UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
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October 31, 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 PROBLEM IDENTIFICATION AND RESOLUTION INSPECTION REPORT 05000254/2016007; 05000265/2016007

Dear Mr. Hanson:

On September 30, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed a Problem Identification and Resolution (PI&R) inspection at your Quad Cities Nuclear Power Station, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed at an exit meeting on September 30, 2016, with Mr. K. Ohr and other members of your staff.

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

On the basis of the samples selected for review, the team concluded that the Corrective Action Program (CAP) at Quad Cities Nuclear Power Station, Units 1 and 2, was generally effective in identifying, evaluating and correcting issues. The licensee had a low threshold for identifying issues and entering them into the CAP. A risk based approach was used to determine the significance of the issues and priority for issue evaluation and resolution. Corrective actions were generally implemented in a timely manner, commensurate with their safety significance. Operating experience was entered into the CAP when appropriate and evaluated according to procedure. The use of operating experience was integrated into daily activities and found to be effective in preventing similar issues at the plant. In addition, self-assessments and audits were conducted at appropriate frequencies with sufficient depth for all departments based on the documents the team reviewed. The assessments were thorough and effective in identifying site performance deficiencies, programmatic concerns, and improvement opportunities. On the basis of the interviews conducted, the inspectors did not identify any impediment to the establishment of a safety conscious work environment at Quad Cities Nuclear Power Station. Licensee staff was aware of and generally familiar with the CAP and other station processes, including the Employee Concerns Program, through which concerns could be raised. The team determined that your station's performance in each of these areas supported nuclear safety.

Based on the results of this inspection, no finding of significance was identified.

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 05000254/2016007; 05000265/2016007

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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:	05000254/2016007; 05000265/2016007
Licensee:	Exelon Generation Company, LLC
Facility:	Quad Cities Nuclear Power Station, Units 1 and 2
Location:	Cordova, IL
Dates:	September 12, 2016, through September 30, 2016
Team Leader:	R. Ng, Project Engineer
Inspectors:	R. Murray, Senior Resident Inspector – Quad Cities J. Rutkowski, Project Engineer J. Mancuso, Reactor Engineer L. Rodriguez, Reactor Inspector C. Mathews, Resident Inspector, Illinois Emergency Management Agency (IEMA)
Approved by:	K. Stoedter, Chief Branch 1 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

Inspection Report 05000254/2016007; 05000265/2016007; 09/12/2016–09/31/2016; Quad Cities Nuclear Power Station, Units 1 and 2; Identification and Resolution of Problems.

This inspection was performed by four region-based inspectors, the IEMA resident inspector and the Quad Cities Senior Resident Inspector. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG–1649, "Reactor Oversight Process" Revision 6, dated February 2016.

Identification and Resolution of Problems

On the basis of the samples selected for review, the team concluded that the Corrective Action Program (CAP) at Quad Cities Nuclear Power Station, Units 1 and 2, was generally effective in identifying, evaluating and correcting issues. The licensee had a low threshold for identifying issues and entering them into the CAP. A risk based approach was used to determine the significance of the issues and priority for issue evaluation and resolution. Corrective actions were generally implemented in a timely manner, commensurate with their safety significance. Operating experience was entered into the CAP when appropriate and evaluated according to procedure. The use of operating experience was integrated into daily activities and found to be effective in preventing similar issues at the plant. In addition, self–assessments and audits were conducted at appropriate frequencies with sufficient depth for all departments based on the documents the team reviewed. The assessments were thorough and effective in identifying site performance deficiencies, programmatic concerns, and improvement opportunities. On the basis of the interviews conducted, the inspectors did not identify any impediment to the establishment of a safety conscious work environment at Quad Cities Nuclear Power Station. Licensee staff was aware of and generally familiar with the CAP and other station processes, including the Employee Concerns Program, through which concerns could be raised. The team determined that the licensee's performance in each of these areas supported nuclear safety.

Although implementation of the CAP was determined to be effective overall, the inspectors identified several issues that represented potential weakness of the program.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution (71152B)

This inspection constituted one biennial sample of problem identification and resolution (PI&R) inspection as defined by Inspection Procedure 71152, "Problem Identification and Resolution." Documents reviewed are listed in the Attachment to this report.

.1 Assessment of the Corrective Action Program Effectiveness

a. Inspection Scope

The inspectors reviewed the procedures and processes that described the CAP at Quad Cities Nuclear Power Station to ensure, in part, that the requirements of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," were met. The inspectors observed and evaluated the effectiveness of meetings related to the CAP, such as the Management Review Committee meeting and the Station Ownership Committee meeting. Selected licensee personnel were interviewed to assess their understanding of and their involvement in the CAP.

The inspectors reviewed selected issue reports (IRs) across all seven Reactor Oversight Process cornerstones to determine if problems were being properly identified and entered into the licensee's CAP. The majority of the risk–informed samples of IRs reviewed were issued since the last NRC biennial PI&R inspection completed in September of 2014. The inspectors also reviewed selected issues that were more than 5 years old.

The inspectors assessed the licensee's characterization and evaluation of the issues and examined the assigned corrective actions. This review encompassed the full range of safety significance and evaluation classes, including root cause evaluations, apparent cause evaluations, and workgroup evaluations. The inspectors assessed the scope and depth of the licensee's evaluations. For issues that were characterized as significant conditions adverse to quality, the inspectors evaluated the licensee's corrective actions to prevent recurrence and for issues that were less significant, the inspectors reviewed the corrective actions to determine if they were implemented in a timely manner commensurate with their safety significance.

The inspectors performed a 5–year evaluation of safety–related relay failures based on input from the resident staff. These safety–related relay failures encompassed multiple risk significant systems. The primary purpose of this review was to determine whether the licensee was monitoring and addressing performance issues of safety–related relays.

A 5–year review of the aging management program was also performed to assess the licensee's efforts in monitoring and correcting age–related performance issues. Specifically, the inspectors reviewed implementing Aging Management Program procedures, attended CAP meetings to observe how aging management issues were being addressed, reviewed licensee CAP documents related to aging management

issues, and performed a walkdown of the high pressure coolant injection rooms to assess the licensee's evaluation of some aging management related issues of the system. The CAP documents selected for review were chosen from a list of documents that were either screened by the licensee as being related to aging management, or because they contained aging related keywords such as "corrosion" and/or "aging" in their titles. The inspectors performed walkdowns, as needed, to verify the resolution of issues.

The inspectors examined the results of self–assessments of the CAP completed during the review period. The results of the self–assessments were compared to self–revealed and NRC–identified findings. The inspectors also reviewed the corrective actions associated with previously identified NCVs and findings to determine whether the station properly evaluated and resolved those issues. The inspectors also performed walkdowns, as necessary, to verify the resolution of the issues.

b. Assessment

(1) Identification of Issues

Based on the results of the inspection, the inspectors concluded that Quad Cities Nuclear Power Station was generally effective in identifying issues at a low threshold and entering them into the CAP. The inspectors determined that problems were normally identified and captured in a complete and accurate manner in the CAP. The station was appropriately screening issues from both NRC and industry operating experience at an appropriate level and entering them into the CAP when applicable to the station. The inspectors also noted that deficiencies were identified by external organizations (including the NRC) that had not been previously identified by licensee personnel. These deficiencies were subsequently entered into the CAP for resolution.

The inspectors determined that the licensee was generally effective at trending low level issues to prevent larger issues from developing. The licensee used the CAP to document instances where previous corrective actions were ineffective or were inappropriately closed.

The inspectors performed a 5–year review of safety–related relay failures. As part of this review, the inspectors interviewed the system engineer and supervisor, reviewed a sample of equipment apparent cause evaluations for relay failures, IRs, operating experience, test calibration data, and Maintenance Rule status. The inspectors reviewed licensee's CAP and work management system procedures that provided guidance for trending. The inspectors concluded that safety–related relay concerns were identified and entered into the CAP at a low threshold, and concerns were resolved in a timely manner commensurate with their safety significance.

i) Observation

CAP Classification Based on Plant Condition

On February 6, 2014, the licensee initiated AR 1617892 for a through wall leak on a service water supply line to the 2B residual heat removal service water (RHRSW) cubicle cooler. The issue was assigned a significance level 3 in the CAP because it

resulted in an unplanned Limiting Condition for Operation (LCO) entry which could lead to a unit shutdown. The issue was then assigned a "B" investigation class (Apparent Cause Evaluation) to be evaluated. These assignments were performed in accordance with CAP procedure PI–AA–120, "Issue Identification and Screening Process." On September 10, 2015, the licensee initiated AR 2553103 for a similar through wall leak on a similar line, the service water supply line to the 2A RHRSW cubicle cooler. However, that issue was assigned a significance level 4 and a "D" investigation class (no formal investigation required) because it was discovered during post maintenance testing when the RHRSW pump was already in a LCO due to planned maintenance. Since the leak in AR 2553103 did not cause an unplanned LCO entry due to the plant conditions at the time it was discovered, it was treated as a less significant issue than the leak in AR 1617892, even though both leaks were nearly identical. Therefore, the licensee's CAP process allows the significance level, and as a result, the investigation class of identified issues to be influenced by plant conditions at the time of discovery. This could lead to a significant issue being treated and reviewed as less significant simply because it was discovered during a plant condition where entry into an unplanned LCO was not warranted (i.e. during an outage). Although the licensee appropriately dispositioned the issue in AR 2553103, the inspectors identified this as a vulnerability in the licensee's CAP. It is important to correctly assign the significance level of an issue because it directly affects the level of review, and ultimately, the corrective actions assigned to address the issue.

ii) Findings

No findings were identified.

(2) Prioritization and Evaluation of Issues

Based on the results of the inspection, the inspectors concluded that the station was effective at prioritizing and evaluating issues commensurate with the safety significance of the identified issue, including an appropriate consideration of risk.

The inspectors determined that 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 Management Review Committee discussed selected issues in sufficient detail and challenged each other regarding their conclusions and recommendations.

The inspectors determined that the licensee usually evaluated equipment functionality requirements adequately after a degraded or non–conforming condition was identified. In general, appropriate actions were assigned to correct the degraded or non-conforming condition.

i) Observations

Insufficient Documentation

During the latest refueling outage, Q2R23, the licensee identified that 17 General Electric Type HFA relays were deficient and had not been repaired or replaced. The licensee documented in the CAP that the relays should be repaired or replaced prior to

plant startup. These relay deficiencies were reviewed by the Outage Scope Panel for addition into the outage. However the outage panel decided that repair was not necessary and removed the work from the outage. No written justification was provided in the CAP and there was no Outage Scope Panel meeting notes to document why the repair was not necessary. Upon questioning by the inspectors, the licensee was able to provide an engineering evaluation that determined that the relays were not degraded enough to require repair/replacement during the refueling outage. This information was not contained in the IR when the IR was closed.

Similarly, on August 20, 2014, the licensee initiated AR 1694580 due to elevated levels of contamination being discovered near the Unit 2 reactor water clean-up phase separator decant pump. The contamination was believed to be from a leak of the pump due to the discovery of dried resin near the pump. Since the pump had been recently run, the leak was not believed to be an "active" leak. The corrective action document specified that no work order was required because the pump would be decontaminated and then monitored for an "active" leak. If an "active" leak were to be discovered, a separate corrective action document would be generated. When reviewing the actions assigned for the issue, the inspectors noted that although there was an action to decontaminate the pump, there was no action to track the monitoring of the pump for "active" leakage. From discussions with the licensee, although the monitoring of the pump was not being tracked in the corrective action document, individuals involved were able to confirm that the monitoring had been accomplished and that an "active" leak had not been identified. The inspectors discussed with the licensee the importance of ensuring the CAP properly tracks and documents actions necessary to resolve identified issues.

Even though the lack on documentation in the CAP was not wide spread, the inspectors did come across a number of these examples and therefore, considered the lack of complete information a weakness in the CAP. This weakness has the potential to lead to degraded or inoperable conditions not being recognized. Therefore, the licensee needs to be more vigilant to ensure that complete information is provided before a CAP item can be closed.

ii) Findings

No findings were identified.

(3) Effectiveness of Corrective Action

Based on the results of the inspection, the inspectors concluded that the licensee was generally effective in addressing identified issues and the assigned corrective actions were generally appropriate. The licensee implemented corrective actions in a timely manner, commensurate with their safety significance, including an appropriate consideration of risk. Since 2013, outstanding corrective actions had been trending down. As of the beginning of the inspection, the licensee had 29 corrective actions open and only 2 of these were greater than 2 years–old. The inspectors sampled a number of these corrective actions in each significance level and determined that they were being tracked with appropriate level of attention to ensure their completion. The inspectors also sampled other action items and verified that the licensee did not systematically downplay the action items as non-corrective actions.

Problems identified using root or apparent cause methodologies were resolved in accordance with the CAP procedural and regulatory requirements. Corrective actions designed to prevent recurrence were generally comprehensive, thorough, and timely. The inspectors sampled corrective action assignments for selected NRC documented violations and determined that actions assigned were generally effective and timely.

The inspectors also performed a 5-year extensive review of the licensee's implementation of their Aging Management Program. In general, the licensee was appropriately implementing their Aging Management Program at the station. The licensee was following their program and identifying aging related issues. Those issues were properly evaluated under the CAP and adequately dispositioned. Identified aging related issues were also being adequately monitored in order to identify further degradation.

i) Observations

Corrective Action Not Complete

In NRC inspection report 2015004, the NRC issued a licensee–identified non–cited violation for the licensee's failure to have an adequate procedure for installing fuse blocks in safety–related breakers. The procedure did not provide the operators guidance to ensure the fuse blocks were fully seated. This resulted in the breaker closing springs not being charged following post–maintenance testing of the 1A residual heat removal pump breaker and the system being declared operable on August 21, 2015, when in fact, the system was inoperable.

In the licensee's equipment apparent cause evaluation (EACE), the licensee stated that because not all fuse blocks were fully seated even when they were flush with the fuse block holder, some fuse blocks required additional pressure when being seated, and would actually be slightly recessed into the fuse block holder. Therefore, procedure QCOP 6500–07, "Racking in a 4160 Volt Horizontal Type AMHG or G26 Circuit Breaker," contained incomplete guidance for ensuring the fuse blocks were properly installed. The licensee's corrective actions were to revise the procedure to include discussion that the installed position for some fuse blocks would be slightly beyond flush and might require additional pressure to fully seat. Direction would also be added to pull on the fuse block after insertion to verify it was snug and fully seated.

During this PI&R inspection, the inspectors reviewed the licensee's corrective actions associated with this violation. Although the licensee did add guidance in the discussion section of the procedure to provide direction on how to ensure the fuse blocks were fully inserted, Section F of the procedure that contained the execution steps for inserting fuse blocks still directed the fuse block to be "fully inserted and flush with the fuse block holder." The inspectors determined that the licensee failed to fully implement the corrective actions as stated in the EACE.

Given that the licensee had briefed all operations crews on the direction to properly insert fuse blocks into the holders and added this skill to their training curriculum for operations, the inspectors determined the likelihood of this event occurring again was minimal, and therefore determined the inadequate procedure change was a minor corrective action violation. The licensee entered this issue into the CAP as AR 2716518 and is evaluating actions for changing the procedure.

ii) Findings

No findings were identified.

.2 Assessment of the Use of Operating Experience

a. Inspection Scope

The inspectors reviewed the licensee's implementation of the facility's Operating Experience (OE) program. Specifically, the inspectors reviewed the OE program implementing procedures, attended CAP meetings to observe the use of OE information, and reviewed licensee evaluations of OE issues and events. The objective of the review was to determine whether the licensee was effectively integrating OE into the performance of daily activities, whether evaluations of issues were appropriate, whether the licensee's program was sufficient to prevent future occurrences of previous industry events, and whether the licensee effectively used the information in developing departmental assessments and facility audits. The inspectors also assessed if corrective actions, as a result of OE, were identified and implemented in an effective and timely manner.

b. Assessment

In general, OE was appropriately used at the station. Industry OE was disseminated across the various plant departments. The inspectors also verified that the use of OE in formal CAP products such as root cause evaluations and equipment apparent cause evaluations was appropriate and adequately considered. Generally, OE that was applicable to Quad Cities Station was thoroughly evaluated and actions were implemented in a timely manner to address any issues that resulted from the evaluations.

c. Observations

Preventive Maintenance of Safety–Related Relays

Since 2014, the inspectors identified at least three failures of safety–related relays that were attributed to age–related causes. In some of the failure examples, the licensee identified that there were no preventive maintenance tasks (i.e. visual inspection or contact resistance testing) performed on the failed relays. In each of these instances, the licensee corrected the issues and performed extent of condition reviews as appropriate. However, the inspectors questioned the licensee on their plan to perform a more comprehensive review of their safety–related relays, to include identification of component age and associated preventive maintenance tasks. The licensee established the service life of their safety–related relays through their performance centered

maintenance (PCM) template. The PCM template was based on Electric Power Research Institute (EPRI) Report 3002000541, "Relay Series – Specific Guidance: Generic Service Life Analysis (GSLA) and Preventive Maintenance (PM) Templates," dated July 2013. The EPRI report states, in part, "The service lives in this evaluation assume that all recommended preventive maintenance, inspections, and surveillances are performed as intended." After discussing the service life of safety–related relays with the licensee, the inspectors determined the licensee had identified a list of relays to be reviewed. However, the licensee did not have a well–documented, specific, or systematic plan to identify gaps between the EPRI report and existing assigned preventive maintenance tasks for safety–related relays. The inspectors did not identify any specific instances where the licensee was not meeting their PCM template for service life. The inspectors considered this a gap in the preventive maintenance program that could potentially lead to failures.

d. Findings

No findings were identified.

.3 Assessment of Self–Assessments and Audits

a. Inspection Scope

The inspectors reviewed selected self–assessments and Nuclear Oversight audits, as well as the schedule of past and future assessments. The inspectors evaluated whether these audits and self–assessments were effectively managed, adequately covered the subject areas, and properly captured identified issues in the CAP. In addition, the inspectors interviewed licensee personnel regarding the implementation of the audit and self-assessment programs.

b. Assessment

Based on the results of the inspection, the inspectors concluded that self–assessments and audits were typically accurate, thorough, and effective at identifying issues and enhancement opportunities at an appropriate threshold. The inspectors concluded that 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 IRs as required by the CAP procedures. The inspectors also determined that findings from the CAP self–assessment were consistent with the inspectors' assessment.

c. Findings

No findings were identified.

.4 Assessment of Safety Conscious Work Environment

a. Inspection Scope

The inspectors assessed the licensee's safety conscious work environment (SCWE) through the reviews of the facility's Employee Concerns Program (ECP) implementing procedures, discussions with the coordinator of the ECP, interviews with personnel from various departments, and reviews of issue reports. The inspectors also reviewed the results from a 2015 safety culture survey and meeting minutes of the Safety Culture Monitoring Panel.

The inspectors held scheduled interviews with approximately 30 non–supervisory individuals and approximately 6 first-line supervisors in various group and individual settings, 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.

The individuals in the scheduled interviews were randomly selected to provide a distribution across various departments at the site. In addition to assessing individuals' willingness to raise nuclear safety issues, the interviews also included discussion on any changes in the plant environment over the last 12 months. Items discussed included:

- knowledge and understanding of the CAP;
- effectiveness and efficiency of the CAP;
- willingness to use the CAP; and
- knowledge and understanding of ECP.

The inspectors also discussed the functioning of the ECP with the program coordinator; reviewed program logs from 2014 through 2016; and reviewed selected case files to identify any emergent issues or potential trends.

b. Assessment

The inspectors did not identify any issues of concern regarding the licensee's SCWE. Information obtained during the interviews indicated that 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 CAP and other processes, including the ECP and the NRC's allegation process, through which concerns could be raised. In addition, a review of the types of issues in the ECP indicated that the licensee staff members were appropriately using the CAP and ECP 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 SCWE generally supported the conclusions from the interviews.

c. Findings

No findings were identified.

4OA6 Management Meetings

Exit Meeting

On September 30, 2016, the inspectors presented the inspection results to Mr. K. Ohr and other members of the licensee staff. The licensee acknowledged the issues presented. One item had remained open pending licensee's evaluation. This open item was discussed and closed during a teleconference on October 6, 2016. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

K. Ohr, Plant Manager
W. Beck, Regulatory Assurance Manager
T. Bell, Engineering Director
R. Craddick, Organization Effectiveness Manager
D. Collins, Radiation Protection Manager
J. Cox, Operations Support Manager
R. Earley, Outage Manager
R. Hight, Maintenance Director
H. Dodd, Operations Manager
T. Wojcik, Engineering Program Manager
J. Wooldridge, Chemistry Manager

NRC

K. Stoedter, Branch Chief
R. Murray, Senior Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Open

None

Closed

None

Discussed

None

Attachment

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors 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.

Issue Reports

AR 1024260	1A RHRSW HP Pump Leak	02/01/2010
AR 1288784	CDBI – Technical Specification Limits for EDG	11/10/2001
AR 1326102	Additional Actions from Byron RED NER NC-12-005-R	02/13/2012
AR 1330499	Security Officer found Sub Door Open and Unable to Close It	02/22/2012
AR 1486872	Q1R22 PSU As Found Condition Bus 2201-32 Relay 2330-106	03/13/2013
AR 1500638	Auto-Blowdown Initiation Relay Failed to Actuate QCOS 203-08	04/11/2013
AR 1502238	NCV 12-005-01, Clsr Pkg, EDG Freq and Voltage TS Tolerance	04/15/2013
AR 1503634	Relay Has Harmonic Noise/Vibration	04/18/2013
AR 1508408	QCOS 1000-31, 1A LPCI LOOP Logic Test	04/30/2013
AR 1508524	1000-31, 1A LPCI LOOP Logic Test Time Delay	04/30/2013
AR 1513576	Overload Relays Not Passing Acceptance Criteria	05/14/2013
AR 1518664	2-0590-102A MSIV A Relay Occasionally Chattering	05/28/2013
AR 1539107	Relay 2-0595-121 Failed to Energize During QCOS 1600-44	07/24/2013
AR 1541630	PCI Relay Failure During Unit 2 Group 2 Logic Testing	07/31/2013
AR 1552033	Cyber Security Lessons Learned: Milestone 2	08/29/2013
AR 1552034	Cyber Security Lessons Learned: Milestone 3	08/29/2013
AR 1569267	IAM WO Needed To Replace TR Relay In MCC 19-2 Cub D4	10/08/2013
AR 1569450	Bus 23-1 Degraded Voltage Relay Found Outside Tech Specs	10/08/2013
AR 1572952	Relay K4 On Averaging Card Z29 for APRM 4 Needs Replaced	10/16/2013
AR 1576023	Cyber Security Lessons Learned: Milestone 3 Data Diode Kvm	10/24/2013
AR 1577312	Relay 2-0590-101A Low Condenser Vacuum Very Loud	10/16/2013
AR 1578649	NRC Concern with Detail in Evacuation Time Estimates	10/30/2013
AR 1596033	Bus 23 Cub 9 A Phase Overcurrent Relay Needs Replaced	12/11/2013

AR 1596034	Bus 23 Cub 9 C Phase Overcurrent Relay Needs Replaced	12/11/2013
AR 1611255	U2 EDG Start Failure Relay Failure During Surveillance	01/23/2014
AR 1617892	Through Wall Leak Line 2-10116B-2”-D 2B RHRSW Cubicle Cooler	02/06/2014
AR 1626418	2B CRD Pump A Phase TOC Relay OOT	02/26/2014
AR 1626424	2B CRD Pump C Phase TOC Relay OOT	02/26/2014
AR 1638243	Relay 24A-K3X For The 2A CAM Making Loud Noise	03/25/2014
AR 1641010	Thru Wall Leak on CRD HCU Scram Isolation Valve Body	03/31/2014
AR 1643402	PSU RPS 1 SDV Hi Level Relays Deenergized	04/03/2014
AR 1644851	PSU Main Generator Backup Reverse Power Relay Found OOT	04/08/2014
AR 1645005	Inspection Of HFA Relay Conflict In Reporting Discrepancies	04/09/2014
AR 1651656	PSU Relay 2-0595-127 Failed PMT	04/25/2014
AR 1661302	CV#3 RPS 1-0590-121B Relay Alignment Issue	05/18/2014
AR 1667001	PI OM.01, Unplanned Entries Into Shutdown LOCs, In Variance	06/02/2014
AR 1672301	NRC ID’D Angle Iron Support Against U2 Torus	06/17/2014
AR 1672301	NRC ID'd Angle Iron Support Against U2 Torus	06/17/2014
AR 1673507	EOC Walkdown Documenting Potential Torus Interferences	06/20/2014
AR 1677448	Unit 1/2 EDG Protective Relay Replacement	07/01/2014
AR 1678894	Incorrect ID of Fire Detect Sys Results in Missed Fire Watch	07/05/2014
AR 1685429	‘A’ Control Room HVAC ‘A’ Chiller Trip During Venting	07/24/2014
AR 1685738	Potential Adverse Trend in Drywell CAM Inoperability	07/25/2014
AR 1687895	Corrosion Pit Found During Visual Insp of Pump Disch Elbow	07/31/2014
AR 1688189	FASA Def – Acceptance Criteria Error is Non-Conservative	08/01/2014
AR 1691935	IST Trend: U1 HPCI High Differential Pressure	08/13/2014
AR 1692098	EC Due Date for Longstanding CO Extended	08/13/2014
AR 1693715	Need WO to Recalibrate U-1 HPCI PI 1-2340-2	08/18/2014
AR 1694388	W/O # 01618737-01, Cubicle Inspection Found Burnt Relays	08/20/2014
AR 1694388	WO# 01618737-01, Cubicle Inspection Found Burnt Relays	08/20/2014
AR 1694580	Elevated Contamination Levels in U2 RWCU Phase Sep. Pump Rm	08/20/2014

AR 1697974	LL - RHR HX Thermal Performance Testing	08/29/2014
AR 2059639	Unable to Adjust voltage on U2 125VDC Charger	09/08/2014
AR 2382388	Missed Performance Indicator Opportunity During PI Drill	09/17/2014
AR 2383029	ACE Required from SPC for 1A RHRSW HP Elbow Degradation	09/18/2014
AR 2383029	ACE Required from SPC for 1A RHRSW HP Elbow Degradation	09/18/2014
AR 2383051	RHRSW HP Elbow Extent of Condition Plan	09/18/2014
AR 2383344	TT 1-6620-166 Is Obsolete And A Replacement Is Requested	09/19/2014
AR 2391920	Pitting Identified in Deaerator Tank Piping	10/07/2014
AR 2392135	CAP Weaknesses – Adverse Trend Identified	10/07/2014
AR 2393113	IEAMA ID'd- Additional Support Requiring Walk Down	10/09/2014
AR 2396725	Safeguard Battery Part 21 Inspection	10/16/2014
AR 2397066	Potential Site-wide Trend in ERO Performance	10/17/2014
AR 2403922	DEP Classification Failure During 3rd Qtr Drill Cycle	10/30/2014
AR 2406984	IEMA U2 HPCI Flood Penetration Concern	11/05/2014
AR 2406984	IEMA U2 HPCI Flood Penetration Concern	11/05/2014
AR 2407265	CDBI. Pipe Support Base Plate Condition	11/05/2014
AR 2407735	3Q14 PI Drill Follow-up Issues. Procedure Quality Issues	11/06/2014
AR 2407755	3Q14 PI Drill Follow-up Issues: Program Admin and Maint	11/06/2014
AR 2407858	3Q14 PI Drill Follow-up Issues. TSC Facility Evacuation	11/06/2014
AR 2408090	U1 SBO Took Multiple Attempts to Start	11/06/2014
AR 2408256	590-101A MN CNDSR LO VACU SCRAM Buzzing Loudly	11/07/2014
AR 2412012	Unplanned ED Dose Rate Alarm	11/14/2014
AR 2416190	Unit 1 Control Vlv 3 Suicided Closed During Qtrly Turb Test	11/23/2014
AR 2417224	Procedurally Controlled Temporary Configuration Change Issue	11/25/2014
AR 2421519	ED Dose Rate Alarm	12/05/2014
AR 2424445	NCV 14-004-01, Clsr Pkg , Support Too Close to U2 Torus	12/12/2014
AR 2424445	NCV 14-004-01, Clsr Pkg. Support Too Close to U2 Torus	12/12/2014
AR 2425242	Control Room Door Will Not Close	12/15/2014
AR 2427286	2-100-C Control Switch (10A-S3C) Potentially Non-conforming	12/18/2014

AR 2428691	Structures Monitoring Discharge Bay	12/22/2014
AR 2432246	Loss of Power to Offsite EP Siren	01/04/2015
AR 2433389	1/2 EDG FOTP Unit 2 Breaker Found Tripped	01/06/2015
AR 2433389	1/2 EDG FOTP Unit 2 Breaker Found Tripped	01/02/2015
AR 2434983	Greater than 50% Zebra Mussel Coverage	01/09/2015
AR 2443171	1B Recirc Pump Tripped for Cause Yet Unknown	01/27/2015
AR 2443171	1B Recirc Pump Tripped For Cause Yet Unknown	01/27/2015
AR 2443171	1B Recirc Pump Tripped For Cause Yet Unknown	01/27/2015
AR 2443241	Entered QCOA 0300-04 Mis-positioned Control Rod	01/27/2015
AR 2446040	Relay 1-595-102A Buzzing Loudly	02/02/2015
AR 2450376	HPCI Interlock Doors Opened Simultaneously	02/10/2015
AR 2450782	INPO Walkdown Surface Corrosion on T82 Mod N2 Tanks Fittings	02/11/2015
AR 2450896	U1 HPCI Steam Supply Valve Open During Sys Repressurization	02/11/2015
AR 2450896	U1 HPCI Steam Supply Valve Open During Sys Repressurization	February 25, 2015
AR 2456214	IEMA ID 2A RHR Subdoor not Dogged	02/20/2015
AR 2457686	U2 EDG Failed to Stop Following Monthly Run, QCOS 6600-42	02/23/2015
AR 2462520	PSU Relay 1-0590-108E Has High Resistance on PT 3-4	03/03/2015
AR 2462525	PSU Relay 1-0590-109A Has High Resistance on PT 3-4	03/03/2015
AR 2462576	2015-01, Level 2 PCE	03/03/2015
AR 2462834	2015-03, Level 1 PCE	03/03/2015
AR 2463154	HEPA Malfunction	03/04/2015
AR 2463479	NRC Observation 1B Core Spray Room Door Open	03/04/2015
AR 2463774	Rapid Trending Of RB Basement Watertight Doors	03/05/2015
AR 2464065	IEMA ID U1 HPCI Watertight Door Found Open	03/05/2015
AR 2464065	IEMA ID U1 HPCI Watertight Door Found Open	03/05/2015
AR 2466337	2015-04, Level 1 PCE	03/10/2015
AR 2467182	PSU Relay Screw For The Trem Spot Sheered Off	03/11/2015
AR 2468191	RHRSW HP Elbow Engineering Recommendation Explanation	03/13/2015

AR 2468396	Bus 16 UV Relay OOT	03/13/2015
AR 2468409	Effectiveness Review on HPCI Interlocks	03/13/2015
AR 2471609	1A ASD Latch Fault Relay Failure	03/20/2015
AR 2471912	Received 901-3 G3, Rx Bldg. Vent Rad Monitor Channel Hi	03/20/2015
AR 2471966	T11 To Bus 14 Relay Found OOT	03/08/2015
AR 2472107	U1 ADS Relays Need Contacts Burnished	03/21/2015
AR 2472416	RCIC MO 1-1301-61 Motor Degraded	03/22/2015
AR 2476532	Perform ACE to Address 2015 WANO AFI – ER.3-3 Deficient Parts	03/30/2015
AR 2476557	NCV 14-005-01, Clsr Pkg. 4Q14 HPCI Flood Barrier	03/30/2015
AR 2479120	U1 Manual Scram Due to Steam Leak on D-Ring Header	04/03/2015
AR 2483896	NRC Observations During 1st Quarter 2015	04/12/2015
AR 2484017	QCOS 6600-54, EDG TD-5 Time Delay Relay Proc Enhancement	04/13/2015
AR 2484419	1AP09EC Sync Check Relay Stuck in Operate Position	04/10/2015
AR 2485051	EACE Requested of Failure Of Unit 1 ADS Logic For IR 2472107	05/12/2015
AR 2485212	Inconsistent Test Results For U1 EDG TD5 Relay, QCOS 6600-54	04/15/2015
AR 2488359	U1 EDG TD5 Relay Tested With Inconsistent Results	04/20/2015
AR 2494731	Div 1 2nd level Undervoltage Relay As Found OOT PSU	05/02/2015
AR 2496135	Check Of DC Input Power To U1 EDG Time Relay TD2	05/05/2015
AR 2496550	MO 1-1001-7C and MO 1-1001-7D Not Replaced During Q1R23	05/06/2015
AR 2497234	Spurious U1 RBCCW Rad Alarm During QCIS 1700-10 SJAE Cal and	05/07/2015
AR 2497455	New 2-2330-134 TD Relay Failed AS Left Surveillance	05/07/2015
AR 2498267	1AP09EA 227-201B1 PH BC Relay As Found Time Unsat	05/09/2015
AR 2498275	1AP09EH 227X2-21B1-2 TD-5 Relay target Amps As Found OOS	05/09/2015
AR 2499179	Installed Relay Has The Wrong Coil Voltage Rating	05/11/2015
AR 2500934	Obsolescence Procedure Adherence Issue	05/14/2015
AR 2503101	Protected Equipment Program Not Capturing All Components	05/19/2015
AR 2506630	NCV 15-001-01 Closure Package EDG FOTP Relay Failure Lacked PM	05/25/2015
AR 2506644	NCV 15-001-02, Clsr Pkg. HPCI Not in Standby Lineup	05/28/2015

AR 2507084	Replace 32G2 and 92G2 Reverse Power Relays	05/29/2015
AR 2511669	Multiple/Potential Part 21, Allen Bradley Relay Model 700RTC	06/08/2015
AR 2511855	Relays Failed Bench Testing	06/08/2015
AR 2513060	RHR Min Flow Valves 1-1001-18A & B Found Out of Position	06/10/2015
AR 2516196	FASA 2423383-02 Methodology #3 Walk Down	06/18/2015
AR 2520071	Operational Focus and Fundamental Assessments Results	06/26/2015
AR 2521136	EACE Requested Of Failure Of U2 Edg Vent Tt For IR 2507805	06/09/2015
AR 2522030	WR For Additional Troubleshoot Testing On U1 EDG TDS Relay	06/30/2015
AR 2523303	Hose End was Not Covered on a HEPA Vacuum in a CA	07/02/2015
AR 2524574	SPC Assignment for Q1R23 Core Spray Pipe Flaw Issue (IVVI)	07/07/2015
AR 2524699	NRC ID'D: Preconditioning Concern in QCOS 7500-08	07/07/2015
AR 2524699	NRC ID'D Preconditioning Concern in QCOS 7500-08	07/07/2015
AR 2528431	ERVR- No Procedure CRD Drive Water Pressure Bypass Valve	07/15/2015
AR 2528616	NCV 15-201-01, Closure Package Post Exercise Critique Issue	07/15/2015
AR 2530897	OLL Followup Action: HCU DCV on Unit 1 and 2	07/21/2015
AR 2533523	Damper 1/2-5741-329 Failed Part Open	07/27/2015
AR 2533523	Damper 1/2-5741-329 Failed Part Open	07/27/2015
AR 2535898	1AP04EG 551/550-AT1H PH B Relay As Found Out of Spec	07/31/2015
AR 2543911	Spurious Chattering of Relay 2-2043-156	03/22/2016
AR 2545024	1A RHR Pump Breaker Closing Springs Not Charged	08/22/2015
AR 2545579	CDE Panel Requires WR to Replace Timing Relay	08/24/2015
AR 2546812	Primary Containment O2 Found Above TS Limit during Surveillance	08/26/2015
AR 2547236	Material Storage for Cond Demin Work >90 Days	08/27/2015
AR 2549095	NCV 15-002-01 Clsr Pkg PMT not Performed on RCIC-61 Valve	08/31/2015
AR 2549525	Possibility of Old Capacitors in need of Testing in U2 SBO	09/01/2015
AR 2550801	WGE Needed for Issue in IR 2545024	09/03/2015
AR 2553103	Leak Identified on 2A RHRSW Piping	09/10/2015
AR 2554939	U2 RHR 21 Valve Did Not Close During Logic Surveillance	10/22/2015

AR 2557373	Security – Potential Issue Identified Procedure Adherence	09/18/2015
AR 2557417	1B CAM Continues to Read High for O2	09/18/2015
AR 2558274	NOS ID: Gap in RWP Dose Rate Setpoint	09/21/2015
AR 2559869	NOS ID: Ops Pre-job Briefing Issue	09/27/2015
AR 2560327	ERVR Review Identified Significant Errors in IQREVIEW Data	09/25/2015
AR 2560576	Review HPCI Door Hardware for Safety Classification	03/11/2016
AR 2560585	ERVR. QDC RPS/NI/TIP IQREVIEW Gaps	09/25/2015
AR 2561408	WO 01729356-01 Pre LCO Testing of TDR1 Relay @Panel 2251-100A	09/28/2015
AR 2564632	1/2 250 VDC Batt charger Indication Less Than Rounds Minimum	10/02/2016
AR 2571409	ERVR- Feedwater and CD/CB Pump FLEX Hose Vulnerability	10/15/2015
AR 2572506	Accumulated Dose Alarm Received in U2 Clean Up HX Room	10/17/2015
AR 2575404	Received Unexpected CRD Accumulator Alarm HCU 30-31	10/22/2015
AR 2576334	2-590-102F MSIV 203-1B 2B Closure Scram Relay Chatter	10/25/2015
AR 2577396	TSC Ventilation Emergency Mode Flow Rate Found High	10/27/2015
AR 2578071	Calculation 004-E031 Requires Update (REF EC 374641)	10/28/2015
AR 2578245	NRC ID: SBGTS Preconditioning Issues	10/28/2015
AR 2581210	OPS: OIO - Dresden Thermal Limit Violation Procedure	11/03/2015
AR 2582802	MMD Individual Offsite Greater Than 90 Days	11/05/2015
AR 2584548	EP- NARS Phone Issues	11/09/2015
AR 2586432	Possible Trend with Supplemental Workers Performance	11/12/2015
AR 2587065	Outdated UFSAR Description of Penetration Seal Material	11/13/2015
AR 2588615	ERVR Important Check Valve Classified as "Non-Critical"	11/17/2015
AR 2588868	ODM Action Item Closed With Out a Copy of ODM Attached	11/18/2015
AR 2594316	Safe Shutdown Report Missing Alternate Feed to RCIC Valves	12/01/2015
AR 2595999	MRule Panel Recommendations For Sub Door Human Performance	12/04/2015
AR 2596725	912-1 G-12, Control Room Standby HVAC Sys Major Trbl	12/07/2015
AR 2596725	912-1 G12, Control Room Standby HVAC Sys Major Trbl	12/12/2015
AR 2600254	Installation of FLEX Lip Barriers Damaging Equipment	12/15/2015

AR 2600539	Results of 2015 Self-Assessment Check-In Critical Ctrl Docs	12/15/2015
AR 2605112	U0 EDG Syncrocheck Relay Found OOT	12/28/2015
AR 2609716	Gap in Supplemental Workforce Oversight	01/08/2016
AR 2612022	CIAR DEF 1: Three IRs Classified as NCAP that should be CAP	01/13/2016
AR 2612380	Tracking Of Actions For Licensee Identified Violations-Opex	01/14/2016
AR 2612380	Tracking of Actions for Licensee Identified violations - OPEX	01/14/2016
AR 2617163	IEMA ID 2B RHR Sub Door Not Dogged	01/26/2016
AR 2617619	Check-In Self Assessment: Supplemental Workforce Oversight	01/27/2016
AR 2618189	Benchmark Supplemental Workforce Oversight	01/28/2016
AR 2618890	NCV 15-003-02, Clsr Pkg. - Preconditioning of SBGTs	01/29/2016
AR 2621037	EO ID: 1A RHR. 1A CA Sub Door Not Dogged	02/03/2016
AR 2621037	EO ID 1A RHR AND 1A CS Sub Doors Not Dogged	02/03/2016
AR 2621530	NOS ID: Ground Water Corroding HPCI Equipment	02/03/2016
AR 2622401	Potential Trend in Security Human Performance	02/05/2016
AR 2626589	1764667-01 OL Heater Fail Testing, Replace Relay	02/16/2016
AR 2627722	Recommendation For Control Of Rx Bldg Sub Doors	02/17/2016
AR 2633471	FASA Identified - RCIC Pressure Indication	02/29/2016
AR 2634889	Preconditioning Concern During QCOS 0202-22	03/02/2016
AR 2637140	ADS Relay 1-0287-106A Needs Replaced in Q1R24	03/07/2016
AR 2637141	ADS Relay 1-0287-106B Needs Replaced in Q1R24	03/07/2016
AR 2637188	DPIS 1-0261-34d Did Not Respond As Expected	03/07/2016
AR 2637359	Adjustment Needed To B28/29-5 Time Delay Relay	03/08/2016
AR 2638315	2-590-100D Relay Contact Intermittent	03/10/2016
AR 2640007	NOS ID: Out of Spec ELBP, Omissions on ELBP Datasheets	03/14/2016
AR 2642943	PSU# Main Generator Over frequency Relay Found Failed	03/21/2016
AR 2643477	2A RFP Relay 2-6701-1-151A Found OOT During Q2R23	03/21/2016
AR 2644143	Mod Corrosion/Leakage Found on RWCU Valve 2-1279-68	03/23/2016
AR 2645027	IEMA ID Previous IR Did Not Disposition Past Reportability	03/24/2016
AR 2646178	PSU# Relay 590-116B Found Deficient During Inspection	03/23/2016

AR 2646581	PSU Relay 590-125A Found Deficient During Inspection	03/28/2016
AR 2646599	PSU# Relay 590-110D Found Deficient During Inspection	03/28/2016
AR 2646602	PSU# Relay 590-115B Found Deficient During Inspection	03/28/2016
AR 2646603	PSU# Relay 590-114B Found Deficient During Inspection	03/28/2016
AR 2646605	PSU# Relay 590-114D Found Deficient During Inspection	03/28/2016
AR 2646606	PSU# Relay 590-121D Found Deficient During Inspection	03/28/2016
AR 2646610	PSU# Relay 590-123B Found Deficient During Inspection	03/28/2016
AR 2646611	PSU# EM Relay 590-111D Found Deficient During Inspection	03/28/2016
AR 2646615	PSU# Relay 590-100D Found Deficient During Inspection	03/28/2016
AR 2646622	PSU# Relay 590-101D Found Deficient During Inspection	03/28/2016
AR 2646626	PSU# Relay 590-107H Found Deficient During Inspection	03/28/2016
AR 2646628	PSU# Relay 590-106D Found Deficient During Inspection	03/28/2016
AR 2646636	Relay 902-52B Found Deficient During Inspection	03/28/2016
AR 2646876	Workers Performing Work While Not Under a Clearance Order	03/28/2016
AR 2647397	NRC ID – Insufficient Alpha Smears Obtained	03/29/2016
AR 2647412	IEMA ID: U1 HPCI Subdoor found 1 Turn from Full Closed	03/29/2016
AR 2647412	IEMA ID U1 HPCI Subdoor Found 1 Turn From Full Closed	03/29/2016
AR 2647437	Dose Alarm and PCE 2016-04	03/29/2016
AR 2647830	PSU Q2R23 Replace Relay 2-0590-116B	03/30/2016
AR 2647982	PSU# Q2R23 Replace Relay 2-0590-123B	03/30/2016
AR 2648058	PSU Q2R23 Bent Relay Contact Arms On Relay 2-0590-125A	03/22/2016
AR 2648075	Q2R23 Bent Relay Contact Arms on Relay 2-0902-52B Aux Relay	03/30/2016
AR 2651057	PSU# Investigate Air Leak/Replace Solenoid For Target Rock	04/05/2016
AR 2652197	Near Miss With Secure High Rad Area Access Control	04/07/2016
AR 2653905	Overload Relays Failed	04/11/2016
AR 2654566	Replace Engine Protective Relays on 1 EDG	04/12/2016
AR 2654571	Replace Engine Protective Relays on 2 EDG	04/12/2016
AR 2654576	Replace Engine Protective Relays on 1/2 EDG	04/12/2016

AR 2655056	Replace Field Flash Cutout Relay on Unit 1 EDG	04/13/2016
AR 2655063	Replace Field Flash Cutout Relay on Unit 1/2 EDG	04/13/2016
AR 2655219	AC Relay Had Discoloration	04/13/2016
AR 2655551	Main Chimney Radioactive Effluent Monitoring Vulnerability	04/14/2016
AR 2655599	Operations is Not Adhering to OP-AA-101-111-1001 and the CBA	04/14/2016
AR 2658866	Level 2 PCE 2016-10	04/21/2016
AR 2660181	Relay 1-0595-141A Abnormal Noise/Vibration	04/24/2016
AR 2665927	NOS ID: Unacceptable Inspection Items Not Doc in CAP	05/05/2016
AR 2668750	74 Relay Coil Looks Burnt and Cracked	05/12/2016
AR 2669120	Replacement Of LPCI Swing Bus Relay 1-7200-19-2A-TDOD	05/12/2016
AR 2669123	Replacement Of LPCI Swing Bus Relay 2-7200-19-2A-TDOD	05/12/2016
AR 2672605	Procedure Improvement / Process Improve for EO ERO Actions	05/23/2016
AR 2672739	01-0595-141A Relay Appears To Have Degraded Coil	05/23/2016
AR 2673498	2C RFP Tripped Immediately on Start Attempt From Bus 21	05/25/2016
AR 2674281	HFA Relay Replacement Required 2-3241-52D	05/26/2016
AR 2675883	Fire Extinguisher is Not on a PM Inspection List	05/31/2016
AR 2675979	NOS ID: Elevation to EMD for Not Resolving ELBP Issues	05/31/2016
AR 2677621	NRC Concerns on Compliance with DW/Torus DO and O2 Conc TS	06/03/2016
AR 2679804	NCV 16-001-02, Clsr Pkg. CREVS DPS Classification	06/09/2016
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 2684130	2A RHR Sub Door Found Not Secured By Security	06/21/2016
AR 2684197	Cognitive Trend in IR Initiation for June 2016	06/21/2016
AR 2687691	ERVR Quad Cities FW Reg Valve Subcomponent Classifications	06/30/2016
AR 2691484	EP- Ops Status and Director's Hotline Failures	07/11/2016
AR 2691486	EP- Satellite Phone Issues	07/11/2016
AR 2694084	Everbridge ERO Notification System Failure	07/18/2016

AR 2696484	EP: EAL Language is Inconsistent with EOP	07/25/2016
AR 2698621	U2 Control Rod Drive 30-35 High Temp	07/30/2016
AR 2702862	2B CRD Charging Header Pressure Trend Change	08/10/2016
AR 2703233	Foreign Material Found In Autopsied Tr Srv Solenoid 2-203-3a	08/11/2016
AR 2704078	Failed CR Relay 0-9908-1-A1 MCC Bucket	08/13/2016
AR 2704988	Relay Found Out of Tolerance	08/16/2016
AR 2706084	Rec Alarm 902-5 G2, 'CRD Accum Press Lo/Level Hi'. HCU 18-47	08/19/2016
AR 2708935	Potential Cognitive Trend in Security PR&A	08/26/2016
AR 2716699	Long Term Storage Area on the TB 611' Elev	09/16/2016

Apparent Cause Evaluation

ACE 1024260	Through Wall Leak on 1A RHRSW Pump Caused by Inadequate Fusion in Weld	02/01/2010
ACE 1617892	Through Wall Leak Line 2-10116B-2"-D. 2B RHRSW Cubicle Cooler	02/06/2014
ACE 1660714	2C Condenser Backpressure Response is Slow	06/23/2014
ACE 1663403	HPCI Interlock Door Opened Simultaneously	05/22/2014
ACE 1689371	IR 1680216 on 0-7507-B Valve Identified as Maintenance Rule Functional Failure and CCF	10/03/2014
ACE 2059639	Unable to Adjust Voltage on U2 125VDC Charger	11/10/2014
ACE 2383029	ACE Required from SPC for 1A RHRSW HP Elbow Degradation	10/13/2014
ACE 2383029	ACE Required From SPC For 1A RHRSW HP Elbow Degradation	07/31/2014
ACE 2392135	CAP Weakness— Adverse Trend Identified	10/07/2014
ACE 2425242	South Main Control Room Door (0-0075-89) Will Not Close	01/21/2015
ACE 2432457	Perform Apparent Cause Evaluation for CCF and Downpower Events	04/06/2015
ACE 2433389	Power Supply Breakers to Unit 0 fuel Oil Transfer Pump Found Tripped	02/05/2015
ACE 2436224	Incorrect Breaker Tagged Out of Service	02/06/2015
ACE 2450376	Unit 1 HPCI Interlock Door Failure	02/10/2015
ACE 2471912	Unexpected U1 Reactor Building Vent Radiation Monitor Channel (1-1705-8A) A High	05/05/2015
ACE 2476532	2015 WANO AFI – ER.3-3 Deficient Parts	04/24/2015

ACE 2479117	U1 3B ADS Valve – Unexpected Drywell Pressure Rise Following Manual Actuation of 1-0203-3B ERV Upon Entering Q1F65	04/03/2015
ACE 2485051	Unit 1 ADS 'A' Trip Logic Failed for ERVs 1-0203-3B and 3D and 'B' Trip Logic As-Found Data was Lost	05/12/2015
ACE 2513060	Residual Heat Removal Minimum Flow Valves Discovered Out of Position	07/10/2015
ACE 2513060	Residual Heat Removal Minimum Flow Valves Discovered Out of Position	07/10/2015
ACE 2533523	Damper 0-5741-329 Failed Part Open	07/27/2015
ACE 2557223	Accumulated Dose Alarm	09/17/2015
ACE 2559343	1A RHR Pump Breaker Closing Springs Not Charged	10/19/2015
ACE 2572506	Accumulated Dose Alarm in the RWCU Heat Exchanger Room	10/17/2015
ACE 2572506	Accumulated Dose Alarm Received in U2 Clean Up HX Room	10/17/2015
ACE 2578409	Received Unexpected U1 Fuel Pool Channel A Downscale	10/29/2015
ACE 2596725	B Train of Control Room HVAC Failed to Start	01/22/2016
ACE 2646827	Contracted Workers Not Signed Onto Clearance Order	04/29/2016
ACE 2648253	Assembly to Assembly Contact during Q2R23 Fuel Moves	04/01/2016
ACE 2673498	2C Reactor Feed Pump Breaker Closure Failure	06/30/2016

Audit, Assessment and Self-Assessments

AR 1610901	Assessment of Control Room Habitability Program	10/31/2014
AR 2386126	FASA Deficiency: No Open WO For Control Rod 26-07 Rod Position Indication System (RPIS) Issue	09/25/2014
CIAR 1610922	Mechanical Damage Mechanism	10/31/2014
CIAR 1653903	Evaluate Completed Temporary Shielding Packages and Logs	07/23/2014
CIAR 2422519	Off-Year NRC PI&R Assessment of the Corrective Action Program Review	09/30/2015
CIAR 2426795	Radworker Performance	07/02/2015
CIAR 2556582	Corrective Action Program (NCAP) Compliance Review	01/14/2016
FASA 1598600	Quad Cities Station EQ Program 5-Year FASA	09/30/2014
FASA 2620212	Preparation for NRC Problem Identification and Resolution (PI&R) Inspection per Inspection Procedure 71152	07/12/2016
FRPT 1610903	MOV – Motor Operated Valves	11/14/2014

NOSA-QDC-15-04	Corrective Action Program Audit Report	04/15/2015

Miscellaneous

2Q2016 SCMP Snapshot		Undated
2Q2016 SCMP Snapshot		Undated
ARs Relevant to Safety Culture (OR7); 01/01/2015 through 05/18/2016		Undated
ARs Relevant to Safety Culture (OR7); 01/01/2015 through 05/18/2016		Undated
EPRI Report 3002000541, Relay Series Specific Guidance Generic Service Life Analyses (GSLA) and Preventive Maintenance (PM) Templates		July 2013
Evaluation of Pits in the Quad Cities 2C RHRSW High Pressure Discharge Elbow		08/20/2015
Long Term Safety Culture Trending, Third Quarter 2013 through Second Quarter 2016		Undated
Long Term Safety Culture Trending, Third Quarter 2013 through Second Quarter 2016		Undated
Management Review Committee Agenda		Various Dates
Organizational Effectiveness Survey Results 9/21/2015 – 11/9/2015		2015
Organizational Effectiveness Survey Results 9/21/2015 – 11/9/2015		2015
Safety Culture Summary for Quad 3Q12 – Number of Inputs, Average Trait Scores, and Examples		Undated
Safety Culture Summary for Quad 3Q12 – Number of Inputs, Average Trait Scores, and Examples		Undated
SCMP Handout for September 28, 2016, Meeting		Undated
SCMP Handout for September 28, 2016, Meeting		Undated
SCMP Presentation: SVP FFD Follow Up Question		Undated
SCMP Presentation: SVP FFD Follow Up Question		Undated
Station Ownership Committee Agenda		Various Dates
Calc. 004-E-031	Thermal Overload Reviews	Revision 7
Calc. QDC-2900-M-0472	Determination of Pressure Required for Safe Shutdown Makeup Pump System Injection Under Safe Shutdown Conditions	Revision 0B
Calc. QDC-5700-E-0808	General Electric Thermal Overload Sizing for Continuous Duty Motors	Revision 3
EC 342788	Classification of Secondary Containment Doors	Revision 0
EC 374641	Evaluate replacement Motors for the U1 and U2 RHR Heat Exchanger MOV Motors at 1(2)-1001-16A/B and 1(2)-1001-36A/B	Revision 3

EC 398520	Support L Bracket May Come In Contact With U2 Torus During a Design Basis Event	11/19/2014
EC 398663	Address Supports That are Deemed too Close to the Unit 1 Torus - Issues Identified During Extent of Condition Walkdowns - OP Eval EC 398520 CA	10/29/2014
EC 400144	Evaluation of Lateral and Vertical Restraints of the HCU and the Scram Inlet 126 Valve	Revision 0
EC 401502	RHRSW Pump Discharge Elbow Possibly Degraded Operability Evaluation	Revision 0
EC 403442	Initiation Time of the Standby Gas Treatment System (SBGTS)	10/01/2015
EC 406729	HPCI Interlock Doors Latch Evaluation Technical Evaluation	Revision 0
EC 406756	Safety Classification Review of HPCI Interlock Door Latches	Revision 0
Part Evaluation 91914	Damper, Isolation, 12 in, Less Actuator, Less Limit Switches	Undated
PMID 193042	Replace Hydraulic Closer on South Main Control Room Door	Undated
PMID 35876	SBO Battery Charger Inspection	Undated
PMID 35877	SBO Battery Charger 2-8330 Inspection	Undated
PMID 38193	Control Valve Junction Box and Upper Joint Inspection	Undated
RWP 10016632	Reactor Water Clean Up (RWCU) Activities (Yes HRA/LHRA Access)	Revision 0
SESR 4-2713	The 2-1001-16A and 2-1001-16B Valve Motors are Being Replaced. Evaluate Circuit Breakers O.L. Heaters and Cable Sizing for the New Motors	03/23/1995
SR 90670	Predefine Change – 17213, 17214, 17215, 17216, 22391, 2, 3, 4 -01	11/18/2015
SR 91113	Predefine Change – PMID 35876-01 and 35877-01	01/13/2016
Standing Order 11-11	Clarification on Guidance for Emergency Diesel Generator (EDG) Operating Frequency	11/15/2011
WO 1472106	PCI Group 2 Partial Isol Test At Power	07/24/2013
WO 1618393-01	EM Replacement of PCM Template Recommended Circuit Cards	11/14/2015
WO 1623553	Q1R22 PSU – As Found Condition Bus 2201-32 Relay 287-107B	03/14/2013
WO 1646354	2-0590-102A MSIV A Relay Occasionally Chattering	05/28/2013
WO 1717548	(LR) Piping UT Wall Thickness Inspections	1117/2014
WO 1748175-03	EMS Trim Conduit Support in Torus Basement	10/17/2014
WO 1763245	Recalibrate U1 HPCI PI 1-2340-2 Due to Suspected OOT	09/18/2014
WO 1767480-01	EM Troubleshoot Unable to Adjust Voltage on U2 125VDC Charger	12/17/2014

WO 1792134-01	MM Inspect / Repair Main Control Room South Door	07/10/2015
WO 1827660	Rebuild 1-1301-61 Actuator	02/21/2016
WO 1849049-05	MMD Overhaul Actuator / Stroke Damper Manually	01/10/2016
WO 1854134-01	MMD EWP Replace Damper 0-5741-329	07/19/2016
WO 1872173-01	EM EWP Group 2, 15, 17 Eight Hour ELP Inspection	01/25/2016
WR 427400	Q1R22 PSU – As Found Condition Bus 2201-32 Relay 287-107B	03/14/2013
WR 431129	Relay 1-0595-103D Has Harmonic Noise/Vibration	04/22/2013
WR 483719	Repair Concrete East Wall at Discharge Bay	12/29/2014
WR 524146	MM Mod Corrosion/Leakage Found on RWCU Valve 2-1279-68	03/24/2016

Operating Experience

AR 2423336	OPEX Eval for IER L3-14-53, Corrosion of Unlined Carbon Steel	12/10/2014
AR 2472635	OPEX – GE SIL 675, R0, HCU Bracket Installation Error	03/23/2015
AR 2534289	OPEX Eval IER L3-15-27, Gas Binding Results in Loss of All Charging Flow	07/29/2015
AR 2577821	OPEX Eval IER L3-15-35, Loss of Shutdown Cooling Occurs During Plant Cooldown	10/28/2015
AR 2593375	GEH SIL 678 R0, Susceptibility of Original Directional Control Valve Cap Screw	11/30/2015
AR 2597335	Quad Actions from OPEX Review IR 2577821	12/08/2015
AR 2624986	SIL 678 Quad Cities Applicability DCV CAP Screws	02/11/2016
AR 2686774	OPEX Eval GEH SIL 678, R1 Susceptibility of Original Directional Control Valve Cap Screws	06/28/2016

Procedures

EI-AA-101	Employee Concerns Program	Revision 11
EI-AA-101-1001	Employee Concerns Program Process	Revision 14
ER-AA-335-1005	Standard Approach on How to Evaluate and Inspect Outside Diameter (OD) Corrosion on Piping	Revision 4
ER-AA-450	Structures Monitoring	Revision 5
ER-AA-700-1003	Screening and Evaluation of Potential Aging Issues	Revision 3
MA-AA-716-012	Post Maintenance Testing	Revision 20

MA-AA-716-026	Station Housekeeping / Material Condition Program	Revision 14
MA-AA-723-350	Emergency Lighting Battery Pack Quarterly Inspection	Revision 14
MA-QC-716-026-1001	Seismic Housekeeping	Revision 3
OP-AA-103-105	Limitorque Motor Operated and Chainwheel Operated Valve Operations	Revision 5
PI-AA-115	Operating Experience Program	Revision 1
PI-AA-115-1003	Processing of Level 3 OPEX Evaluations	Revision 2
PI-AA-120	Issue identification and Screening Process	Revision 6
PI-AA-125	Corrective Action Program (CAP) Procedure	Revision 4
PI-AA-125-1001	Root Cause Analysis Manual	Revision 2
PI-AA-125-1003	Apparent Cause Evaluation Manual	Revision 3
PI-AA-125-1004	Effectiveness Review Manual	Revision 1
PI-AA-125-1004	Effectiveness Review Manual	Revision 1
PI-AA-127	Passport Action Tracking Management Procedure	Revision 2
QCAN 901(2)-5 G-2	CRD Accumulator N2 Side Low Pressure or High Water Level	Revision 13
QCIS 1700-07	Reactor Building Ventilation and Fuel Pool Radiation Monitoring Calibration and Functional Test	Revision 24
QCMPM 0220-01	Relief Valve Downcomer to Drywell Vacuum Breaker Preventive Maintenance	Revision 13
QCOP 6500-07	Racking in a 4160 Volt Horizontal Type AMHG or G26 Circuit Breaker	Revision 33
QCOP 6600-27	Unit 1 Diesel Generator Shut Down	Revision 4
QCOS 1600-55	Secondary Containment Preventative Maintenance Program	Revision 10
QCOS 2900-01	Safe Shutdown Makeup Pump Flow Rate Test	Revision 37
QCOS 7500-04	Unit 1 Standby Gas Treatment Initiation and Reactor Building Ventilation Isolation Test	Revision 35
QCOS 7500-08	Unit 2 Standby Gas Treatment Initiation and Reactor Building Ventilation Isolation Test	Revision 24
RP-AA-400-1004	Emergent Dose Control and Authorization	Revision 8a
RP-AA-403	Administration of the Radiation Work Permit Program	Revision 8

Root Cause Evaluations

RCE 2443241	Operations Aggregate Performance Root Cause	04/10/2015

RCE 2468511	Individual Working on Bus 12 contacted Energized Equipment	05/11/2015
RCR 1641010	Forced Unit 2 Shutdown Due to Reactor Coolant Pressure Boundary Leakage	03/31/2014
RCR 2479120	U1 Manual Scram Due to Steam Leak on D-Ring Header	04/02/2015

Condition Reports Generated for this Inspection

AR 2716239	PIR: Issue Resolution Closure Documentation Correction	09/15/2016
AR 2716518	PIR: QCOP 6500-07, Racking in Horizontal 4KV Breakers	09/16/2016
AR 2716521	PIR – RCR 2479120 – NRC Observation	09/16/2016
AR 2716533	PIR – Effectiveness Review Criteria	09/16/2016
AR 2716581	PIR – ACE 2557223 – NRC Observation	09/16/2016
AR 2716618	PIR 2016: Inadequate Documentation of Preconditioning Eval	09/16/2016
AR 2716692	PIR 2016: Preconditioning EC has Inaccurate Conclusion	09/16/2016
AR 2720738	PIR: EC Eval 342788 Requires Revision for HPCI Interlock	09/27/2016
AR 2721194	PIR: Revise Procedure QCEPM 0700-03	09/28/2016
AR 2721304	PIR: IR 2578071 to Include SESR 4-2713 in Op. Disc.	09/28/2016
AR 2721644	PIR Platform Ladder in T.B. Did Not Have Wheels Chocked	09/29/2016
AR 2721809	PIR: Classification of IR 2578071 as NCAP IRs	09/29/2016
AR 2721942	PIR: AT 1617892-18 Contains Incorrect Trend Data	09/29/2016
AR 2721948	PIR Debrief Observation on ACE 2513060 Actions	09/29/2016
AR 2721951	PIR Debrief Observation on IRs 1497588 and IR 1630449	09/29/2016
AR 2722259	PIR NRC ID Documentation Issue in IR 2646622	09/30/2016
AR 2722349	PIR – EACE 1617892 & IR 2553103 – NRC Observation	09/30/2016

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
CAP	Corrective Action Program
CAPR	Corrective Action to Prevent Recurrence
CFR	Code of Federal Regulations
EACE	Equipment Apparent Cause Evaluation
EPRI	Electric Power Research Institute
IR	Issue Report
ECP	Employee Concern Program
IMC	Inspection Manual Chapter
LCO	Limiting Condition for Operation
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
PCM	Performance Centered Maintenance
PI&R	Problem Identification and Resolution
RHRSW	Residual Heat Removal Service Water
SCWE	Safety Conscious Work Environment
TS	Technical Specification

Based on the results of this inspection, no finding of significance was identified.

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Sincerely,

/RA/

Karla Stoedter, Chief
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Division of Reactor Projects

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