



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
2443 WARRENVILLE RD. SUITE 210  
LISLE, ILLINOIS 60532-4352

November 2, 2018

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 BIENNIAL  
PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT  
05000254/2018010 AND 05000265/2018010**

Dear Mr. Hanson:

On September 28, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed a Biennial Problem Identification and Resolution Inspection at your Quad Cities Nuclear Power Station, Units 1 and 2. On that date, the NRC inspectors discussed the results of this inspection with Mr. K. Ohr and other members of your staff. The results of this inspection are documented in the enclosed report.

Based on the results of this inspection, no findings or violations were identified.

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

Sincerely,

**/RA/**

Karla Stoedter, Chief  
Branch 2  
Division of Reactor Safety

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

Enclosure:  
IR 05000254/2018010; 05000265/2018010

cc: Distribution via LISTSERV®

Letter to Bryan Hanson from Karla Stoedter dated November 2, 2018

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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: 05000254/2018010; 05000265/2018010

Enterprise Identifier: I-2018-010-0003

Licensee: Exelon Generation Company, LLC

Facility: Quad Cities Nuclear Power Station, Units 1 and 2

Location: Cordova, IL

Dates: September 10 through September 28, 2018

Inspectors: R. Ng, Project Engineer, RIII  
K. Carrington, Resident Inspector, Quad Cities  
J. Neurauter, Senior Reactor Inspector  
V. Petrella, Reactor Inspector  
C. Mathews, Resident Inspector, Illinois Emergency  
Management Agency

Approved by: K. Stoedter, Chief  
Branch 2  
Division of Reactor Safety

Enclosure

## **SUMMARY**

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring licensee's performance by conducting a Problem Identification and Resolution inspection at Quad Cities Nuclear Power Station, Units 1 and 2 in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information. Findings and violations being considered in the NRC's assessment are summarized in the table below.

### **List of Findings and Violations**

No findings or violations were identified.

## INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedure in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

## REACTOR SAFETY

### 71152—Problem Identification and Resolution

The inspectors performed a biennial assessment of the licensee's corrective action program, use of operating experience, self-assessments and audits, and safety conscious work environment. The assessment is documented below.

- (1) Corrective Action Program Effectiveness: Problem Identification, Problem Prioritization and Evaluation, and Corrective Actions – The inspectors reviewed the station's corrective action program and the station's implementation of the program to evaluate its effectiveness in identifying, prioritizing, evaluating, and correcting problems, and to confirm the station was complying with NRC regulations and licensee standards for corrective action programs.
- (2) Operating Experience and Self-Assessments and Audits – The inspectors evaluated the station's processes for use of industry and NRC operating experience information and the effectiveness of the station's audits and self-assessments.
- (3) Safety Conscious Work Environment – The inspectors reviewed the station's programs to establish and maintain a safety-conscious work environment and interviewed station personnel to evaluate the effectiveness of these programs.

## INSPECTION RESULTS

### 71152—Problem Identification and Resolution

Observation — Corrective Action Program Effectiveness	71152—Problem Identification and Resolution
<p>Corrective Action Program: Based on the samples reviewed, the inspectors determined the licensee's Corrective Action Program is generally effective and adequately supported nuclear safety.</p> <p>Effectiveness of Problem Identification: Overall, the licensee was effective at identifying issues at a low threshold and was properly entering them into the Corrective Action Program as required by station procedures. The inspectors determined issues were normally identified and captured in a complete and accurate manner in the Corrective Action Program. The inspectors determined the licensee was generally effective at identifying negative trends that could potentially impact nuclear safety. The inspectors walked down portions of the core</p>	

spray system for both units, the main control room, portions of the radioactive waste system and various security areas and checkpoints. For the areas reviewed, the inspectors did not identify any issues in the area of problem identification.

**Effectiveness of Prioritization and Evaluation of Issues:** The inspectors determined the licensee was effective at prioritizing and evaluating issues in general. Most issues were evaluated appropriately in accordance with station procedures and addressed at levels commensurate with their safety significance. Root, potential, and contributing causes were identified for issues as required and corrective actions to preclude repetition were taken for significant conditions adverse to quality. In most cases, the proper level of consideration was taken for extent of cause and condition, common causes, generic implications, and evaluation of previous occurrences. The inspectors determined the Management Review Committee meetings and the Station Ownership Committee meetings were generally thorough and maintained a high standard for evaluation quality. Members of the two committees were prepared and engaged. The committee members discussed selected issues in sufficient detail and challenged each other regarding proposed conclusions and recommendations.

The inspectors also completed an in-depth review of issue reports, work orders, and cause evaluations for a 5-year time period for the safety-related main steam isolation valves. The purposes of the main steam isolation valves are to prevent coolant inventory loss and protect plant personnel in the event of line breakage outside the isolation valves and to complete the containment boundary after a loss of coolant accident. Two main steam isolation valves are installed on each main steam line, one inside and the other outside the primary containment. The main steam isolation valves are currently a Maintenance Rule (a)(1) system due to slow closure times. The inspectors evaluated the licensee's action plans and corrective action documents and determined the licensee had established a low threshold for entering valve deficiencies into the Corrective Action Program, the issues were generally being appropriately prioritized and evaluated for resolution, and actions were implemented to correct performance issues.

**Effectiveness of Corrective Actions:** The inspectors concluded the licensee was generally effective in developing corrective actions that were appropriately focused to correct the identified problem and to address the root and contributing causes for significant conditions adverse to quality to preclude repetition. The licensee generally completed these corrective actions in a timely manner and in accordance with procedural requirements commensurate with the safety significance of the issue. For NRC-identified issues, the inspectors determined the licensee assigned actions were generally effective and timely.

The inspectors also completed an in-depth reviews for the raw water systems for a 5-year time period. These systems included the service water, fire protection, residual heat removal service water, diesel generator cooling water, and emergency core cooling system sub-systems. The inspectors focused the review on a recent trend in raw water system piping leaks. The inspectors determined the licensee had established a low threshold for entering identified raw water system leakage into the Corrective Action Program, appropriately evaluated the leakage in accordance with licensee procedures, and provided timely corrective actions based on the safety significance of the leakage. In addition, the inspectors determined that opportunistic samples for laboratory analysis were taken and evaluated where microbiologically induced corrosion was a potential cause of leakage. The potential aging aspect of leakage was identified and trended, and in general, proposed raw water piping replacement was being appropriately evaluated and prioritized to mitigate the risk

of RW leakage that could affect overall system operation and/or reliability. No issues were identified during this review.

However, the inspectors did identify a minor violation for the licensee’s evaluation and timeliness of corrective actions for a safety related pipe support nonconformance. This issue is described in the minor violation table below.

Minor Violation — Failure to Evaluate and Correct a Safety Related Pipe Support Nonconformance	71152—Problem Identification and Resolution
<p>Minor Violation: On March 13, 2013, the licensee initiated AR 1487225 to document and evaluate an installed weld nonconformance that attached core spray keep fill line 1–1434–2”–LX to pipe support M–983F–H1. The licensee’s immediate evaluation of the nonconforming weld documented that the pipe support would perform its function of restraining the pipe for all loading conditions. Although the inspectors concluded the immediate evaluation provided a reasonable expectation the pipe support would perform its function of restraining the pipe, the inspectors noted the licensee did not provide a more detailed evaluation of the nonconformance using acceptance guidance per procedure OP–AA–108–115, “Operability Determinations (CM-1).” As a result of the inspectors’ inquiry, the licensee initiated AR 417429, performed a more detailed operability evaluation in EC 625648, and concluded both the piping and pipe support would be able to meet design allowable stress limits with the nonconforming weld configuration. The inspectors reviewed the current design calculation for pipe support M983F–H1, analysis 27.0200.1053.019.03–1 and performed a field walkdown of the installed piping and pipe support configuration for core spray keep fill line 1–1434–2”–LX to verify the adequacy of information provided used in EC 625648.</p>	
<p>In addition, licensee procedure OP–AA–108–115 also required corrective action at the next opportunity, normally the next refueling outage, with a provision for deferral with proper documented justification. As a result of inspector inquiry regarding the timeliness of the corrective action, the licensee initiated AR 4177210 which documented the nonconformance repair was deferred from Q1R23 (March 2015) and Q1R24 (March 2017) without documented justification. The licensee plans to repair the nonconforming weld in the upcoming Q1R25 (March 2019) outage.</p>	
<p>The inspectors determined that this is a minor violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” related to the licensee’s evaluation and timeliness of corrective action for a safety-related pipe support nonconformance.</p>	
<p>Screening: The inspectors used Inspection Manual Chapter 0612, Appendix E, “Examples of Minor Issues,” issued August 11, 2009 and determined that timeliness of corrective action and the lack of a detailed operability evaluation were minor issues. Specifically, the inspectors compared the weld nonconformance to a calculation error in Example 3a of Appendix E and concluded the issue was minor because licensee EC 625648 provided reasonable justification the nonconforming weld configuration will meet design allowable stress for all loading conditions without modification.</p>	
<p>Violation: This failure to comply with 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” constitutes a minor violation that is not subject to enforcement action in accordance with the NRC’s Enforcement Policy.</p>	

Observation — Low Level Correction Action Program Items	71152—Problem Identification and Resolution
<p>During this inspection, the inspectors reviewed a number of condition reports greater than 2 years old. The inspectors selected condition reports in each significance level to determine if the licensee met its own procedure standards and regulatory requirements to address the underlying issues. The inspectors determined these open condition reports were in general low significance issues. Some of the remaining open assignments were action tracking items that complimented the corrective actions for the associated condition reports and some were corrective actions for non-conforming conditions the licensee had compensatory actions in place to alleviate the safety concerns.</p> <p>Although the inspectors did not identify any immediate safety concerns for the issues reviewed, a number of due date extensions were noted by the inspectors. Even though these extensions were not inappropriate, the inspectors were concerned these issues not only could impact the effectiveness of the corrective action program, but also distract the licensee from proactively addressing other significance issues. The licensee acknowledged this issue and is taking actions to address this.</p> <p>Through the review of these open corrective action reports, the inspectors also identified a minor violation associated with the licensee’s failure to prescribe a control room envelope testing procedure appropriate to the circumstance. The details of the issue are described below in the minor violation table.</p>	

Minor Violation — Failure to Prescribe Control Room Envelope Testing Procedure Appropriate to the Circumstance	71152—Problem Identification and Resolution
<p>Minor Violation: In 2009, due to a control room envelope differential pressure test failure at another nuclear station, the licensee completed an engineering change to develop separate correction factors (uncertainty) for different test methods. The engineering change recommended procedure QCOS 5750–16, “Control Room Envelope DP [Differential Pressure] Surveillance,” be revised to perform additional testing using alternate test methods with reduced correction factors. However, the procedure was not revised.</p> <p>In January 2016, during the control room envelope differential pressure test, seven areas failed the acceptance criteria. The licensee utilized the engineering change and performed a temporary procedure change to use a different method with a reduced correction factor for testing. The test was successfully performed and acceptance criteria were met. After the test, the procedure reverted to the old method. A condition report was written regarding this issue and actions were assigned to perform repair of the control room boundary and determine if a more accurate instrument is needed. Although repairs were made to the control room boundary, the licensee has not yet determined if a more accurate instrument is needed. Also, the procedure was not revised to use the alternate methods. The inspectors determined this is a minor violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures and Drawings” for not having procedure appropriate to the circumstances.</p> <p>Screening: The inspectors determined this issue is not more than minor because the existing procedure is not incorrect but missing the steps the licensee could take when unsatisfactory results are obtained.</p>	



Violation: This failure to comply with 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," constitutes a minor violation that is not subject to enforcement action in accordance with the NRC's Enforcement Policy.

Observation—Operating Experience and Self-Assessments and Audits	71152—Problem Identification and Resolution
<p>Operating Experience and Self-Assessments and Audits: Based on the samples reviewed, the inspectors determined that the licensee's performance in each of these areas adequately supported nuclear safety.</p> <p>Overall, the inspectors concluded operating experience was adequately evaluated for applicability and appropriate actions were implemented in an effective and timely manner to address lessons learned as needed. Relevant industry operating experience was disseminated across the various departments and was extensively used at the station for activities such as pre-job briefs and daily meetings. The inspectors also verified the use of operating experience in formal Corrective Action Program products such as root cause evaluations and apparent cause evaluations was appropriate and adequately considered.</p> <p>Based on the results of the inspection, the inspectors determined the licensee was generally effective at performing self-assessments and audits to identify issues and enhancement opportunities at an appropriate low level, properly evaluated those issues, and resolved them commensurate with their safety significance. The self-assessments and audits reviewed were typically accurate and thorough. The inspectors concluded these audits and self-assessments were completed by personnel knowledgeable in the subject area. In many cases, these self-assessments and audits had identified numerous issues that were not previously recognized by the station. These issues were entered into the Corrective Action Program as required by procedures. The inspectors also determined that findings from the Corrective Action Program self-assessment were consistent with the inspectors' assessment.</p>	

Observation—Safety Conscious Work Environment	71152—Problem Identification and Resolution
<p>Safety Conscious Work Environment: The inspectors found no evidence of challenges to the licensee's safety-conscious work environment. Licensee personnel appeared willing to raise nuclear safety concerns through at least one of the several means available.</p> <p>The inspectors held scheduled interviews with 20 individuals from various departments and experience levels to assess their willingness to raise nuclear safety issues. Additionally, the inspectors interviewed other personnel informally during plant walkdown to ascertain their views on the effectiveness of the CA program and their willingness and freedom to raise issues. Information obtained during the interviews indicated an environment was established where licensee personnel felt free to raise nuclear safety issues without fear of retaliation. Licensee personnel were aware of and generally familiar with the Corrective Action Program and other processes, including the Employee Concern Program and the NRC's allegation process, through which concerns could be raised. In addition, a review of the types of issues in the Employee Concern Program indicated licensee staff were appropriately using the Corrective Action Program to identify issues. The inspectors did not observe and were not provided any examples where there was retaliation for the raising of nuclear safety issues. Documents provided to the inspectors regarding surveys and monitoring of the safety culture and safety conscious work environment generally supported the conclusions from the interviews.</p>	

## EXIT MEETINGS AND DEBRIEFS

The inspectors confirmed that proprietary information was controlled to protect from public disclosure. No proprietary information was documented in this report.

- On September 28, 2018, the inspector presented the Biennial Problem Identification and Resolution inspection results to Mr. K. Ohr and other members of the licensee staff.

## DOCUMENTS REVIEWED

### 71152—Problem Identification and Resolution

- AR 0255577; Vendor Slipped on Delivery Date of CCST Heater Element; 09/22/2004
- AR 0299495; Drawings not Updated after Modification; 02/29/2005
- AR 0803455; CCA for NOS ID Potential New AFI in Fire Protection; 08/04/2008
- AR 1279533; CDBI – 4KV Protective Relay Setting Tolerances; 10/21/2011
- AR 1314834; QCIS 1000-11 Procedure Enhancement Required; 01/18/2012
- AR 1348778; PSU QCOS 6600-48, ECCS and EDG Auto Start Test Aborted; 04/01/2012
- AR 1415913; NRC UHS Inspection Walkdown 1B Core Spray Corner Room; 09/20/2002
- AR 1463907; Tech Spec Limits for EDG Freq and Voltage; 01/17/2013
- AR 1487225; Discrepant Support on Core Spray Keep-Fill Line 1-1434-2"-LX; 03/13/2013
- AR 1490792; Broken Lock on U—1 Clean Up Demin Valve Alley Door; 03/21/2013
- AR 1502238; NCV 12-005-01, Clsr Pkg. EDG Freq and Voltage TS Tolerance; 04/15/2013
- AR 1523251; Implement Surveillance Program for Fuel Rack Inserts; 06/10/2013
- AR 1558660; Union Fitting on T2 Deluge Piping Leaking; 09/14/2013
- AR 1562450; OPEX HELB Not Evaluated for Effects of FDWTR Temp Reduction; 09/23/2013
- AR 1571860; U2 - 1A Inboard MSIV Position Indication Lost; 10/14/2013
- AR 1584011; Report Required for PAM Instrumentation Inoperability; 11/12/2013
- AR 1596202; Incomplete Corrective Actions for IR 299495; 12/12/2013
- AR 1649576; PSU-Instrument Air Leak on Target Rock Supply Line; 04/20/2014
- AR 1697974; LL – RHR HX Thermal Performance Testing; 08/29/2014
- AR 2405877; CDBI - Enhancement for Calculation QDC-0203-E-0943; 11/03/2014
- AR 2433389; 1/2 EDG FOTP Unit 1 Breaker Found Tripped; 01/06/2015
- AR 2446141; Common Cause ACE Requested for DC Grounds; 02/02/2015
- AR 2462140; PSU Q1R23 INBD MSIV 1-0203-1B Exceeded TS Limit; 03/02/2015
- AR 2462542; PSU no Light Indication for 1B ERV; 03/03/2015
- AR 2463986; As-Found Settings for 1A MSIV Out of Tolerance; 03/05/2015
- AR 2468300; Thru Wall Leak on Fire Line 2-4110-B-6"-O; 01/16/2015
- AR 2479120; U1 Manual Scram Due to Steam Leak on D-Ring Header; 04/03/2015
- AR 2491955; Both Interlock Doors Open at the Same time for 1/2 Trackway; 04/28/2015
- AR 2520249; HRSS AFU Freon Test Issues; 06/26/2015
- AR 2524574; SPC Assignment for Q1R23 Core Spray Pipe Flaw Issue (IVVI); 07/07/2015
- AR 2533523; Damper 1/2-5741-329 Failed Part Open; 07/27/2015
- AR 2553103; Leak Identified on 2A RHRSW Piping; 09/10/2015
- AR 2560431; MRule A1 DE Required for Unit 0 Control Room HVAC; 09/25/2015
- AR 2566480; PI OO.02, Main Control Room Deficiencies, In Variance; 10/05/2015
- AR 2599291; 2C Outboard MSIV has Dual Indication.; 12/12/2015
- AR 2600611; Operations not in Compliance with OP-QC-103-102-1003; 12/15/2015
- AR 2604268; HRSS Freon Test Issues; 12/23/2015
- AR 2610648; Pin Hole Leak on FP System in Crib House; 01/11/2016
- AR 2610684; Through Wall Pinhole Leak Upstream 1-4199-19; 01/11/2016

- AR 2612976; QCOS 5750-16 Test Methodology Issue; 01/15/2016
- AR 2613268; A CR HVAC did not Meet QCOS 5750-16 Acceptance Criteria; 01/15/2016
- AR 2646482; PSU: ROD 38-03(K-1) Amber Background with Rod at 00; 03/28/2016
- AR 2649224; WATER PRESENT DURING QCTS 0600-05 2A MSIV LLRT; 04/01/2016
- AR 2651171; 2B ASD K1 Key Missing, Needs Duplication; 04/05/2016
- AR 2652334; Editorial Change For QCOP 6100-18 STEP F.3.G.; 04/07/2016
- AR 2652553; CCP: Error In Procedures Opening the 1/2-1901-12 Valve; 04/07/2016
- AR 2653768; Leaking Fire Line U-2 Turbine Floor; 04/11/2016
- AR 2660464; EO ID: Steam Leak On MO 2-2301-5 Packing; 04/25/2016
- AR 2661096; Failure of LHRA Door; 04/26/2016
- AR 2676591; EP - MEDICAL/HP DRILL ISSUE; 06/01/2016
- AR 2679905; EO ID - Light Bulb Out on Local MOV Control Station; 06/10/2016
- AR 2682980; QDC EP 2Q16 PI Drill Management Issue; 06/17/2016
- AR 2682985; QDC EP 2Q16 PI Drill TSC DC Failure; 06/17/2016
- AR 2682987; QDC EP 2Q16 PI Drill SIM DC Failure; 06/17/2016
- AR 2682988; QDC EP 2Q16 PI Drill Other Issues; 06/17/2016
- AR 2686706; Removed RV Failed As Found Test; 06/28/2016
- AR 2687087; OPEX Review – Dresden U-3 HPCI Aux Oil Pump Fire; 06/29/2016
- AR 2688728; Procedure Enhancement - QCAN 901(2)-8 E-11; 07/03/2016
- AR 2689621; 2016 Supply Procedure Adherence CISA - Procurement QUAD; 07/06/2016
- AR 2691486; EP-Field Team Satellite Phone Issues; 07/11/2016
- AR 2694815; Security – 3rd Quarter Corporate G&O; 07/20/2016
- AR 2695402; Through Wall Leak on 1-4199-6 Getting Worse; 07/21/2016
- AR 2703233; Foreign Material Found in Autopsied TR SRV Solenoid 2-203-3A; 08/11/2016
- AR 2708406; MODS & 50.59 Audit Identified Code REF. Error in EC 394119; 08/25/2016
- AR 2709786; Buried Pipe: DGCWP / RHRSW Common Suction Piping Degradation; 08/29/2016
- AR 2713622; Re-evaluate DGCW Operability / EDG HX Flow Rate Requirements; 09/08/2016
- AR 2714600; 2-7701-A Bus Duct Blower Unexpected Trip; 09/12/2016
- AR 2723740; 1A Bus Duct Blower Unexpected Trip; 10/04/2016
- AR 2731070; During DG CW Pump Glad Seal line Repair Support Angle Cut; 10/21/2016
- AR 2732410; Unplanned Spread of Contamination; 10/25/2016
- AR 2733567; Measurement Goals Not Met for Security PIIM 2016-0241; 10/27/2016
- AR 2734706; SYS HLTH CRE: Thru Wall Leak Found on 1-2301-55 Valve; 10/31/2016
- AR 2734784; Potential Trend in Rad Protection; 10/31/2016
- AR 2735756; Spurious U1 HIGH O2 Concentration Alarm 912-7; 11/01/2016
- AR 2737712; 2B Fuel Pool Rad Monitor and Reactor Building Vent Rad Monitor Power Supply Failure; 12/14/2016
- AR 2742202; QC EP NRC Graded Exercise, CR/SIM Performance; 11/17/2016
- AR 2742209; QC EP NRC Graded Exercise, CR/SIM, Other Issues; 11/17/2016
- AR 2742255; QC EP NRC Graded Exercise, OSC Performance; 11/17/2016
- AR 2742262; QC EP NRC Graded Exercise, TSC Performance; 11/16/2016
- AR 3947992; Check-In Assessment Def: Maintenance Fundamentals Plan; 12/01/2016
- AR 3948036; Check-In Assessment Def: Maint Fundamentals Implementation; 12/01/2016
- AR 3949569; Non-Conservative Weight Used in SFP Liner Calc; 12/05/2016
- AR 3950089; Security Dormant Badges; 01/06/2017
- AR 3953498; NOS ID: Incomplete records from Maintenance; 12/15/2016
- AR 3956045; Through Wall Leak on 2-10521B-1"-L; 12/22/2016
- AR 3962297; Long Term Storage Area > 90 Days for Temporary Shielding Equipment; 01/12/2017
- AR 3967424; 1C RHRSW Pump Abnormal Indications; 01/27/2017

- AR 3967424; ECAP Report:1C RHRSW Pump Abnormal Indications; 03/06/2017
- AR 3968662; NCV 16-004-01, CLSR PKG, FME Found in Target Rock SRV Solnd; 01/31/2017
- AR 3969324; Light Socket for 2-203-3E Damaged During Bulb Change; 02/01/2017
- AR 3970920; Reinforce Expectations For EP Event Response; 02/01/2017
- AR 3973595; Engage Health Software Aging Screening Issues; 02/13/2017
- AR 3975294; Vendor Quoted Incorrect Weight Affecting Seismic Analysis; 02/17/2017
- AR 3977084; Minor Leak 1-0301-10B Valve; 02/22/2017
- AR 3978610; Collector Did Not Adequately View Donor's Personal Items; 02/26/2017
- AR 3980619; Potential Adverse Trend RP Fundamental of Self-Check / STAR; 03/02/2017
- AR 3985469; OIO BM - MOV is Low Margin and Needs MOD to Increase Margin; 03/12/2017
- AR 3988671; Poor Radworker Practice; 03/23/2017
- AR 3990038; MSIVs 1-0203-1B, 1-0203-1D, 1-0203-2C and 1-0203-2D Closure Times Exceeded the Maximum Technical Specification Limit of  $\leq 5$  Seconds; 04/28/2017
- AR 3990758; 1-0203-2C MSIV Limit Switch 2A Found Outside of Technical Specification Limits; 05/05/2017
- AR 3992868; PSU Q1R24 CT-IV5 Linkage Pin Clearances are OOT; 04/01/2017
- AR 3992923; PSU-1-3999-572 U1 SW to Standby Coolant Supply Leak; 04/01/2017
- AR 3993155; PSU Q1R24 Loss of FME Integrity Refuel Floor; 04/03/2017
- AR 3993296; Pit Found on Torus Wall; 04/03/2017
- AR 3993859; New CRD Housing Bolting Exhibits Damage; 04/04/2017
- AR 3996356; Fuel Cladding Fretting Risk – Q1R24; 04/10/2017
- AR 3997929; Calculation Missing for 2 RHR pumps; 04/13/2017
- AR 4003872; NOS ID: PA SYSTEM TEST – TWO SPEAKERS NOT INSTALLED; 04/28/2017
- AR 4008049; Holes Drilled into Pump Casing Without Prior Paperwork; 05/8/2017
- AR 4011130; During HPCI S/D MO 2-2301-14 Did Not Auto Open; 05/15/2017
- AR 4017529; NRC Concerns Associated with 1-0203-2D MSIV Actuator; 06/01/2017
- AR 4021432; Reactor Building Surveys Not Completed IAW RP-QC-300-1001; 06/13/2017
- AR 4031723; ECAP Report: Unit 1 EDG Ventilaion Fan Failed to Start Due to High Resistance Connection in Motor Juncton Box; 08/18/2017
- AR 4031723; U-1 EDG Fan Failed to Start; 07/14/2017
- AR 4039611; Unit Two Main Power Transformer H0 Bushing Failed Resulting in Forced Outage; 09/15/2017
- AR 4040537; Change U1/2 Emergency Diesel Engine Oil to MobilGard 410 NC; 08/09/2017
- AR 4042936; OIO: Calibration of Barton D/P Indicating Switches; 08/17/2017
- AR 4054935; Dose Rate Alarms in U2 Reactor Building Basement; 09/22/2017
- AR 4058483; 1/2 EDG Auto Trip During MMD Testing; 10/2/2017
- AR 4062754; 1A Core Spray Motor Lower Bearing Oil Issue; 10/13/2017
- AR 4072162; Unit 1 HPCI Did Not Trip During QCOS 2300-05; 11/7/2017
- AR 4073765; EO ID Inaccurate and Unreliable Decant Detection; 11/12/2017
- AR 4075944; Corporate OPS Elevation of QC Site Operations; 11/17/2017
- AR 4078553; Untimely Notification of Change in Health Status; 11/28/2017
- AR 4079154; DW-Torus Vacuum Bkr 1601-32F Div I Indication not Responding; 11/30/2017
- AR 4079525; SRPT DEF: Issues With Actions Under EACE 3956145; 11/30/2017
- AR 4079958; Keys Found Inside Vehicle Inside the Protected Area; 12/1/2017
- AR 4083492; ERVR3 Initiative Identified Main Steam Sys Vulnerabilities; 12/13/2017
- AR 4083711; NRC Concern Related to LORT Comprehensive Written Exams; 12/06/2017
- AR 4083741; Licensed Operator Medical Qualification; 12/13/2017
- AR 4085298; EP – Whiteside County Siren Control Panel Failure; 12/18/2017
- AR 4087703; Small Leak Coming from Piping Upstream of 2-3999-147; 12/27/2017
- AR 4089676; EP – Whiteside County Sheriff NARS Inoperable; 01/03/2018

- AR 4091618; Through-Weld Leak on U2 SW Discharge Header from TBCCW HX; 01/09/2018
- AR 4095436; Unescorted Visitor in Protected Area – less than 2 minutes; 01/19/2018
- AR 4097336; Through Wall Service Water Leak Downstream 2-3999-572; 01/26/2018
- AR 4098076; EO ID: WCT/FDCT Decant RAD Detectors Not Operating Properly; 01/29/2018
- AR 4099281; ECAP Report: 2B Fuel Pool Radiation Monitor Spiked Causing High Radiation Alarm; 03/09/2018
- AR 4099281; Received Unexpected U2 Fuel Pool Radiation Alarm; 01/31/2018
- AR 4100244; Additional SW Leaks on 2-3999-572 Piping Found; 02/02/2018
- AR 4102620; Keys Found Inside Vehicle Inside the Protected Area; 02/9/2018
- AR 4105708; Piping Upstream of MSL Valve 2-0220-10A Lacks a 2-1 Weld; 02/19/2018
- AR 4106260; Secured RCIC Shortly after Start of Surveillance; 02/20/2018
- AR 4106518; SW Leak OGFB Return Header to King Hole; 02/21/2018
- AR 4106559; NRC Concern on RHRSW Pump Design Standards Documentation; 02/21/2018
- AR 4106924; NRC Concern on Documentation in 2B RHRSW PUMP Casing PO; 02/21/2018
- AR 4108887; U0 DGCW Piping Extent of Condition Checks; 02/27/2018
- AR 4108890; U2 DGCW Piping Extent of Condition Checks; 02/27/2018
- AR 4109288; Potential Trend in Raw Water Piping Leakage; 02/28/2018
- AR 4115993; Service Water Piping Through Wall Leak at U1 ASD; 03/17/2018
- AR 4116642; MSIVs 2-0203-1A and 2-0203-1C Closure Times Exceeded the Maximum Technical Specification Limit of  $\leq 5$  Seconds; 04/19/2018
- AR 4116652; D Outboard MSIV Closed too Fast During QCOS 0250-04.; 03/19/2018
- AR 4116741; RWCU Valve 2-1201-85 Leaking; 03/19/2018
- AR 4116750; PSU - HIGH INBD MSIV 2-0203-1A LLRT Leakage; 03/19/2018
- AR 4116758; PSU - HIGH OUTBD MSIV 2-0203-2D LLRT Leakage; 03/19/2018
- AR 4120126; Root Cause Investigation Report: Water Found in Radwaste Piping Vault; 05/10/2018
- AR 4120126; Water Found in Raw Water Piping Vault; 03/28/2018
- AR 4121533; Coverage Results for Q2R24 ISI; 03/31/2018
- AR 4122365; PSU – Debris Identified in Suppression Pool; 04/03/2018
- AR 4127351; Q2R24 LL: Dose Rate Alarm; 04/16/2018
- AR 4127397; NOS ID: MREQ Documentation Incorrect; 04/16/2018
- AR 4127597; NOSID: SBO FO Buried Pipe Not in Database; 04/17/2018
- AR 4128065; Documentation for Monitoring 1/2 EDGCWP Piping; 04/18/2018
- AR 4131000; 2nd Quarter Security Training G&O; 04/26/2018
- AR 4141046; MCR Received Unexpected T-2 “HOT OIL TEMP” Alarm; 05/24/2018
- AR 4143752; ATWS PT Cal/Functional Impact Statements Inaccurate; 06/3/2018
- AR 4144415; Station CRE Outside Acceptance Criteria in RP-AA-401-1001; 06/05/2018
- AR 4146707; Follow Up to IR #4141046/ WO # 4788441; 06/13/2018
- AR 4146707; Follow Up to IR#4141046/WO#4788441; 6/13/2018
- AR 4150347; Fire Protection Valve 1-4199-53 Leaking; 06/26/2018
- AR 4157530; Loss of Assessment to Camera 20 Cause – No Visible Cause; 07/20/2018
- AR 4158351; Possible Negative Trend in ELPs; 7/24/2018
- AR 4158708; PIDs 8 Failed Security Test Caused By Hardware Issues; 07/25/2018
- AR 4159899; Failed Hard Drive in QDCLNXPPLX1B; 07/30/2018
- AR 4160189; FOF Monitor in BRE is Ion; 07/31/2018
- AR 4160292; EO ID: 1B RBCCW TCV Broken/Erratic Movement
- AR 4161240; NRC ID: Air Leaking from Cylinder Head During SBO Run; 08/02/2018
- AR 4162130; Q2R25 – Torus Underwater Recommended Coating Repairs; 08/06/2018
- AR 4170379; ISNM 2A RHRSW Guards Need To Be Replaced; 09/6/2018
- AR 4172747; PIR Knowledge Gap in Operation of HPCI; 09/13/2018
- AR 4172763; (PIR) Collective Effectiveness Review Needs Editorial Change; 09/13/2018

- AR 4177210; PIR Unit 1 Core Spray Keep Fill Line Repair Scheduled For Q1R25; 09/26/2018
- AR 4177398; PIR NCAP Trend WGE Incomplete; 09/26/2018
- AR 4177407; PIR Incorrect Job Type Applied to Work Orders; 09/26/2018
- AR 2686755; OPEX EVAL NRC IN 2016-07, Operating Experience Regarding Impacts on Site Electrical Distribution from Inadequate Oversight of Contractor Activities; 06/28/2016
- AR 2686762; OPEX EVAL NRC IN 2016-08, Inadequate Work Practices Resulting in Faulted Circuit Breaker Connections; 06/28/2016
- AR 2704548; OPEX EVAL NRC IN 2016-11, Potential for Material Handling Events to Cause Internal Flooding; 08/15/2016
- AR 4030236-75; Quad Station OPEX review of Fermi OPEX for applicability; 03/01/2018
- AR 4030236-77; Quad Station OPEX review of Nine Mile SCRAM OPEX for applicability; 02/14/2018
- AR 4030236-79; Quad Station OPEX review of River Bend SCRAM OPEX for applicability; 02/21/2018
- AR 4030236-81; Quad Station OPEX review of Columbia SCRAM OPEX for applicability; 02/28/2018
- AR 4030236-82; Quad Station OPEX review of Columbia SCRAM OPEX for applicability; 03/07/2018
- AR 4111775; OPEX EVAL NRC IN 2018-04, Failure of Operators to Trip Unstable Unit; 03/06/2018
- AR 3944207; Security Training Pre—NRC 71130.07 Inspection; 04/26/2017
- AR 3974973; Emergency Preparedness Audit Report; 05/03/2017
- AR 4039861; Operations Functional Area Audit Report; 09/20/2017
- AR 4091764-04; Preparation for NRC Problem Identification and Resolution (PI&R) Inspection Assessment; 07/03/2018
- AR 4097996; SEC Equipment Performance, Testing & Maint Assessment; 01/28/2018
- AR 4113211; Emergency Preparedness Audit Report; 04/25/2018
- Department PI MRM Summary: Engineering, Configuration Management and Equipment Reliability; 02/26/2018
- Department PI MRM Summary: Radiation Protection; 06/11/2018
- Engineering Quarterly Performance Improvement Report; 2<sup>nd</sup> Quarter 2016
- Engineering Quarterly Performance Improvement Report; 2<sup>nd</sup> Quarter 2017
- NOSA-QDC-17-04; Corrective Action Programs Audit Report; 03/28/2017
- NOSA-QDC-17-05; Engineering Design Control Audit Report, Quad Cities Station, July 17 to July 28, 2017; 08/02/2017
- NOSA-QDC-17-06; Radiation Protection Audit Report, Quad Cities Station, July 17 to July 28, 2017; 08/02/2017
- Radiation Protection Quarterly Performance Improvement Report; 2<sup>nd</sup> Quarter 2016
- Radiation Protection Quarterly Performance Improvement Report; 2<sup>nd</sup> Quarter 2017
- SA/AR 2618275; Pre NRC Assessment of IP 71130.04; 05/13/2016
- SA/AR 2705931; Security Pre NRC Bridge Ck-In Assessment for Equipment Performance, Testing and Maintenance; 09/30/2016
- SA/AR 4064876; Measurement and Test Equipment; 11/10/2017
- EI-AA-101-1001; Employee concerns Program Process; Revision 15
- ER-AA-5400-1001; Raw Water Piping Integrity Management Guide; Revision 11
- MA-AA-716-008-F-01; Foreign Material Exclusion Program Work Package Forms; Revision 0
- MA-AA-716-010-1015; Operational Critical Component Work (OPCCW) Process; Revision 6
- MA-AA-716-010-1015; Operational Critical Component Work (OPCCW) Process; Revision 6
- MA-MW-772-799; Acceptance Criteria for Protective Relays; Revision 4
- MA-MW-796-101, Attachment 1; Exhibit B— ASME Weld Record; Revision 5
- MA-QC-736-100; Quad Cities Lubrication Guide; Revision 38

- MA-QC-736-100; Quad Cities Lubrication Guide; Revision 43
- MA-QC-736-100; Quad Cities Lubrication Guide; Revision 44
- MA-QC-736-100; Quad Cities Lubrication Guide; Revision 49
- MA-QC-736-100; Quad Cities Lubrication Guide; Revision 52
- OP-AA-108-115; Operability Determinations (CM-1); Revision 21
- PI-AA-115-1004; Processing of NER and ICES Reports; Revision 8
- PI-AA-115-1004-F-03; ICES Report Screening Form; Revision 0
- PI-AA-120, Attachment 2; CAP Issue Report Level and Class Criteria; Revision 8
- PI-AA-120; Issue Identification and Screening Process; Revision 8
- PI-AA-125; Corrective Action Program (CAP) Procedure; Revision 6
- PI-AA-125-1003; Corrective Action Program Evaluation Manual; Revision 4
- PI-AA-125-1004; Effectiveness Review Manual; Revision 2
- QCIS 0200-28; Unit 1 Anticipated Transient Without Scram (ATWS) Pressure Loop A Trip Unit Calibration and Functional Test; Revision 19
- QCIS 0200-31; Unit 1 Anticipated Transient Without Scram (ATWS) Reactor Pressure Loop A Transmitter Calibration and Functional Test; Revision 15
- QCOS 5750-16; Control Room Ventilation Unfiltered In-Leakage Test; Revision 5
- SC-JA-0091; Process for encrypting and e-mailing a PGP File; Revision 0
- SY-AA-101-106-1002; Use of Encryption Software for Safeguards Information; Revision 3
- SY-AA-101-106-1002; Use of Encryption Software for Safeguards Information; Revision 4
- WC-AA-106; Work Screening and Processing; Revision 18
- 2018-UT-040; System: 2-3953-6"-O, Component Location 1; 03/25/2018
- 2018-UT-046; System: 2-3953-6"-O, Component Location 2; 03/25/2018
- 2018-UT-051; System: 0-3967-8"-O, Component Location 1; 03/26/2018
- 2018-UT-052; System: 0-3967-8"-O, Component Location 2; 03/26/2018
- ACE 2660464; EO ID: Steam Leak on MO 2—2301—5 Packing; 04/25/2016
- ACE 2661096; Failure of LHRA Door Control; Revision 2
- ACE 2672593; Low Oil Level Alarm 2A Recirc Motor; 05/23/2016
- ACE 2703233; Target Rock Solenoid Valve Failure; 09/19/2016
- Alternate Replacement Checklist ME—P7—F1: Evaluation M91—007—0320—00
- CAPE 3985801; Foreign Material (FM) Found Inside Unit One Diesel Generator Cooling Water Pump (DGCWP); 03/28/2017
- CAPE 4117193; Improper Control of Safeguards Information; 03/20/18
- Description for Catalog ID Item: 0000042416, QL 1
- Design Analysis 27.0200.1053.019.03-1; Qualification of Support at Node SP1 on Line 1-1434-2"-LX, Support Mark No. M-983F-H1; Revision 1
- Documented Consideration on the Use of Blue Lining during Pipe Cutting Activities
- Drawing 4E-2527; Schematic diagram HPCI System Sensor and Auxiliary Relays; Sheet 3; Revision AL
- Drawing M-983F-H1; Small Bore Support Detail, Core Spray Line 1-1434-2"-LX; Revision A
- EC 338244; Request to Add Rope Packing in the Event Stem Scored; 06/09/2016
- EC 618850; Lost Parts Evaluation Per ER-AA-2008 for the Lost Parts Missing from 1A Reactor Feed Pump 1-3201-A Prior to Q1R24 During Maintenance Under WO 1842789; Revision 0
- EC 625648; Op Eval 625648 for Unit 1 ECCS Keep Fill Pump Suction Line Missing Bottom Support Weld; Revision 0
- ECR 379771; Contingency to Repack Valve with Rope Packing; 06/09/2016
- Exelon PowerLabs Report QDC-24084; Failure Analysis of Quad City WS System Pipe with N-789 Patch; 05/24/2017
- LCM Issue: QDC-18-0056; RHRSW Piping Replacements; 07/26/2018
- List of LHRA doors with padlocks for Units 0, 1, and 2
- List of Open Work Requests and Facility Maintenance Department Tickets for Security

- List of Projects that will use “Blue Line Method”
- Passport Special Instructions and Master Materials catalog data for Component SQAD
- PHC Presentation; Quad Cities Station MCR Indication Light Flame Recommended Corrective Actions; August 27, 2018
- PMRQ 31402-01 (Model Work Instructions for Removal of Pigeon Excrement)
- PMRQ 31402-01 (WO 95082726); Perform U1/2 QCIS 5700-01; 11/03/2016
- QDC-11-0323 (140694); Replace Cribhouse and Underground Fire Protection Piping; September 14, 2018
- RCR 3969324; Short Circuit During 2—0203—3E Bulb Change Results in Small Flame in MCR Panel; 03/13/2017
- Selected Operators’ Log
- Survey; Organization Effectiveness Survey; 06/04/2018
- Technical Report AH1309-40399538; Long Range Guided Wave Ultrasonic Pipe Screening Results of Various Piping Lines; Revision 0
- WO 01884929-01; QCOS 5750-16 Periodic DP Test of CR HVAC; 01/15/2016
- WO 01940996-01; QCOS 5750-16 Periodic DP Test of CR HVAC; 10/14/2016
- WO 04639751-01; IM EWP Trblsht/Repair FIS 2-2354/MO 2-2301-14; 05/19/2017
- WO 1701494; HRSS In-place Charcoal Absorber Leak Rate Test; 01/28/2016
- WO 1874696-01; MM Perform Additional 2017 Raw Water Inspections; 07/10/2017
- WO 4788441; MCR Received Unexpected T-2 “HOT OIL TEMP” Alarm; 07/19/2018
- WR 1396112; MCR Received Unexpected T-2 “HOT OIL TEMP” Alarm; 05/25/2018
- AR 04172747; PIR Knowledge Gap in Operation of HPCI; 09/13/2018
- AR 04172763; (PIR) Collective Effectiveness Review Needs Editorial Change; 09/13/2018
- AR 04173188; PIR – Issue Identified in ACE 2661096; 09/14/2018
- AR 04174929; PIR Question on Operability Support for Support on 1-1434-2”; 09/19/2018
- AR 04177210; PIR Unit 1 Core Spray Keep Fill Line Repair Sched for Q1R25; 09/26/2018
- AR 04177221; PIR – Clarification Needed to Bullet in PI-AA-120; 09/26/2018
- AR 04177261; PIR Action Tracking Item Needs More Information; 09/26/2018
- AR 04177366; PIR – ACITS Not Created to Track HURB Recommendations; 09/26/2018
- AR 04177398; PIR NCAP Trend WGE Incomplete; 09/26/2018
- AR 04177407; PIR Incorrect Job Type Applied to Work Orders; 09/26/2018
- AR 04177729; PIR – CAPR Use Lessons Learned; 09/27/2018
- AR 04178025; PIR Incorporate Lessons Learned into CR Envelope DP Test; 09/28/2018