2014 through the 3rd quarter 2015. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee's operator narrative logs, MSPI derivation reports, and IRs for the time period of October 1, 2014, through September 30, 2015, to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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, and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two MSPI emergency alternating current power system samples as defined in IP 71151–05.

b. Findings

No findings were identified.

.2 Mitigating Systems Performance Index—High Pressure Injection Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI—High Pressure Injection Systems PI for Quad Cities Generating Station, Units 1 and 2, for the period from the 4th quarter 2014 through the third quarter 2015. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee's operator narrative logs, IRs, and MSPI derivation report for the time period of October 1, 2014, through September 30, 2015, to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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, and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two MSPI high pressure injection system samples as defined in IP 71151–05.

b. Findings

No findings were identified.

.3 Mitigating Systems Performance Index—Heat Removal System

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI—Heat Removal System PI for Quad Cities Generating Station, Units 1 and 2, for the period from the 4th quarter 2014 through the 3rd quarter 2015. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee's operator narrative logs, IRs, and, MSPI derivation reports for the time period of October 1, 2014, through September 30, 2015, to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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, and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two MSPI heat removal system samples as defined in IP 71151–05.

b. Findings

No findings were identified.

.4 Mitigating Systems Performance Index—Residual Heat Removal System

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI—Residual Heat Removal System PI for Quad Cities Generating Station, Units 1 and 2, for the period from the 4th quarter 2014 through the 3rd quarter 2015. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee's operator narrative logs, IRs, and MSPI derivation reports for the period of October 1, 2014, through September 30, 2015, to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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, and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two MSPI residual heat removal system samples as defined in IP 71151–05.

b. Findings

No findings were identified.

.5 Mitigating Systems Performance Index—Cooling Water Systems

a. Inspection Scope

The inspectors sampled licensee submittals for the MSPI—Cooling Water Systems PI for Quad Cities Generating Station, Units 1 and 2, for the period from the 4th quarter 2014 through the 3rd quarter 2015. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, were used. The inspectors reviewed the licensee's operator narrative logs, IRs, and MSPI derivation reports for the period of October 1, 2014, through September 30, 2015, to validate the accuracy of the submittals. The inspectors reviewed the MSPI component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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, and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two MSPI cooling water system samples as defined in IP 71151–05.

b. Findings

No findings were identified.

.6 Drill/Exercise Performance

a. Inspection Scope

The inspectors sampled licensee submittals for the Drill/Exercise Performance (DEP) PI for the period from the 3rd quarter 2014 through the 2nd quarter 2015. Performance Indicator definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, were used to determine the accuracy of the PI data reported during those periods. The inspectors reviewed the licensee's records associated with the PI to verify that the licensee accurately reported the DEP indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the PI; assessments of PI opportunities during pre-designated control room simulator training sessions; performance during the 2014 biennial exercise; and performance during other drills. Specific documents reviewed are listed in the Attachment to this report.

This inspection constitutes one DEP sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.7 Emergency Response Organization Drill Participation

a. Inspection Scope

The inspectors sampled licensee submittals for the ERO Drill Participation PI for the period from the 3rd quarter 2014 through the 2nd quarter 2015. The PI data reported during those periods, PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, were used to determine the accuracy. The inspectors reviewed the licensee's records associated with the PI to verify that the licensee accurately reported the indicator in accordance with relevant procedures and NEI guidance. Specifically, the inspectors reviewed licensee records and processes, including procedural guidance on assessing opportunities for the PI; performance during the 2014 biennial exercise; and other drills; and revisions of the roster of personnel assigned to key ERO positions. Specific documents reviewed are listed in the Attachment to this report.

This inspection constitutes one ERO drill participation sample as defined in IP 71151-05.

b. Findings

No findings were identified.

.8 Alert and Notification System

a. Inspection Scope

The inspectors sampled licensee submittals for the ANS PI for the period from the 3rd quarter 2014 through the 2nd quarter 2015. The PI data reported during those periods, PI definitions and guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, were used to determine the accuracy. The inspectors reviewed the licensee's records associated with the PI to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI Guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the PI and results of periodic ANS operability tests. Specific documents reviewed are listed in the Attachment to this report.

This inspection constitutes one ANS sample 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 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: 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 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 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 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 April 2015 through October 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 Annual Follow-up of Selected Issues: 1A Residual Heat Removal Pump Breaker Closing Springs not Charged

a. Inspection Scope

During a review of items entered in the licensee's CAP, the inspectors recognized a corrective action item documenting that the 1A residual heat removal (RHR) pump breaker was found without its closing springs charged (IR 2559343) on August 21, 2015. Investigation by the licensee determined that the breaker close fuse block was not fully seated, which resulted in the loss of continuity to the spring motor and the closing springs not being charged. Previously that same day, the licensee had conducted maintenance on the 1A RHR pump breaker. Following the maintenance, the breaker was returned to service and the RHR pump was run for post-maintenance testing, which was completed satisfactorily. It is suspected that because the close fuse block was not fully seated, vibration of the breaker during its operation caused the fuse block to lose continuity and prevent the close springs from charging. This condition was later identified by an equipment operator during his routine shift rounds.

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

The licensee determined that the procedure for racking-in 4160 Volt breakers, QCOS 6500–07, was not adequate to ensure that fuse blocks were fully seated and installed properly. The enforcement aspects of this issue are discussed in Section 4OA7.

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

.1 (Closed) Licensee Event Report 05000254/2015–009: Loss of Control Room Emergency Ventilation System Due to Air Filtration Unit Damper Failure

a. Inspection Scope

On July 27, 2015, the licensee was conducting testing of the 'B' control room emergency ventilation (CREV) system, when the 'B' air filtration unit (AFU) booster fan discharge damper failed to fully close following a trip of the 'B' AFU booster fan. The CREV system has two redundant AFU booster fans. The AFU booster fan discharge dampers are designed to close when their associated fan is not running so that the running AFU booster fan can supply the required air supply to the CREV system. Because the rated airflow could not be assured with the 'B' AFU booster fan discharge damper stuck partially open, the CREV system was declared inoperable. Over time, a slight misalignment of the damper blade caused binding in the damper. The licensee planned corrective actions to replace the 'B' AFU discharge damper with a new damper design. The licensee also planned to replace the 'A' AFU discharge damper following the replacement of the 'B' damper. Documents reviewed are listed in the Attachment to this report. This licensee event report (LER) is closed.

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

b. Findings

No findings were identified.

4OA5 Other Activities

.1 World Association of Nuclear Operators Peer Report Review

a. Inspection Scope

The inspectors reviewed the final report for the World Association of Nuclear Operators (WANO) peer evaluation conducted in February 2015. The inspectors reviewed the

report to ensure that issues identified were consistent with the NRC perspectives of licensee performance and to verify if any significant safety issues were identified that required further NRC follow-up.

b. Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On January 5, 2016, the inspectors presented the inspection results to Mr. S. Darin, 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:

- On October 9, 2015, the inspectors presented the results of the biennial licensed operator requalification program area assessment with Mr. M. DeVault, Plant Training Director, 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.
- On November 17, 2015, the inspectors presented the 2015 licensed operator annual operator test results with Mr. J. Banks, LORT Examination Author, via telephone. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.
- On October 8, 2015, the inspectors presented the results of the EP program inspection with Mr. S. Darin, 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.
- On December 15, 2015, the inspectors presented the results of the annual review of EAL and Emergency Plan changes with Mr. Gary Buckley, Emergency Preparedness Manager, via telephone. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

4OA7 Licensee-Identified Violations

The following violation of very low significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as an NCV.

- Title 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” requires, in part, that activities affecting quality be prescribed by documented procedures of a type appropriate to the circumstances and be accomplished in accordance with these procedures. The licensee established

procedure QCOP 6500–07, “Racking in a 4160 V Horizontal Type AMHG or G25 Circuit Breaker,” as the implementing procedure for installing fuse blocks in safety-related breakers, an activity affecting quality.

Contrary to the above, prior to August 21, 2015, the licensee failed to have a procedure for installing fuse blocks in safety-related breakers. Specifically, QCOP 3500–07 failed to ensure that fuse blocks for safety-related 4160 Volt breakers were properly installed to ensure the breakers would perform their function. The procedure did not provide the operators guidance to ensure the fuse blocks were fully seated, and on August 21, 2015, following post-maintenance testing for the Unit 1A RHR pump breaker and the system being declared operable, an equipment operator on rounds identified that the breaker closing springs were not charged. The licensee determined that the breaker fuse blocks were not fully seated following breaker maintenance.

The licensee captured this issue in the CAP as IR 2550801. The inspectors evaluated the finding under Inspection Manual Chapter 0609, Appendix A, “The SDP [Significance Determination Process] for Findings At-Power,” issued June 19, 2012. The inspectors answered “No” to questions A1–A4 in Exhibit 2, “Mitigating Systems Screening Questions,” and determined the finding was of very low safety significance (Green).

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

S. Darin, Site Vice President
K. Ohr, Plant Manager
W. Beck, Regulatory Assurance Manager
T. Bell, Engineering Director
D. Blair, Nuclear Oversight
G. Buckley, Emergency Preparedness Manager
D. Collins, Radiation Protection Manager
H. Dodd, Operations Director
R. Hight, Maintenance Manager
T. Petersen, Regulatory Assurance Lead
T. Scott, Work Management Director
T. Wojick, Nuclear Oversight Manager
J. Wooldridge, Chemistry Manager

NRC

R. Murray, Senior Resident Inspector
K. Carrington, Resident Inspector

Illinois Emergency Management Agency (IEMA)

C. Mathews, IEMA

Attachment

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000254/2015004-01; 05000265/2015004-01	URI	EAL Threshold Values Were Not Revised (Section 1EP4)

Closed

05000254/2015–009	LER	Loss of Control Room Emergency Ventilation System Due to Air Filtration Unit Damper Failure (Section 4OA3.1)

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.

1R04 Equipment Alignment

Drawing M–70	Diagram of Safe Shutdown Make-up Pump System	AC
IR 2571543	NRC Identified: Light Ballast in Contact with Insulation	10/15/2015
IR 2571545	NRC Identified: Corrosion on SSMP Line	10/15/2015
IR 2571549	NRC Identified: Grease Hardening Around Valve Stem	10/15/2015
IR 2571552	NRC Identified: Residue on Gland Follower	10/15/2015
IR 2571553	NRC Identified: Valve Gland Follower Has Surface Rust	10/15/2015
IR 2571556	NRC Identified: Valve Stud Nuts/Follower Corroded	10/15/2015
IR 2571558	NRC Identified: ELP 22C Fixture Off-target	10/15/2015
QCOP 2900–01	Safe Shutdown Makeup Pump System Preparation for Standby Operation	36
QOM 0–2900–01	Safe Shutdown Makeup Pump System Checklist	9
QCOP 6600–04	Diesel Generator 1/2 Preparation for Standby Operation	32
QCOP 1300–01	RCIC System Preparation for Standby Operation	44
QOM 2–1300–01	RCIC Valves on Rack 2202–58 Checklist (RCIC Room)	4
QOM 2–1300–02	Unit 2 RCIC Valve Checklist (RCIC Room)	11
QOM 2–1300–03	Unit 2 RCIC Valve Checklist (Not in RCIC Room)	11
QOM 2–6900–12	250 Vdc Reactor Building MCC 2B Breaker Checklist	7
Drawing M–89	Diagram of Reactor Core Isolation Cooling RCIC Piping, Sheet 1	BE

1R05 Fire Protection

FZ 11.1.3	Quad Cities Generating Station Pre-fire Plan—Unit 1 RB 554'0" Elev. HPCI & HPCI Access Tunnel	February 2013
IR 2578908	NRC Concern: Gaps on Fire Door 191	10/29/2015
IR 2581876	HPCI Side Interlock Door Damage	11/04/2015

QDC–4100–M0691	Combustible Loading Calculation for the Power Block, SBO Building, and Cribhouse	5
FZ 11.1.4	Quad Cities Generating Station Pre-fire Plan—Unit 2 RB 544'–0" Elev. HPCI Pump Room	July 2009
WO 1518675–01	Secondary Containment Preventative Maintenance Program	03/04/2013
WO 1620420–01	Secondary Containment Preventative Maintenance Program	03/02/2014
WO 1716381–01	Secondary Containment Preventative Maintenance Program	03/26/2015
FZ 11.3.1	Unit 2 RB 544'–0" Elev. SW Corner Room, 2B Core Spray	October 2013
FZ 1.1.1.4	Unit 1 RB 647'–6" Elev. Third Floor	October 2013
Fire Impairment Permit FPI–3686	ELP 45F–2B Core Spray Room	01/21/2015
IR 2440331	ECP 45F Has Obstruction of Light Path	01/21/2015
IR 2542949	App R Light Pack 45F in Unit 2 RCIC Has Low Electrolyte	08/18/2015
WO 180758–01	MM Modify Scaffold LT/Q-2031 Obstructs Light Path of ELP 45F	10/20/2015
	Design Consideration Summary for Engineering Change EC 386311	000
Drawing 4E–2200	Station Emergency Lighting Battery Operated Light Units	L
MA–QC–723–350–F–003	Attachment 1 (Group 3) Quarterly Appendix R Emergency Lighting Battery Pack Inspection & Test Date Sheet	4
MA–QC–723–350–F–015	Attachment 1 (Group 15) Quarterly Appendix R Emergency Lighting Battery Pack Inspection & Test Date Sheet	4
MC–QC–716–026–1001	Seismic Housekeeping	3

1R11 Licensed Operator Requalification Program

LOCT–1051–OCORE	Licensed Operator Training/Requalification	18
LOCT–1073–ECORE	Licensed Operator Training/Requalification	17
OP–AA–101–111–1001	Operations Standards and Expectations	14
OP–AA–105–111	Administrative Process for NRC Licensee and Medical Requirements	18
OP–AA–105–102	NRC Active License Maintenance	11
OP–AA–105–102, Attachment 2	NRC Active License Maintenance	April 2015
OP–AA–105–102	NRC Active License Maintenance	11
OP–QC–103–102–1002	Quad Cities Strategies for Successful Transient Mitigation	15
OP–QC–102–106	Operator Response Time Program at Quad Cities	5
TQ–AA–150	Operator Training Programs	12

TQ–AA–155	Conduct of Simulator Training and Evaluations	5
TQ–AA–155–F01	Critical Task Supplemental Form-Crew D/Group 1, Scenario 00–04	1
TQ–AA–155–F04	Simulator Evaluation Form—Individual	4
TQ–AA–155–F05	Simulator Evaluation Form—Crew	4
TQ–AA–155–J030	Simulator Evaluation Job Aid	0
TQ–AA–155–J040	Simulator Examination Briefing Job Aid	0
TQ–AA–155–J050	Evaluated Scenario Grading Flow Chart Job Aid	0
TQ–AA–155–F106	Simulator Evaluation—Shift Manager Competency Standards	0
TQ–AA–155–F108	Simulator Evaluation—Individual Competency Standards	0
TQ–AA–155–F109	Simulator Evaluation—Crew Competency Standards	0
TQ–AA–201	Examination Security and Administration	16
TQ–AA–306	Simulator Management	7
TQ–AA–306	Quad Cities Simulator Core Model Evaluation for Q1C24; Attachment 8; BWR Core Performance Testing	04/28/2015
TQ–AA–306–F–06	Quad Cities Simulator Core Model Evaluation for Q1C24; BWR Critical Conditions for Cold Startup	03/02/2015
TQ–AA–306–F–07	Quad Cities Simulator Core Model Evaluation for Q1C24; BWR Power Coefficient of Reactivity and Control Rod Worth	03/02/2015
TQ–AA–306–F–08	Quad Cities Simulator Core Model Evaluation for Q1C24; BWR Xenon Worth	03/02/2015
TQ–AA–306–F–09	Quad Cities Simulator Core Model Evaluation for Q1C24; BWR Site Specific Shutdown Margin and Reactivity Anomaly Tests	03/25/2015
TQ–AA–306–F–19	Quad Cities Simulator Core Performance Testing Summary for Certified Reactivity Manipulations	04/28/2015
	Quad Cities Simulator Real Time Test; Q1C23	02/17/2015
	Quad Cities Simulator Steady State Test; 100 Percent Power Level; Q1C23	02/21/2015
	Quad Cities Simulator Steady State Test; 75 Percent Power Level; Q1C23	02/21/2015
	Quad Cities Simulator Steady State Test; 44 Percent Power Level; Q1C23	02/21/2015
	Quad Cities Simulator Transient Test; Manual Reactor Trip; TR–1; Q1C23	02/10/2015
	Quad Cities Simulator Transient Test; Simultaneous Trip of All Main Feedwater Pumps; TR–2; Q1C23	02/10/2015

	Quad Cities Simulator Transient Test; Simultaneous Closure of All Main Steam Isolation Valves; TR–3; Q1C23	02/10/2015
	Quad Cities Simulator Transient Test; Simultaneous Trip of All Reactor Recirculation Pumps; TR–4; Q1C23	02/10/2015
	Quad Cities Simulator Transient Test; Trip of a Single Reactor Recirculation Pump; TR–5; Q1C23	02/10/2015
	Quad Cities Simulator Transient Test; Main Turbine Trip (Maximum Power Level Which Does Not Result in a Reactor Trip); TR–6; Q1C23	02/10/2015
	Quad Cities Simulator Transient Test; Maximum Rate Power Ramp; TR–7; Q1C23	02/10/2015
	Quad Cities Simulator Transient Test; Maximum Size Reactor Coolant System Rupture Combined with Loss of Off-Site Power; TR–8; Q1C23	02/10/2015
	Quad Cities Simulator Transient Test; Maximum Size Unisolable Main Steam Line Rupture; TR–9; Q1C23	02/10/2015
	Quad Cities Simulator Transient Test; Simultaneous Closure of All Main Steam Isolation Valves Combined with Single Stuck Open Safety/Relief Valve (Inhibit Actuation of High Pressure ECCS); TR–10; Q1C23	02/10/2015
	Quad Cities Simulator Transient Test; Maximum Design Load Reduction; TR–11; Q1C23	02/10/2015
	Scenario Based Testing Package for 2015 Week 1, Scenario 00–04; Revision 23	09/04/2015
	Scenario Based Testing Package for 2015 Week 1, Scenario 00–09; Revision 25	09/04/2015
	Quad Cities Simulator and Quad Cities Unit 1 and 2 Differences Report; Revision 50	08/18/2015
	List of Open Simulator Work Requests	10/05/2015
	List of Closed Simulator Work Requests	10/05/2015
Simulator Work Request 15176	The AS500OS DFWLC/DRRC Operator Workstation is Causing Issues Requiring Reboot	
IR 1458861	TRNG: INPO CPE Lessons Learned	01/04/2013
IR 1460087	TRNG: Observation Skills GAP Training	01/08/2013
IR 1460361	TRNG: CRC/TACS To Review Corporate ACE 1420633–02	01/09/2013
IR 1469858	TRNG: Review of Significant Training IRS for Last 2 Years	01/31/2013

IR 1469559	NOS ID: TRNG Lesson Plan Objectives Annotated as Biennial	01/31/2013
IR 1622027	TRNG: Simulator Out of Bounds During ILT Scenario	02/16/2014
IR 1483118	TRNG: Quad Cities INPO CPE Preparations Lessons Learned	03/04/2013
IR 1486079	TRNG: Recent OPS Experience PI Declining	03/11/2013
IR 1657027	TRNG: Simulator DFWLC Issue During ILT NRC Exam Administration	05/07/2014
IR 1657451	Potential Trend in Operator Training	05/08/2014
IR 1660893	TRNG: Simulator Program MST Crashed During RPV Flooding	05/16/2014
IR 1665623	TRNG: LORT Student Absent from Training for More Than 1 Cycle	05/29/2014
IR 1665853	TRNG: Process Improvement for Obtaining DEP Data	05/30/2014
IR 1673258	Simulator Test Report Update Missing Completed Real Time Test Results	06/19/2014
IR 1682848	TRNG: Loss of DEP Paperwork for LORT OBE	07/17/2014
IR 1698012	TRNG: Simulator DEP Failure	08/29/2014
IR 2397262	NOS ID: OJT Pre-Job Brief Using Incorrect Guidelines	10/17/2014
IR 2401845–10	Simulator Supervisor to Track RTA Board Simulator Replacement Project Completion	01/30/2015
IR 2403732	NOS ID: OJT Guidelines Not Referenced	10/30/2014
IR 2404669	TRNG: LORT Annual JPM Evaluation Stopped	10/31/2014
IR 2423951	Crew Failure During an Evaluated Simulator Scenario	12/11/2014
IR 2424315	TRNG: CPE Area for Improvement	12/12/2014
IR 2459230	NOS ID: Training Department RED Rating	02/25/2015
IR 2488805	Simulator DFWLC System Locked Up	04/21/2015
IR 2505699	OIO Benchmark: Operations Experience in OPS Training	05/26/2015
IR 2437493–04	2015 Pre-71111.11 Inspection Focused Area Self-Assessment	
SRB 15–1	2015 Simulator Review Board Meeting Minutes	01/20/2015
SRB 15–2	2015 Simulator Review Board Meeting Minutes	02/27/2015
SRB 15–3	2015 Simulator Review Board Meeting Minutes	06/23/2015
SRB 15–4	2015 Simulator Review Board Meeting Minutes	08/20/2015
SRB 15–5	2015 Simulator Review Board Meeting Minutes	09/16/2015
	2015 Week 1 LORT Comprehensive SRO Written Exam	

	2015 Week 1 LORT Comprehensive RO Written Exam	
JPM LP–007–II	Lineup RHR and Fire Protection Systems for Injection to the Reactor	9
JPM LS–035–I–A	Shutdown the U–1 Diesel Generator with Early Trip	10
JPM SRO–002–I	Review APRM Flow Biased High Flux Calibration Check	4
JPM LS–020–I	Shutdown the RCIC System	11
JPM LS–005–I–A	Return Feedwater Regulator to Automatic Operation	2
JPM LP–002–II	Locally Start Up the 1/2 'A' Fire Diesel	22
JPM LP–008–I	Energize the "B" RPS Bus with Normal Power	20
JPM LS–037–I	Bypass the Reactor Building Ventilation Isolation	16
JPM LS–064–I–A	Shutdown HPCI and Place on the Turning Gear (Failure of TG to Engage Automatically)	3
JPM LS–004–I–A	Manual Scram Functional Test with a Channel B Failure	3
JPM LP–095–I	Swapping 125 Vdc Battery Chargers	8
JPM SRO–026–I	Use Procedures Related to Shift Staffing	3
	Simulator Scenario; Operating Exam Nineteen	20
	Simulator Scenario; Operating Exam Two	20
	Simulator Scenario; Operating Exam Nine	25
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1R12 Maintenance Effectiveness

	Maintenance Rule System Basis Document-Process Rad Monitoring (PR1700)	
EP–AA–1006, Addendum 3	Exelon Nuclear Radiological Emergency Plan Annex for Quad Cities Station	1
QCOA 1700–02	High Radiation Detected on Eberline Radiation Monitoring System	10
QGA 400	Radioactivity Release Control	8
QOP 2000–04	Discharging to the River from the River Discharge Tank Using the Waste Surge Pump	43
IR 2580816	NRC Question on Process Rad Mon. Maintenance Rule Scope	11/02/2015
	Maintenance Rule System Basis Document – Unit 1 4kV System	

	Maintenance Rule Failure Classification Form (IR 2545024)	11/4/2015

1R13 Maintenance Risk Assessments and Emergent Work Control

	Work Week Safety Profile 15–43–06 (10/19/2015)	
	Work Week Safety Profile 15–45–08 (11/02/2015)	
	Protected Equipment Log	11/03/2015
	Unit One Supervisor Turnover Checklist	11/03/2015
	Unit Two Supervisor Turnover Checklist	11/03/2015
IR 2591780	Unit 2 EDG Unplanned LCO	11/24/2015
	Work Week Safety Profile 15–48–11 (11/23/2015)	
IR 2593715	Unit 1/2 EDG FOTP U–1 Breaker Tripped During QCOS 6600–09	11/30/2015
QCOS 6600–09	1/2 Diesel Fuel Oil Transfer Pump Auto Transfer Logic Test	7
	Work Week Safety Profile 15–45–08 (12/28/2015)	
OP–AA–108–111–1001	Severe Weather and Natural Disaster Guidelines	13

1R15 Operability Determinations and Functionally Assessments

	Exelon Power Labs Letter to Quad Cities Subject: Failure Analysis of Quad Cities Relief Valve, 1 IN. FNPT INLET, 1-1/2 IN. FNPT	01/09/2015
IR 2419635	Unit 1 EDG Fuel Oil Transfer Pump Did Not Meet IST Requirements	11/17/2014
IR 2563994	Re-evaluate EACE 2419635	10/01/2015
QCOS 6600–03	Diesel Generator Fuel Oil Transfer Pump Monthly Operability	25
Drawing M–22, Sheet 1	Diagram of Service Water Piping	EB
Drawing M–22, Sheet 5	Diagram of Service Water Piping	Z
IR 2571995	1–3999–700, HPCI Room Cooler SW Supply Hdr Ck Vlv, Failed	10/16/2015
IR 2572008	1–3999–701 Will Not Isolate	10/16/2015
Drawing 4E–2350A, sheet 2	Schematic Diagram Engine Control and Generator Excitation Standby Diesel—Generator 2	AQ
Drawing M–69, sheet 3	Diagram of Service Water Piping Diesel Generator Cooling Water	Q
IR 2575516	Problems Encountered During Unit 2 EDG Restoration	10/23/2015
QCAN 2251(2)-10 B-4	1(2) Diesel Engine Temperature High	TIC 3331, Revision 4a

IR 2575346	Unit 2 EDG Invalid High Temperature Alarm	10/22/2015
IR 2591780	Unit 2 EDG Unplanned LCO	11/24/2015
QCOA 6600–15	Emergency Diesel Generator Circulating Oil Pump Failure	7
Drawing M–943	Diagram of Diesel Generator Lube Oil and Intake Air and Exhaust Piping	La
	ESI-EMD Diesel Generator Owners Group Mechanical Subcommittee, Lube Oil Issue and Guidance Document, January 2015	3
	ESI-EMD Owners Group, EDG Standby Condition Paper	6/23/2003

1R19 Post Maintenance Testing

IR 2575346	Unit 2 EDG Invalid High Temperature Alarm	10/22/2015
QCMMS 6600–03	Emergency Diesel Generator Periodic Preventive Maintenance Inspection	31
WO 1734959	Unit 2 DG Trip Alarm Switches Functional Test	10/22/2015
QCOS 2300–27	HPCI Pump Comprehensive/ Performance Test	37
QCOS 5750–09	ECCS Room and DGCWP Cubicle Cooler Monthly Surveillance	36

1R22 Surveillance Testing

IR 2584675	Failure of Oscilloscope to Obtain Time During QCOS 0203–07	11/09/2015
IR 2584743	QCOS 0203–07/ TIC 3334 Retest	11/10/2015
WO 1738953–01	Automatic Blowdown Logic Test	11/09/2015

1EP2 Alert and Notification System Evaluation

EP–AA–1000	Exelon Nuclear Standardized Radiological Emergency Plan—Section E, Notification Methods and Procedures	27
EP–AA–1006	Exelon Nuclear Radiological Emergency Plan Annex For Quad Cities Station	37
EP–AA–1006, Addendum 2	Evacuation Time Estimates for Quad Cities Station Plum Exposure Pathway Emergency Plan Zone	1
EP–AA–1006, Addendum 3	Exelon Nuclear Action Levels for Quad Cities	1
	Offsite Emergency Plan Prompt Alert and Notification System Addendum for the Quad Cities Nuclear Power Station	May 2013

	Emergency Planning for the Quad Cities Area—Important Safety Information for Your Community	2015/2016
	Quad Cities Summary of Extra Work Performed During Maintenance	10/01/2013–10/25/2013
	Quad Cities PNS System Maintenance Report	10/06/2014–12/11/2014
	Exelon Mid-West Siren Status Reports (Daily)	July 2014–June 2015
	Quad Cities Monthly Siren Availability Reports	July 2014–June 2015
IR 2432566	EP—Siren Failure (QC28)	01/05/2015
IR 2446854	EP—Siren Failure (QC36)	02//03/2015
IR 2461671	EP—Siren Failure (QC13)	03/02/2015
IR 2468175	EP—Siren Failure (QC37)	03/13/2015
IR 2472853	EP—Siren Failure (QC03)	03/23/2015
IR 2474085	EP ANS Siren Trend Review for Second Half 2014	03/25/2015
IR 2481333	EP—Siren Failure (QC02)	04/07/2015
IR 2484285	EP—Siren Failure (QC39)	04/13/2015
IR 2496112	EP—Siren Failure (QC11, QC37)	05/05/2015
IR 2512322	EP—Siren Failure (QC30)	06/09/2015
IR 2517945	EP—Siren Failure (QC39)	06/22/2015
IR 2527561	EP—Siren Failure (QC39)	07/13/2015
IR 2528552	EP—Siren Failure (QC36)	07/15/2015
IR 2533243	EP—Siren Failure (QC37)	07/27/2015
IR 2537959	EP—First Half 2015 MW ANS Siren Trend	08/05/2015
IR 2565873	EP—Investigation of Siren Failures (QC37, QC39)	10/05/2015

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EP–AA–111	Emergency Classification and Protective Action Recommendations	19
EP–AA–111–F–06	Quad Cities PAR Flowchart	G
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EP–AA–112–200	TSC Activation and Operation	9
EP–AA–112–300	Operations Support Center Activation and Operation	8
EP–AA–112–400	Emergency Operations Facility Activation and Operation	12
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EP–AA–113	Personnel Protective Actions	12

EP–AA–120	Emergency Plan Administration	17
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EP–AA–1006, Addendum 1	Quad Cities Station On-Shift Staffing Technical Basis	1
	Quad Cities Station Emergency Response Organization Duty Team Roster	08/14/2015
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	ERO Training Records—Initial and Requalification Training (18 ERO Personnel)	
N–AN–EP–B5B–CBT	EP Training, NRC B5B EP Actions CBT	03/17/2015
	2015 Station Off-Hours Drive-In Augmentation and Performance Indicator Drills Findings and Observation Report	09/30/2015
IR 2550293	One Person Filling Two ERO Positions	09/02/2015

1EP4 Emergency Action Level and Emergency Plan Changes

EP-AA-1000;	Exelon Nuclear Standardized Radiological Emergency Plan	24 and 25
EP-AA-1006; Addendum 3	Emergency Action Levels for Quad Cities Station	0
EP-AA-1006	Radiological Emergency Plan Annex for Quad Cities Station	36 and 37
EP-AA-120-1001	10CFR 50.54(q) Change Evaluation	7
EP-AA-120-F-01	EP Document Approval Form	J
IR 2493033	QGAs (EOPs) Were Revised W/O Corresponding EAL Revision	04/29/15
IR 2493688	Preliminary Review of EOPs to EAL Revision	04/30/15
RCR 2493033	QGAs (EOPs) Were Revised Without Corresponding EAL Revision	06/19/2015

1EP5 Maintenance of Emergency Preparedness

EP–AA–120–1006	EP Reportability—Loss of Emergency Preparedness Capabilities	3
EP–AA–1006, Addendum 3	Emergency Action Levels for Quad Cities Station	1
NOSA–QDC–14–03	Quad Cities Station Emergency Preparedness Audit Report	04/02/2014
NOSA–NCS–15–03	Quad Cities Station Emergency Preparedness Audit Report	04/29/2015
QCOP 1800–01	Operation of ARM Indicator/Trip Units	15

	Letters of Agreement for 2015	December 2015
EP–AA–1000	50.54(q) Program Evaluation and Effectiveness Review, Evaluation Number 15-06	27
EP–AA–1006	50.54(q) Program Evaluation and Effectiveness Review, Evaluation Number 14–114	37
	Quad Cities First Quarter Performance Indicator Drills Finding and Observation Report	03/07/2015
	Quad Cities Second Quarter Performance Indicator Drills Finding and Observation Report	06/05/2015
	Quad Cities 2014 HAB NRC Graded Exercise Evaluation Report	08/27/2014
	Quad Cities 2015 Off-Year Exercise Evaluation Report	06/03/2015
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EP–AA–124	Inventories and Surveillances	10
EP–MW–124–1001–F–01	Control Room/Simulator Inventory	First and Second Quarter 2015
EP–MW–124–1001–F–03	Technical Support Center Inventory	First and Second Quarter 2015
EP–MW–124–1001–F–04	Operations Support Center Inventory	First and Second Quarter 2015
IR 1642409	Unit 2 Steam Leak/Fire/Alert Declared	04/03/2014
IR 1642896	ERO Paging System Multiple Repeat Pages	04/03/2014
IR 1644060	4.0 Critique for Event of 4/2/14	04/07/2014
IR 1644778	First Quarter 2014 PI Drill Follow-Up Items	04/08/2014
IR 1653717	Quad Cities 04/02/14 Alert Termination	04/30/2014
IR 1654002	QC EP Alert 04/02/14—ERO Performance Enhancements	04/30/2014
IR 1654003	QC EP Alert 04/02/14—ERO Readiness Enhancements	04/30/2014
IR 1654008	QC EP Alert 04/02/14—Facilities and Equipment	04/30/2014
IR 1654010	QC EP Alert 04/02/14—Procedure Quality Enhancements	04/30/2014
IR 1697891	QDC–EP–2014–HABEX–CAS/SAS/ICP—Failed Obj.	08/29/2014
IR 1697992	QDC–EP–2014–HABEX—Unsat DCS	08/29/2014

IR 1697996	QDC–EP–2014–HABEX–EOF—Unsat DCS	08/29/2014
IR 2407735	3Q14 PI Drill Follow-Up Issues—Procedure Quality Issues	11/06/2014
IR 2430690	EP—Alternative Facility Inventory Issues	12/30/2014
IR 2464672	1Q15 EP Drill Follow-Up Issues: Facilities & Equip	03/06/2015
IR 2464673	1Q15 EP Drill Follow-Up Issues: TSC Facility Eval	03/06/2015
IR 2479257	Revise EP–AA–130 to Remove Inconsistencies	04/03/2015
IR 2511037	QDC–EP–2015–2QPI—Facilities and Equipment	06/05/2015
IR 2522484	QDC–EP–2015–OYE–SIM–OTHER	07/01/2015
IR 2522485	QDC–EP–2015–OYE–TSC–OTHER	07/01/2015
IR 2522490	QDC–EP–2015–OYE–OSC–OTHER	07/01/2015
IR 2522504	QDC–EP–2015–OYE–SITE–PROC	07/01/2015
IR 2522506	QDC–EP–2015–OYE–SITE–F&E	07/01/2015

4OA1 Performance Indicator Verification

QC–MSPI–05	Reactor Oversight Program MSPI Bases Document Quad Cities Generating Station Operator Logs—Third Quarter 2014 through Third Quarter 2015	6b
NEI 99–02	Regulatory Assessment Performance Indicator	7
	MSPI Derivation Report—MSPI Emergency AC Power System, Unavailability Index (UAI)	September 2015
	MSPI Derivation Report—MSPI Emergency AC Power System, Unreliability Index (URI)	September 2015
	MSPI Derivation Report—MSPI High Pressure Injection System, Unavailability Index	September 2015
	MSPI Derivation Report—MSPI High Pressure Injection System, Unreliability Index	September 2015
	MSPI Derivation Report—MSPI Cooling Water System, Unavailability Index	September 2015
	MSPI Derivation Report—MSPI Cooling Water System, Unreliability Index	September 2015
	MSPI Derivation Report—MSPI Residual Heat Removal System, Unavailability Index	September 2015
	MSPI Derivation Report—MSPI Residual Heat Removal System, Unreliability Index	
	MSPI Derivation Report—MSPI Heat Removal System, Unreliability Index	September 2015

	MSPI Derivation Report—MSPI Heat Removal System, Unavailability Index	September 2015
LS–AA–2200	Mitigating System Performance Index Data Acquisition & Reporting	5
EP–AA–125–1001	EP Performance Indicator Guidance	8
EP–AA–125–1002	ERO Performance—Performance Indicators Guidance	11
EP–AA–125–1003	ERO Readiness—Performance Indicators Guidance	10
EP–AA–125–1004	Emergency Response Facilities & Equipment Performance Indicators Guidance	9
	Quad Cities Daily and Monthly Siren Availability Reports	9
LS–AA–2110	Monthly Data Elements for ERO Drill Participation	July 2014–June 2015
LS–AA–2120	Monthly Data Elements for NRC Drill/Exercise Performance	July 2014–June 2015
LS–AA–2130	Monthly Data Elements for NRC ANS Reliability	July 2014–June 2015
	Selected Diesel Generator Run Log	multiple dates
	Selected Operators' Log	multiple dates
	Unit 1 MSPI Derivation Report	September 2015
	Unit 2 MSPI Derivation Report	September 2015
IR 2582127	NRC ID'D: Compensatory ELP Left After Work Complete	11/04/2015

4OA2 Problem Identification and Resolution

IR 2578245	NRC ID: SBGTS Preconditioning Issues	10/28/2015
IR 2583490	Unit 2 FRV Position and Oscillation Issues Bridging Strategy	11/06/2015
EACE 2559343	1A RHR Pump Breaker Closing Spring Not Charged	10/19/2015
EACE 2554939	PCI Relay Failure during Unit 2 Group 2 Logic Testing	10/29/2015
IR 2397082	10 CFR Part 21 Applicability Determination	10/17/2014
IR 2425278	Documentation of 10 CFR Part 21 Notification GEH SC 14–19	12/15/2014
IR 2459142	4kV SBM Position Switch Extent of Condition	02/25/2015
IR 2544974	1D RHR Pump Failed to Start During Surveillance Testing	08/21/2015
IR 2539733	Part 21 51280 Involving NAMCO EA180 Limit Switches	08/10/2015

IR 2535707	Part 21 No 51260 Actuator Shaft Did Not Meet Dimensional	07/31/2015
IR 2511669	Multiple/ Potential Part 21 Allen Bradley Relay Model 700 RTC	06/08/2015

LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access Management System
AFU	Air Filtration Unit
ANS	Alert & Notification System
CAP	Corrective Action Program
CFR	Code of Federal Regulations
CREV	Control Room Emergency Ventilation
DEP	Drill/Exercise Performance
EAL	Emergency Action Level
EC	Engineering Change
EDG	Emergency Diesel Generator
EP	Emergency Preparedness
ERO	Emergency Response Organization
FLEX	Diverse and Flexible Coping Strategies
FZ	Fire Zone
HPCI	High Pressure Coolant Injection
IP	Inspection Procedure
IR	Issue Report
LER	Licensee Event Report
LORT	Licensed Operator Requalification Training
MSCRWL	Minimum Steam Cooling Reactor Pressure Vessel Water Level
MSPI	Mitigating Systems Performance Index
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
PAR	Protection Action Recommendation
PARS	Publicly Available Records System
PI	Performance Indicator
QGA	Quad Cities General Abnormal
RCIC	Reactor Core Isolation Cooling
RHR	Residual Heat Removal
SAT	Systems Approach to Training
SDP	Significance Determination Process
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
WANO	World Association of Nuclear Operators
WO	Work Order

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Sincerely,

/RA/

Karla Stoedter, Chief
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Division of Reactor Projects

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