



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
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LISLE, ILLINOIS 60532-4352

November 6, 2017

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

**SUBJECT: CLINTON POWER STATION—NRC PROBLEM IDENTIFICATION AND
RESOLUTION INSPECTION REPORT 05000461/2017007**

Dear Mr. Hanson:

On September 29, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed a Problem Identification and Resolution (PI&R) inspection at your Clinton Power Station. The enclosed inspection report documents the inspection results, which were discussed at an exit meeting on September 29, 2017, with Mr. B. Kapellas, and other members of your staff.

This inspection was an examination of activities conducted under your license as they relate to PI&R and compliance with the Commission's rules and regulations and 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 Clinton Power Station was generally effective in identifying, evaluating and correcting issues. The team determined that station personnel generally 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. In addition, self-assessments and audits were found to be conducted at appropriate frequencies with sufficient depth for all departments. The assessments reviewed 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 Clinton 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, one NRC identified finding of very low safety significance (Green) was documented in this report. This finding involved a violation of NRC requirements. The NRC is treating this violation as a Non-Cited Violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the subject or severity of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with

copies to the Regional Administrator, Region III; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Clinton Nuclear Power Station.

In addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at the Clinton Nuclear Power Station.

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/

Laura Kozak, Acting Chief
Branch 1
Division of Reactor Projects

Docket No. 50-461
License No. NPF-62

Enclosure:
Inspection Report 05000461/2017007

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Letter to Bryan Hanson from Laura Kozak dated November 6, 2017

SUBJECT: CLINTON POWER STATION—NRC PROBLEM IDENTIFICATION AND
RESOLUTION INSPECTION REPORT 05000461/2017007

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-461
License No: NPF-62

Report No: 05000461/20170007

Licensee: Exelon Generation Company, LLC

Facility: Clinton Power Station

Location: Clinton, IL

Dates: September 11 through September 29, 2017

Team Leader: E. Sanchez-Santiago, Resident Inspector

Inspectors: M. Jones, Reactor Inspector
V. Petrella, Reactor Inspector
B. Bartlett, Project Engineer
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Management Agency

Approved by: L. Kozak, Acting Chief
Branch 1
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

Inspection Report 05000461/2017007; 09/11/2017 – 09/29/2017; Clinton Power Station, Unit 1; Biennial Problem Identification and Resolution.

This inspection was performed by four region-based inspectors and the Clinton Nuclear Power Station Resident Inspector. One Green finding was identified by the inspectors. This finding and violation was considered a Non-Cited Violation (NCV) of U.S. Nuclear Regulatory Commission (NRC) regulations. The significance of inspection findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red), and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," dated April 29, 2015. Cross-cutting aspects are determined using IMC 0310, "Aspects Within Cross-Cutting Areas," dated December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated November 1, 2016. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 6.

Problem Identification and Resolution

On the basis of the sample selected for review, the team concluded that implementation of the corrective action program (CAP) at Clinton Power Station was generally good. The licensee had a low threshold for identifying problems and entering them in the CAP. Items entered into the CAP were screened and prioritized in a timely manner using established criteria; were properly evaluated commensurate with their safety significance; and corrective actions were generally implemented in a timely manner, commensurate with the safety significance. The team noted that the licensee reviewed operating experience for applicability to station activities. Audits and self-assessments were determined to be performed at an appropriate level to identify deficiencies. On the basis of interviews conducted during the inspection, workers at the site expressed freedom to enter safety concerns into the CAP. There was one Green finding identified by the team during the inspection. The finding involved the failure to evaluate defeating reactor core isolation cooling system interlocks and trips before adding it to an emergency operating support procedure. This finding has a cross-cutting aspect in the area of Human Performance.

NRC-Identified and Self-Revealed Findings

Cornerstones: Mitigating Systems

Green-Severity Level IV. The inspectors identified a Severity Level IV NCV of Title 10 *Code of Federal Regulations* (CFR) 50.59(d)(1), "Changes, Test, and Experiments," and an associated finding, for the licensee's failure to perform a written evaluation which provided the bases for the determination that a change did not require a license amendment. Specifically, the licensee made a change pursuant to 10 CFR 50.59(c) with the change to an emergency operating procedure (EOP) support procedure to incorporate three reactor core isolation cooling (RCIC) system interlock defeats and did not provide a basis for the determination that this change would not create a possibility for a malfunction of a structure, system or component (SSC) important to safety with a different result than any previously evaluated in the updated safety analysis report. The licensee entered this issue into the CAP as action request (AR) 04056394 and planned to perform a screening for the procedure change.

This performance deficiency was determined to be more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, because it was associated with the Mitigating Systems cornerstone attribute of procedure quality and affected the cornerstone objective of ensuring the availability, reliability, and capability of mitigating systems to respond to initiating events to prevent undesirable consequences. Specifically, the change did not ensure RCIC system reliability and availability during and following design basis accidents because it introduced a new failure mode and added reliance on monitoring activities and manual actions. In accordance with Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because it did not represent an actual loss of safety function of the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk significant due to seismic, flooding, or severe weather. Traditional enforcement applied to this finding because it involved a violation that impacted the regulatory process. The inspectors determined it to be of Severity Level IV significance because it resulted in a condition evaluated by the SDP as having very low safety significance (Enforcement Policy example 6.1.d.2). The team determined that this finding had a cross-cutting aspect of Resources in the area of Human Performance because the licensee did not ensure that procedures, and other resources were available and adequate to support nuclear safety. Specifically, the procedure which required a 50.59 screening for changes to EOP support procedures, was not explicit in requiring the screening. [H.1] (Section 4OA2.1.b.2)

REPORT DETAILS

4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution (71152B)

The activities documented in Sections .1 through .4 constituted one biennial sample of problem identification and resolution as defined in Inspection Procedure 71152.

.1 Assessment of the Corrective Action Program Effectiveness

a. Inspection Scope

The inspector reviewed the licensee's Corrective Action program (CAP) implementing procedures and attended CAP meetings to assess the implementation of the CAP by site personnel.

The inspectors reviewed risk and safety significant issues in the licensee's CAP since the last Nuclear Regulatory Commission (NRC) Problem Identification and Resolution (PI&R) inspection in September 2015. The selection of issues ensured an adequate review of issues across NRC cornerstones. The inspectors used issues identified through NRC generic communications, department self-assessment, licensee audits, operating experience reports, and NRC documented findings as sources to select issues. In addition, the inspectors reviewed Action Reports (ARs) and a selection of completed investigations from the licensee's various investigation methods, which included root cause, apparent cause, equipment apparent cause, corrective action program evaluation and human performance investigations.

The inspectors selected two of high risk systems, which included the reactor core isolation cooling (RCIC) system and the switchgear ventilation (VX) system to review in detail. The inspectors' review was to determine whether the licensee staff were properly monitoring and evaluating the performance of these systems through effective implementation of station monitoring programs. A five year review on the RCIC system and the VX system was also undertaken to assess the licensee staff's efforts in monitoring for system degradation due to aging aspects.

A supplemental inspection was performed in January 2016 in response to the White violation issued for the failure to verify the suitability of the replacement pump design for the Division 3 shutdown service water system. The same pump failed again in June 2017 and was being reviewed by the resident inspector office. As a part of their review, the resident inspector office would review the corrective actions that were not completed at the conclusion of the supplemental inspection. Therefore, the PI&R team did not complete the review of this item. (Inspection Report 05000461/2016008, ADAMS Accession Number ML16077A312)

During the reviews, the inspectors determined whether the licensee staff's actions were in compliance with the facility's CAP and 10 CFR Part 50, Appendix B requirements. Specifically, the inspectors determined if licensee personnel were identifying plant issues at the proper threshold, entering the plant issues into the station's CAP in a timely manner, and assigning the appropriate prioritization for resolution of the issues. The inspectors also determined whether the licensee staff assigned the appropriate investigation method to ensure the proper determination of root, apparent, and

contributing causes. The inspectors also evaluated the timeliness and effectiveness of corrective actions for selected issue reports, completed investigations, and NRC findings, including non-cited violations.

b. Assessment

(1) Effectiveness of Problem Identification

Based on the inspection results, the inspectors concluded that, in general, the station was effective in identifying issues at a low threshold and entering them into the CAP. This was evident by the approximate 9000 ARs written yearly in each of the past 5 years. In interviews conducted by the inspectors, it was evident that station employees had no reservations about writing ARs. The inspectors determined that normally problems were identified and captured in a complete and accurate manner in the CAP. 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 station was generally effective at trending low level issues to prevent larger issues from developing. The licensee also used the CAP to document instances where previous corrective actions were ineffective or were inappropriately closed.

The inspectors performed a 5-year review of the RCIC and VX system. As part of this review, the inspectors reviewed a sample of RCIC and VX system health reports, IRs, operating experience, and Maintenance Rule status. The inspectors reviewed licensee's CAP and work management system procedures that provided guidance for trending. In addition, the inspectors walked down portions of the RCIC and VX system. The inspectors concluded that RCIC and VX related 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) Observations and Findings

Condition Report not generated for Conditions Adverse to Quality

The Inspectors identified one minor example of a condition adverse to quality not being documented in the corrective action program. The inspectors reviewed an equipment apparent cause evaluation performed under AR 1395861-02 where the licensee established an extent of condition review following the identification of internal damage to shutdown service water (SX) valve 1SX024A to determine the impact of Clinton raw water and corrosion rates on SX gate valves. The inspectors reviewed the work order associated with the internal inspection of the 1SX024B valve. The work order stated the valve was in the required open position but with degradation in several valve components, including the T-slot, stem, gland flange, and wedge guides. The inspectors determined the degraded condition was not entered into the corrective action program as required by PI-AA-120, "Issue Identification and Screening Process."

Title 10 CFR Part 50, Appendix B, Criterion II, states, "The applicant shall establish at the earliest practicable time, consistent with the schedule for accomplishing the activities, a Quality Assurance Program which complies with the requirements of this appendix. This program shall be documented by written policies, procedures, or

instructions and shall be carried out throughout plant life in accordance with those policies, procedures, or instructions.”

The licensee’s Quality Assurance Program was established in the Quality Assurance Topical Report (QATR). Corrective action procedure PI-AA-125 implemented a portion of the licensee’s CAP as described in the QATR and stated “Specifically, at the direction of site management, Significant Conditions Adverse to quality and Conditions Adverse to Quality are resolved through direct action, the implementation of Corrective Actions to Prevent Recurrence (CAPRs) and Corrective Actions (CAs) and documented in the Computer Program.”

Contrary to the above, the licensee failed to carry out the documentation portion of their Quality Assurance Program in accordance with procedure PI-AA-125. Specifically, the licensee failed to document the degraded condition identified during an extent of condition inspection of 1SX024B valve. The licensee captured this issue in AR 04056735, “2017 PIR Perform Past Operability for 1SX024B.” However, because the valve was identified in the open position, did not challenge system operability, and was replaced under work order (WO) 04579646 this violation was determined to be minor.

(2) Effectiveness of Prioritization and Evaluation of Issues

Based on the results of the inspection, the inspectors concluded that identified problems were generally prioritized and evaluated commensurate with their safety significance, including an appropriate consideration of risk. Higher level evaluations, such as root cause and apparent cause evaluations, were generally technically accurate; of sufficient depth to effectively identify the cause(s); and generally considered extent of condition, generic implications, and previous occurrences in an adequate manner.

The inspectors determined that the station ownership committee and management review committee meetings were generally thorough and meeting participants were actively engaged and well-prepared. Station ownership committee and management review committee meetings accurately prioritized issues.

The inspectors determined that, overall, Clinton Power Station personnel evaluated equipment operability and functionality requirements adequately after a degraded or non-conforming condition was identified, and appropriate actions were assigned to correct the degraded or non-conforming condition.

i) Observations and Findings

Failure to Evaluate Defeating Reactor Core Isolation Cooling System Interlocks and Trips before Adding Them to an Emergency Operating Support Procedure

Introduction. The inspectors identified a Severity Level IV NCV of 10 CFR 50.59(d)(1), “Changes, Test, and Experiments,” and an associated Green finding, for the licensee’s failure to perform a written evaluation which provided the bases for the determination that a change did not require a license amendment. Specifically, the licensee changed an emergency operating procedures (EOP)-1 support procedure to incorporate three RCIC interlock defeats but did not provide a basis for the determination that this change would not create a possibility for a malfunction of an SSC important to safety with a different result than any previously evaluated in the updated safety analysis report.

Description. The inspectors reviewed condition report AR 3984041, “RCIC Low Suction Pressure Trip Needs a Defeat Action in EOPs,” dated March 10, 2017, which was generated during a benchmarking effort at another Exelon facility that had incorporated the RCIC low suction pressure trip defeat and others, into an EOP support procedure. The inspectors questioned what trip defeats Clinton had incorporated into their EOP support procedures and requested and reviewed procedure change records and documentation associated with these additional trip bypasses.

Inspectors reviewed the Clinton Safety Evaluation of the Upgraded Emergency Operating Procedure Program, dated December 1990 and noted that previously a list of RCIC interlock defeats were added to the EOPs and were reviewed by the NRC. The inspectors noted the following interlocks were not included in the safety evaluation: (1) Defeating RCIC Exhaust Diaphragm High Pressure Isolation; (2) Defeating RCIC High Exhaust Pressure Trip; and (3) Defeating RCIC High Steam Flow Isolations. Additionally, section A.1 of the Safety Evaluation acknowledged in part, “The NRC stated that future changes to the [NRC accepted] procedure generation package (PGP) should be reviewed in accordance with 10 CFR 50.59.”

Inspectors reviewed Exelon white paper, EXC-WP-10, “RCIC Operation at Elevated Suppression Pool Temperatures Following an Extended Loss of AC Power (ELAP),” dated February 5, 2015. Exelon Nuclear provided a list of RCIC Trip/Isolation Signals under Appendix A, which included the Interlocks: (1) Defeating RCIC Exhaust Diaphragm High Pressure Isolation; (2) Defeating RCIC High Exhaust Pressure Trip; and (3) Defeating RCIC High Steam Flow. Section 4.3 stated in part that “Each site should review [the list] to determine if trip/isolation signals would be expected.” If the site determined trips were expected the site would also need to evaluate if the trip could be bypassed.

Inspectors reviewed EOP-1, RPV Control, and noted that both the path for RPV Water Level Control and the path for RPV Pressure, stated it is “Ok to defeat RCIC Interlocks” and referenced CPS 4410.00C001. CPS 4410.00C001 was updated on April 29, 2016 and May 26, 2016 to allow implementation of the following defeats when directed by a licensed Senior Reactor Operator, as required by CPS 4410.00, “Defeating System Interlocks”: (1) defeating RCIC Exhaust Diaphragm High Pressure Isolation; (2) defeating RCIC High Exhaust Pressure Trip; and (3) defeating RCIC High Steam Flow Isolations. The inspectors requested the documentation of the evaluation performed to add these interlocks to the EOP.

The licensee provided the AD-AA-101-F-01, “Document Site Approval Form” record for CPS 4410.00C001, “Defeating RCIC Interlocks,” dated April 28, 2015 which documented that 10 CFR 50.59 was not applicable for the following procedure changes that allowed (1) Defeating RCIC Exhaust Diaphragm High Pressure Isolation; (2) Defeating RCIC High Exhaust Pressure Trip; and (3) Defeating RCIC High Steam Flow Isolations due to findings from the Fukushima event. The Procedure was also revised to incorporate an isolation reset section. Inspectors noted although the interlock defeats were added in response to actions recommended for beyond design basis events, they were incorporated into emergency procedures that are used for design basis events. This could introduce a new failure mechanism that was not screened or evaluated in accordance with 10 CFR 50.59 as required by licensee procedures and NRC regulations. The Procedure was also revised to incorporate an isolation reset section.

Inspectors reviewed AD-AA-101, "Processing of Procedures and Training and Reference Materials (T&RMs)" procedure which outlined the process for revising standard or site specific procedures. Inspectors noted that Section 1.2 stated in part, "this procedure applies to all procedures and T&RMs except...Boiling water reactor (BWR) Emergency Operating Procedures (EOPs)..." Therefore, this procedure was not applicable for the changes being made. Inspectors also reviewed CPS 1005.09, "Emergency Operating Procedure (EOP) and Severe Accident Guideline (SAG) Program." Step 8.9.4 of this procedure stated in part, "A copy of EOP Revision Assessment letter shall be attached as supporting documentation to the 50.59 Screening Form prepared for the revision." However when asked about the 10 CFR 50.59 Screening Form, the licensee determined one was not completed for this procedure revision.

Inspectors noted although the interlock defeats were added in response to actions recommended for beyond design basis events, they were incorporated into emergency procedures that are used for design basis events. This could introduce a new failure mechanism that was not screened or evaluated in accordance with 10 CFR 50.59 as required by licensee procedures and NRC regulations. The inspectors also determined that adding manual operator actions to safety related components was not within the design basis of the facility; therefore the inspectors could not reasonably determine that this change would not have required prior NRC review and approval.

Analysis. The inspectors determined that the failure to perform a written 10 CFR 50.59 evaluation to incorporate three additional defeats to RCIC system interlocks to EOP-1 support procedure, CPS 4410.00C001 "Defeating RCIC Interlocks" was contrary to 10 CFR 50.59(d)(1) and was a performance deficiency. The performance deficiency was determined to be more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, because it was associated with the Mitigating Systems cornerstone attribute of equipment performance and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of mitigating systems to respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the change did not ensure RCIC system availability and reliability during and following design basis accidents because it introduced a new failure mode and added reliance on monitoring activities and manual actions.

Using IMC 0609, Attachment 4, "Initial Characterization of Findings," and Appendix A, "The Significance Determination Process (SDP) for Findings at Power," Exhibit 2, June 19, 2012, the finding was screened against the Mitigating Systems cornerstone and determined to be of very low safety significance (Green) because the inspectors were able to answer all of the questions "No."

The NRC's significance determination process (SDP) considers the safety significance of findings by evaluating their potential safety consequences. The traditional enforcement process separately considers the significance of willful violations, violations that impact the regulatory process, and violations that result in actual safety consequences. Traditional enforcement applied to this finding because it involved a violation that impacted the regulatory process. Assessing the violation in accordance with Enforcement Policy, the inspectors determined it to be of Severity Level IV because it resulted in a condition evaluated by the SDP as having very low safety significance (Enforcement Policy example 6.1.d.2).

The team determined that this finding had a cross-cutting aspect of Resources in the area of Human Performance because the licensee did not ensure that procedures and other resources were available and adequate to support nuclear safety. Specifically, licensee procedure CPS-1005.09, "Emergency Operating Procedure (EOP) and Severe Accident Guideline (SAG) Program," requiring a 50.59 screening for changes to EOP-1 support procedures, was not explicit in requiring the screening. Procedure 1005.09 alluded to performance of a screening through step 8.9.9 which states "a copy of EOP revision assessment letter shall be attached as a supporting documentation the 50.59 Screening Form prepared for the revision." [H.1]

Enforcement. Title 10 CFR 50.59, "Changes, Tests, and Experiments," Paragraph (d)(1) requires, in part, the licensee to maintain records of changes in the facility, of changes in procedures, and of tests and experiments made pursuant 10 CFR 50.59(c). These records must include a written evaluation which provides the bases for the determination that the change, test, or experiment does not require a license amendment pursuant to paragraph (c)(2) of this section.

Contrary to the above, from April 29, 2016 and May 26, 2016 until September 27, 2017, and ongoing, the licensee failed to maintain a record of a change in procedures made pursuant to 10 CFR 50.59(c) that included a written evaluation which provided the bases for the determination that the change did not require a license amendment pursuant to 10 CFR 50.59(c)(2). Specifically, the licensee made changes to the EOP-1, support procedure, CPS 4410.00C001, "Defeating RCIC Interlocks," but failed to perform a written evaluation which provided the bases for the determination that the change did not require a license amendment pursuant to 10 CFR 50.59(c)(2)(vi). As a result, the licensee failed to provide a basis supporting that the change did not create a possibility for a malfunction of an SSC important to safety with a different result than any previously evaluated in the final safety analysis report (as updated).

The licensee documented this issue in their CAP as AR 04056394, "2017PIR 4410.00C001 Needs 50.59 Screening," and planned to perform a 50.59 screening to determine whether NRC approval was required prior to implementing the EOP changes. Because the associated finding was of very low safety significance (Green) and because the licensee entered it into its corrective action program, this violation is being treated as a non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy: **(NCV 05000461/2017007-01, "Failure to Evaluate Defeating Reactor Core Isolation Cooling System Interlocks and Trips before Adding Them to an Emergency Operating Support Procedure.")**

(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. 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 and licensee identified documented violations and determined that actions assigned were generally effective and timely.

i) Observations and Findings

Corrective Action Assignments not Created when Required

The inspectors identified two minor examples for the failure to document corrective action assignments for conditions adverse to quality. The inspectors reviewed AR 2614744 which was written to document the failure to perform an as found voiding inspection on the 'A' residual heat removal system prior to performing a fill and vent of the system. This issue was classified as a level 3 condition in accordance with PI-AA-120, "Issue Identification and Screening Process," which assigned a level between 1 and 5 to each identified condition. The level assigned to each issue was commensurate with the significance of the issue, level 1 being the most significant and level 5 being the least significant. The assigned level would indicate what the required follow-up actions should be. The inspectors identified that the action created to correct the issue was categorized as a procedure change request assignment rather than a corrective action assignment.

The inspectors also reviewed AR 3977720 which was written to document a discrepancy identified in the updated safety analysis report and the technical specification bases. This issue was also classified as a level 3 condition. The inspectors identified an action item was created to correct this issue rather than a corrective action assignment.

Title 10 CFR Part 50, Appendix B, Criterion II, states, "The applicant shall establish at the earliest practicable time, consistent with the schedule for accomplishing the activities, a Quality Assurance Program which complies with the requirements of this appendix. This program shall be documented by written policies, procedures, or instructions and shall be carried out throughout plant life in accordance with those policies, procedures, or instructions."

The licensee's Quality Assurance Program was established in the QATR. Corrective action procedure PI-AA-125, "Corrective Action Program Procedure," implemented a portion of the licensee's CAP as described in the QATR and stated in part the following guidance would be used to determine if an action is a corrective action, "Actions that correct a significance level 1, 2, or 3 conditions."

Contrary to the above, the licensee failed to carry out the corrective action portion of their Quality Assurance Program in accordance with procedure PI-AA-125. Specifically, the licensee failed to assign corrective action assignments to significance level 3 conditions. The licensee captured this in AR 4056734, "CA not created for Level 3 AR 2614744" and AR 4056951, "AR 3977720 (SL3) does not Have CA as Required." However, since the identified conditions were corrected under the created assignments the safety significance of this violation was determined to be minor.

Rigor Applied to the Generation of Effectiveness Reviews

During the review of multiple causal evaluations, the inspectors identified a trend associated with the rigor applied to the generation of effectiveness reviews. Specifically, the inspectors identified that effectiveness reviews lacked rigor and failed to ensure that corrective actions were successful in addressing the identified issues. For example:

- Apparent cause evaluation 2605894, "Procedure Adherence," was performed in response to a trend in failures to follow procedures. The identified cause was the

inadequate awareness of topics contained in “Information Use” procedures. The corrective action developed to address the cause was to implement departmental “Information Use” procedure list/tool for reference during pre-job briefs. The effectiveness review criterion was that 80 percent of procedure adherence issue be self-identified. This criterion would not verify the licensee improved in the area of procedure adherence.

- Apparent cause evaluation 2659195, “Missed Required Technical Specification Surveillance,” was performed in response to the failure to perform a required technical specification surveillance that resulted in a licensee event report. The identified cause was that a senior reactor operator did not validate that a required surveillance was current. The corrective action developed to address the cause was to provide counsel to the individual responsible for this issue. The effectiveness review criterion was that the specific senior reactor operator involved in this event didn’t cause a technical specification event that resulted in a licensee event report. This effectiveness review was narrowly focused and specific to one individual rather than ensuring the actions that led to this issues were addressed with all licensed operators and any failure to follow technical specification was considered in the review rather than only those that led to a licensee event report.
- Root cause 2689365, “FLEX Inspection Performance,” was performed in response to issues identified during the Temporary Instruction 191 inspection. One of the issues was the timeliness and quality of responses to the NRC during the inspection. The identified cause was a lack of senior manager engagement to consistently drive resolution of NRC questions and issues. The corrective action developed to address the cause was to develop and implement a progressive accountability program for senior managers to ensure tracking resolution of NRC questions and issues. The effectiveness review criteria was to verify that progressive accountability actions had been implemented and documented for individuals missing due dates. The effectiveness review focused on the timeliness aspect of the issue but failed to address the quality of responses aspect.
- Corrective action program evaluation report 4009845, “C1R17 [main steam isolation valve] MSIV [local leak rate test] LLRT Technical Specification [TS] 3.6.1.3 Limit Exceeded,” was performed in response to the MSIV LLRT failure. This test failure was a reportable condition because it represented a degraded barrier and a condition prohibited by TS. The identified cause was expected wear of MSIV internals. The corrective action developed to address the identified cause was repair/replace the main steam isolation valves that failed the LLRT. The effectiveness review was to verify the work order for the “as left” test was acceptable. The corrective actions and effectiveness review did not address what led to the MSIVs failing the LLRT test.

The inspectors determined these examples did not constitute a violation of NRC requirements and communicated them to the licensee as observations.

.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 implementing operating experience program procedures, attended CAP meetings to observe the use of OE information, completed evaluations of OE issues and events, and selected monthly assessments of the OE composite performance indicators. The inspectors' review was to determine whether the licensee was effectively integrating OE experience into the performance of daily activities, whether evaluations of issues were proper and conducted by qualified personnel, 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 experience, were identified and effectively and timely implemented.

b. Assessment

Based on the results of the inspection, the inspectors had no issues with the licensee's review of operating experience.

i) Observations and Findings

No observations or findings were identified.

.3 Assessment of Self-Assessments and Audits

a. Inspection Scope

The inspectors assessed the licensee staff's ability to identify and enter issues into the CA program, prioritize and evaluate issues, and implement effective corrective actions, through efforts from departmental assessments and audits.

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 ARs as required by the CAP procedures.

i) Observations and Findings

No observations or findings were identified.

.4 Assessment of Safety Conscious Work Environment

a. Inspection Scope

The inspectors interviewed selected Clinton Power Station personnel to determine if there were any indications that licensee personnel were reluctant to raise safety concerns to either their management or the NRC due to fear of retaliation. The inspectors also assessed the licensee's safety conscious work environment through a review of Employee Concern Program (ECP) implementing procedures, discussions with an ECP manager, interviews with personnel from various departments, and reviews of ARs. The inspectors reviewed licensee's self-assessments and assessments by external organizations of safety culture to determine if there were any organizational issues or trends that could impact the licensee's safety performance.

b. Assessment

The inspectors did not identify any issues that suggested conditions were not conducive to the establishment and existence of a safety conscious work environment at Clinton Power Station. Licensee staff members were aware of and generally familiar with the CAP and other station processes, including the ECP, 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 licensee staff also indicated that management had been supportive of the CAP by providing time and resources for employees to generate their IRs.

The staff also expressed a willingness to challenge actions or decisions that they believed were unsafe. All employees interviewed noted that any safety issue could be freely communicated to supervision and safety significant issues were being corrected.

Since the beginning of 2015, various safety culture assessments had been performed by contractors, the licensee's staff, and a nuclear plant owner/operators organization. The results indicated that there were no impediments to the identification of nuclear safety issues. The inspectors reviewed these surveys and did not identify any adverse trend.

i) Observations and Findings

No observations or findings were identified.

4OA6 Management Meetings

.1 Exit Meeting

On September 29, 2017, the inspectors presented the inspection result to Mr. B. Kapellas and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

T. Stoner, Site Vice President
B. Kapellas, Plant Manager
K. Pointer, Regulatory Assurance
N. Santos, Regulatory Assurance
R. Bair, Work Management Director
J. Cunningham, Maintenance Director
T. Dean, Training Director
C. Dunn, Operations Director
M. Heger, Senior Manager Design Engineering
T. Krawyck, Engineering Director
W. Marsh, Organizational Effectiveness Manager
B. Golladay, CAP Manager
F. Paslaski, Radiation Protection Manager
D. Shelton, Regulatory Assurance Manager
R. Champley, Shift Operations Superintendent
D. Koons, Chemistry Manager
J. Wilson, Senior Manager Plant Engineering
A. Sigemund, Security Manager

U.S. Nuclear Regulatory Commission

L. Kozak, Acting Chief, Reactor Projects Branch 1

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000461/2017007-01 NCV Failure to Evaluate Defeating Reactor Core Isolation Cooling System Interlocks and Trips before Adding Them to an Emergency Operating Support Procedure (Section 4OA2.1.b.2)

Discussed

None.

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.

Condition Reports

- AR 1383458; No Flow Passing Through 1SX024A to 1VX06CA
- AR 1383069; 1VX06CA Tripping on High Discharge Pressure
- AR 1298928; 1E51F063: RCIC Steam Supply LLRT Higher than Admin Limit
- AR 1572093; RCIC Steam Supply LLRT Increased Leakage (CPS 9861.02D017)
- AR 1302721; 1MC-043 Post-LLRT Exceeds Admin Limit
- AR 1131148; Nuclear Event Report (NER) NC-10-056
- AR 2494024; Failure to Disarm a CRD HCU Prior to Fuel Moves
- AR 2559739; No Procedure for Reset or Restart of Chiller 0VS07CA
- AR 2568286; Tracking of Actions for Licensee Identified Violations
- AR 2574436; Trng-Potential Trend Id'd During Trend Review
- AR 2595854; NCV 2015007-01 No IRs for Conditions Adverse to Quality
- AR 2605894; Trend IR for Procedure Adherences Issues
- AR 2627087; NCV 2015004-02, Failure to Perform Activities IAW Procedures
- AR 2640908; 1SX024C Stem Disc Separation
- AR 2642140; Procedure Enhancement for RCICI Surveillance
- AR 2650393; RPID – Trend for 9 RP Trend HURBS in Last 12 Months
- AR 2659195; Missed Required TS Surveillance
- AR 2670593; PMC - Water Leak at Flex Hose for MS Elbow Taps IN DW - PSU
- AR 2671728; PSU: NRC ISI: C1R15 Primary Containment Liner Corrosion
- AR 2674455; 1FW01PB Event Requires FW/95 MRULE (A)(1) Determination
- AR 2686863; Drive Shaft Coupling Missing Five Nuts
- AR 2688379; Water Leak at Flexible Hose for MS Elbows in Drywell
- AR 2694434; MRULE A1 Determination Req for 93 Sys Due to CMC Exceeded
- AR 2718753; EOID: 1CO609, 1CO01T Tank Outlet Valve Found Closed
- AR 3984041; RCIC Low Suction Pressure Trip Needs a Defeat Action in EOPS
- AR 2742442; CDBI: Inappropriate Calculation Method for CR Habitability
- AR 1395861; Perform EACE on 1SX024A
- AR 4009845; Main Steam Isolation Valve LLRT Technical Specification 3.6.1.3 Limit Exceeded
- AR 2709029; Degraded Sediment Pond Filter House
- AR 1353218; Degraded Fuel Building Floor Drain Sump Pumps
- AR 4022444; Degraded Fuel Building Floor Drain Sump Pumps
- AR 2590818; RHR Water Leg Pump Leaking Degrading
- AR 2577200; Traveling In-core Probe Indications are Severely Degraded
- AR 3959926; Division 2 Diesel Generator Air Dryer Desiccant Degraded
- AR 3996571; Clinton Power Station Reduced Regulatory Margin
- AR 3948284; NRC Component Design Basis Inspection Question Regarding Spent Fuel Pump Function Following a Seismic Event
- AR 2592557; Essential Service Water Pump 1SX01PC Degraded with a Nonconforming Condition Impacting Design Life

- AR 1323827; Lack of Single Phase Loss Detection Operability Evaluation
- AR 4015674; Detector 1RIXCM060 no Response when Exposed to High Range Gamma Source
- AR 2650450; Evaluate the 345 kV Insulator Replacement Strategy and RCM Risk
- AR 2659195; Missed Required Technical Specification Surveillance Due to Human Performance Error
- AR 2649780; Reserve Auxiliary Transformer 4538 Failure with Numerous Expected Alarms
- AR 3974026; Water Intrusion in Charcoal Bed
- AR 2610350; RWCU Isolation Due to Failed Temperature Instrument
- AR 2614832; Unexpected Auto Trip of 5043-2A
- AR 2614159; Radiography Results on RWCU
- AR 2647629; Hydrogen Cooler has a Water Leak
- AR 2653887; Cyber Issue Vendor Wanted to Connect to Admin Building HVAC
- AR 2699106; B Control Room Chiller Shut Down
- AR 2714605; Prompt Jump in Flow Control Valve Position
- AR 3984041; RCIC Low Suction Pressure Trip in EOPs
- AR 4009753; Lesson Learned Jet Pump Plug Installation
- AR 4012150; Runback 4.0 Critique
- AR 4026256; Procedure Direction to SCRAM
- AR 2639317; NRC Questions on VC Train B Operability Determination
- AR 2607579; Fleet Appendix J Scope Reduction – Clinton
- AR 2621780; 1FC004B Failed Stroke Time
- AR 2553839; New Shielding Rack Needed
- AR 2633546; 1DV018A Failed to go Fully Shut
- AR 3982189; Area Postings
- AR 4024410; Nitrogen Leak On HCU 40-29 Accumulator
- AR 4025160; CRD High Temp On Control Rod 28-25 5006-1G
- AR 4026903; Diesel Coolant Work Order Needs Moved
- AR 4028183; 19 Main Control Room - Fluorescent Light Fixtures OOS/Dark
- AR 2550867; Request Seismic Operability/Analysis Evaluation With Gtd
- AR 2552889; Rr Bay Outer Door Seal Protection Out of Place
- AR 2553770; Part not Like for Like
- AR 2562173; Temp Storage Structure Greater than 90 Days
- AR 2572354; EOID Foreign Material in Suppression Pool
- AR 2574022; Inconsistent Signage in RCA Postings
- AR 2672677; FM Discovered on Fuel Bundle During Core Verification
- AR 3986021; Found Plywood in WO-A Water Box.
- AR 4019285; Pen Floating in Suppression Pool
- AR 2551421; Concrete Chunks Falling From Ceiling
- AR 1475215; Degraded Coating On 1VX06CC Tubesheet
- AR 1620291; Isolation Valves Leak By
- AR 2494888; 1VX03CA Fan Rotating Backwards At 120 Rpm
- AR 1660826; 1VX06CC Not Qualified for Piping Nozzle Loads
- AR 2646134; Div 2 VX Condensing Unit Stop / Restarted During SX Flush
- AR 2571902; NOS ID: Technically Inaccurate EC
- AR 2576950; NOS ID: Temp Power Inspections Over 90 Days In Database
- AR 1531950; 1VX03CC; Non-Running Div 3 VX Fan (1VX03CC) Rotating 12 Rpm
- AR 1628161; Temperature Gauge Needs to be Replaced or Recalibrated

- AR 2382974; 1vx13sa Cooling Coil Requires Re-Baseline
- AR 1530222; Minor Leak on Drain Plug South Endbell of Heat Exchanger
- AR 1619755; Alarm Received for High D/P Although Gauge Shows 0.6"
- AR 2437391; WW 1513, 9027.C003 Found to Auto Start Div 1 VX System
- AR 2438775; Div 1 and Div 2 VX Work Orders Removed From WW 1507
- AR 2455545; Deferral of Div 2 VX Hydramotor Pm Required
- AR 2455552; Deferral of Div 2 VX Power Supply Replacement Pm Required
- AR 2634045; SX Flow Balance Testing Impacts on VX System
- AR 1445694; EOID: 1VX59YB Damper Making Vibration Noise
- AR 1468785; 1TITVX060 Spurious Alarm for Hi Temp E Battery Room
- AR 1475089; 1VX06CC New End Covers Gaskets are of Different Thickness
- AR 1475051; West Condenser Cooling Water Head Leaked Upon Pressurization
- AR 3996427; Cannot Complete Scheduled Work Order
- AR 1529858; 1TSVX603A Mounting Bracket Broken
- AR 1651872; C/O Required to Build Scaffold on 1FZVX005
- AR 2113160; VX TRM Change Requires Reevaluation of Maint Strategy
- AR 1468804; Spurious MCR Alarm 5042-4h
- AR 2538548; EC 402193 Not Routed for ODCM Applicability
- AR 1546892; 1SX024C is Labeled as Throttled but it is Full Open
- AR 1656399; C/O Required to Build Scaffold for Wo# 1552541-01 1FZVX002
- AR 2655186; Corrective Action Program (CAP) Trend
- AR 1008731; CAT ID 1129364 for 1DC17E-8A Replacement Needs Analyzed
- AR 1247016; Determine the Cause for Fuel Building Ventilation Differential Pressure Failure
- AR 1572951; Turbine Oil Reservoir Alarms Outside of the Setpoints
- AR 2501958; Trouble TSI CAB 5007-4B is Lit
- AR 2642252; PMC – Turbine Oil Level Gauge Performance Observation
- AR 2714605; A RR FCV
- AR 3986689; CAT ID 1129306 (Circuit Breaker) Failed Testing
- AR 3984041; RCIC Low Suction Pressure Trip Needs a Defeat Action in EOPS
- AR 3990959; OPS & ENG OE: Inadequate Operability Determination Leads to
- AR 3997459; CCP Enhancement IR – Robust Barriers on Motor Control Center
- AR 3996140; 1LI-TO006 Float Ball Bad, Needs Replaced
- AR 4001482; Replacement Breakers Don't Match E02 – 1DC07 Sht 001 - CCP
- AR 4001482; Replacement Breakers Don't Match E02-1DC07 SHT 001 – CCP
- AR 4009131; MT OE: Failure of Solenoid Valve Appendix R Diesel Generator
- AR 4009753; C1R17 LL Lessons Learned – RR Jet Pump Plug Installation
- AR 4010119; Breaker at 1DC17E-7A – Failed to Trip during DC MCC 1E PM
- AR 4017245; 1B21F002 Indicates Intermediate when Open
- AR 4013050; OPS OE: Residual Heat Removal Service Water Room Cooler Fans
- AR 4020569; Manual Reactor Scram due to Loss of Feedwater Heating
- AR 4021780; OPS OE: Secondary Containment Testing Led to Loss of Safety
- AR 4024045; VT-2 of Underground Piping in Div II SX System
- AR 4025129; Received Unexpected Annunciator 5007-1C, Trouble EHC System
- AR 4026256; Compliance with NER on Procedure Direction to Scram
- AR 4029928; Troubleshooting Results of IR 4025129 for 1PA06J
- AR 4030742; Actions from OPEX Review
- AR 4035097; Unexpected Reset of 5040-7G
- AR 4040747; MCRD Removed from Schedule WO 04639777, DC Breaker
- AR 4042229; EC Needs Generated for Annunciator 5040-7G

- AR 3970182; Sec Id: Performance Testing not Completed as Required
- AR 3977720; USAR and Tech Spec Bases Discrepancy; RCIC not an ESF System
- AR 4016597; Control Rod Sequence Inconsistent Tech Eval 619225
- AR 4019371; Failure While Performing 9030.05
- AR 4020898; Installation TCP in Control Building 781 Aux Electric Room
- AR 3957439; Sec Id Trend for HU Events in Security
- AR 4025602; MSL Plugs not Deconned and Stored on Insertion Tool
- AR 2664632; 2015 Equipment Reliability Assessment Issue Clinton
- AR 3988610; Corporate Environmental Review of Clinton SWPPP
- AR 2692930; NSRB Assessment Identified Deficiency
- AR 2685356; FLEX Storage Building Exhaust Fan Not Consistent with Design
- AR 2639043; No Level 3 IRs for 2013 Cyber Security Violations
- AR 3980495; Inadequate PBI 2017-02-003
- AR 3950495; 2FW009B Lost Light Indication
- AR 3995612; 0VC07SB Unacceptable Charcoal Test
- AR 2619114; NCV 2015003-04, Failure to Enter TS Actions during OPDRVs
- AR 2553615; Incorrect Dose and RWP Assigned
- AR 3967017; Silt Levels in Unit 2 SX Exceed Acceptable Levels
- AR 2708440; Potential Non-Procedural Compliance
- AR 2566671; EP Siren Failure
- AR 2640852; Plant Risk Went Orange Due to Severe Weather
- AR 2571680; Security B.R.E #8 Will Not Properly Secure
- AR 2568012; EP Drill Notification Issues
- AR 3975398; SEC ID Multiple Opta Sense Fibers Alarms Lock on at Once
- AR 2561265; HAB Tabletop Critique Items
- AR 3982046; SEC Id Lost Badge in Protected Area
- AR 2549714; NOS ID: Security Test Equipment Placed in Unsafe Condition
- AR 2439437; Entry into CPS 4001.01 Rx Coolant Leakage Off Normal
- AR 3996571; Clinton Power Station Reduced Regulatory Margin

Apparent Cause Evaluation/Corrective Action Program Evaluation

- ACE 3949655; RHR Pump C Failed to Start
- ACE 2670117; Control Rod Issues Delay Shutdown for C1R16; dated June 8, 2016
- ACE 2714605; Reactor Recirculation (RR) Flow Control Valve (FCV) Position Change
- ACE 2625647; Differential Pressure in Fuel Building and Secondary Containment Loss
- ACE 2605894; Procedure Adherence
- ACE 2659195; Missed Required Technical Specifications (TS) Surveillance
- ACE 2494024; Failure to Disarm a CRD HCU Prior to Fuel Moves
- CAPE 3996571; Clinton Power Station Compliance Improvement

Audit, Assessment and Self-Assessments

- AR 2489965; FASA (EN) Pre-NRC CDBI 71111.21 Inspection
- AR 2655457; 2016 CDBI FASA Calc 19-AJ-18 Weakness
- AR 2655467; 2016 CDBI FASA SDC-LPCI TS 3.5.1 Changes Needed
- AR 2637814; Engineering Programs and SBO Audit
- AR 2419458; NOSA-CPS-15-05 Clinton Design Engineering Audit
- AR 3960081; NOSA-CPS-17-01; Clinton Station Materials Management And Proc
- AR 2432803; Radiochemistry Quality Control and Effluents
- AR 3994907; NOS ID: Cap Product MRC

- AR 3994886; NOS ID: MRC Approved a CAPE that did not Address All Actions
- AR 3994944; NOS ID: ACIT Used to Address Specific Part of a Root Cause
- AR 3951971; Check-In 2668578 Deficiency #01
- AR 3951976; Check-In 2668578 Deficiency 03 (RCR 2614832)
- AR 3951990; Check-In 2668578 Deficiency 05
- AR 4020165; NOS ID: FLEX Spent Fuel Level Indicator 2016/2017 Level Cals
- AR 2434011; Implementation of the Radiological Transportation Program
- AR 3950645-02; Check-in Self-Assessment for Maintenance Role in Work Management
- AR 396290.3; Check-in Self-Assessment for PORC Program
- AR 2668578; Check-In Self-Assessment for Off Year PI&R
- NOSA-CPS-17-01; Clinton Station Materials Management And Proc
- NOSA-CPS-17-02; Security Programs Audit Report
- NOSA-CPS-17-04; Corrective Action Program Audit Report
- NOSA-CPS-17-05; Clinton Station Engineering Design Audit
- NOSA-CPS-17-07; Nuclear Fuels Audit Report

Miscellaneous

- Clinton Power Station Quarterly Roll-Up Report; Dated 1Q2015
- M05-1052; Shutdown Service Water; Revision AL
- EC 405380; Impact of the 1SX024C Valve Disc-Stem Separation on Division 3 VX System Safety Function; Revision 0
- WO 04579646; 1SX024B Perform EOD Internal Valve Inspection of Valve; 02/28/2017
- WO 04579646; 1SX024B Perform EOD Internal Valve Inspection of Valve; 09/26;2017
- WO 1624263; 1SX024C Perform EOD Internal Valve Inspection of Valve 1SX024C; 09/26/2017
- WO 01935469; Drive Shaft Coupling Missing Five Nuts on 0FP01PB
- EC 406265; Revision 0, Operability Evaluation Inner Railroad Door Seal Potentially Degraded
- EC 407244; Revision 2, NRC Component Design Basis Inspection Questioned Operability and Required New Calculation Methodology
- EC 407024; Revision 3, Provide Temporary Mechanical Gag on the Actuator of Valve 1CW001C
- EC 619680; Revision 0, Disconnect Bell Alarm for Battery Charger Feed Circuit Breaker
- Risk Assessment CPS-1-2014-0370, Revision 2, Failure of Ohio Brass Insulators at Another Fleet Facility
- R-000003; SLT Semi-Annual Safety Culture Review for July through December 2015
- CPS MRC Agenda for 09/14/2017
- Control Room Operator Logs for the 30 Day Period from May 6, 2017 through June 17, 2017
- EC 403656; Replace Springs with Temporary Struts on Rt Lines in the Drywell (1RT01004C AND 1RT01014C); Revision 0
- Station Ownership Review Package; Dated 09/13/2017
- Drawing M05-1036 Sht. 1; P&ID: Diesel Generator Fuel Oil System; Revision S
- EC 620050; Install Supplemental Cooling for 1PA08J; Revision 000
- EC 620050; Install Supplemental Cooling for 1PA08J; Revision 001
- WO 04671097; Unexpected Reset of 5040-7G Troubleshooting
- WO 01945878; Modification of Fuel Bldg Static Pressure Probe (EC 404886)
- EC 619680; Disconnect Bell Alarm for Battery Charger Feed Circuit Breaker at DC MCC 1E (1DC16E) Cubicle 7A; Revision 0
- WO 04639777; Task to Control TCCP EC 619680 Tags

- Drawing E02-1DC99; Sht. 12; Schematic Diagram: DC & Battery Sys. (DC) 125VDC Battery Charger 1E 1DC25E; Revision G
- Drawing E02-1DC99; Sht. 4; Schematic Diagram: DC & Battery Sys. (DC) 125VDC Battery Charger 1E 1DC25E; Revision X
- WO 04663650-01; Main Control Room Distraction and Annunciator Status Review; completed 08/14/2017
- EC 620104; Defeat Input to Annunciator Window 5007-4B from TSI Cabinet for "Trip Voltage Supervisory" Circuit; Revision 0
- WO 04655065; Annunciators 5007-4B/4C Locked in After 8626.01
- WO 04648873; 1B21F002 Indicates Intermediate When Open
- WO 4656170-01; Received Unexpected Annunciator 5007-1C, Trouble EHC System
- WO 4662135; Troubleshooting Results of IR 4025129 for 1PA06J
- EC 405857; Remove MCR Distraction for Turbine Oil Tank Low Level Alarm; Revision 0
- WO 1682435; Turbine Oil Reservoir Alarms Outside of the Setpoints
- WO 1538388; 1019.07D20 VI Leak Reduction/Monitoring (LPCS)
- WO1586125; 1019.07D20 VI Leak Reduction/Monitoring (HPCS)
- WO 1587074; 1019.07D20 VI Leak Reduction/Monitoring (RHR A)
- WO 1540237; 1019.07D20 VI Leak Reduction/Monitoring (RHR A S/D Cooling)
- WO 1624833; 1019.07D20 VI Leak Reduction/Monitoring (RHR B)
- WO 1540238; 1019.07D20 VI Leak Reduction/Monitoring (RHR B S/D Cooling)
- WO 1625455; 1019.07D20 VI Leak Reduction/Monitoring (RHR C)
- WO 1645772; 1019.07D20 VI Leak Reduction/Monitoring (RCIC)

Operating Experience

- AR 2534260; OPEX EVAL ICES 316008, Inoperable Seismic Instrumentation
- AR 2546270; OPEX EVAL EPRI CAT 2 3002005150
- AR 2601290; OPEX EVAL EPRI 3002005567
- AR 2717391; OPEX EVAL ICES 323460, Emergency Diesel Generator Room Outlet Damper Failed to Open
- AR 2717403; OPEX EVAL ICES 323397, Diesel Generator Ventilation Damper Failed to Modulate
- AR 2717400-05; OPEX EVAL 323131, Diesel Generator Cooling Fan Outlet Damper;
- AR 3954068; OPEX EVAL EPRI CAT 2 3002009411, Nuclear Maintenance Applications Center: MSIV Maintenance Guide
- AR 3965480-05; Fleet OPEX Evaluation Required
- AR 2726717; OPEX EVAL SER 2016-01, Failure to Establish and Maintain Required Reactivity Shutdown Margin
- AR 3965039; Fleet Review for INPO IER L4-17-2: Cathodic Protection Systems
- AR 3987094; Level 3 OPEX EVAL ASCO Information Notice-RTV Sealant
- AR 3952325; OPEX EVAL INPO IER L3-16-24, Emergency Diesel Generator Bearing Failure
- AR 3958687-05; OPEX EVAL INPO IER L3-16-24, Emergency Diesel Generator
- AR 3993940; OPEX Review ENS 52655 Pressure Suppression Pool Declared Inoperable

Procedures

- OP-AA-108-105-1001; MCR and RWCR Equipment Deficiency Management and Performance Indicator Screening; Revision 5
- CC-AA-112; Temporary Configuration Changes; Revision 25
- OP-AA-102-103; Operator Work – Around Program; Revision 4

- OP-AA-102-103-1001; Operator Burden and Plant Significant Decisions Impact Assessment Program; Revision 7
- PI-AA-120; Revision 7, Issue Identification and Screening
- PI-AA-125; Revision 5, Corrective Action Program Procedure
- PI-AA-125-1001; Revision 3, Root Cause Analysis Manual
- PI-AA-125-1004; Revision 2, Effectiveness Review Manual
- PI-AA-126; Self-Assessment and Benchmark Program; Revision 2
- PI-AA-126-1001; Self-Assessments; Revision 2
- CPS 4410.00C001; Defeating RCIC Interlocks; Revision 6b
- CPS 4410.00; Defeating System Interlocks; Revision 3a
- CPS 4401.01; RPV Control; Revision 30
- CPS 5040.07; Alarm Panel 5040 Annunciators – Row 7; Revision 27a
- CPS 5012.06; Alarm Panel 5012 Annunciators – Row 6; Revision 23c
- CPS 1005.09 Emergency Operating Procedure (EOP) and Severe Accident Guideline (SAG) Program; Revision 10b
- CPS 9054.01D002; RCIC 91E51-C001) High Pressure Operability Checks Checklist; Revision 26b
- CPS 9054.01C002; CPS 9054.01D002; RCIC 91E51-C001) High Pressure Operability Checks; Revision 8d
- CPS 9054.01 RCIC System Operability Check; Revision 44a
- CPS 8120.37; Valve Packing Installation; Revision 1

Root Cause Evaluations

- RCR 2670593; Water Leak at Flexible Hose for MS Elbows in Drywell
- RCR 2614832; Unexpected 5043-2A Auto Trip VR System CCP SUP/EXH Fan during Maintenance; dated February 15, 2016
- RCR 4010227; Informal Communications Methods Utilized to Establish Compensatory Measures
- RCR 02614832; Unexpected 5043-2A Auto Trip VR System CCP SUO/EXH Fan during Maintenance
- RCR 2689365; FLEX Inspection Performance

Issue Reports Generated for this Inspection

- AR 4051744; PIR 2017 NRC Question on OP-AA-108-105-1001
- AR 4052473; CPS PIR Inspection on MCRD IAW OP-AA-108-105-1001
- AR 4056374; 2017 PIR: NRC ID EFR 2494024 Line of Sight
- AR 4056394; 2017 PIR 4410.00C001 Needs 50.59 Screening
- AR 4056735; 2017 PIR Perform Past Operability For 1SX024B
- AR 4052502; PIR 2017 Maintenance Planning Checklist not Utilized Always
- AR 4056394; 2017 PIR 4410.00C001 Needs 50.59 Screening
- AR 4052201; NRC Observations During PIR Review of CAPE 3996571
- AR 4056065; Enhancement for Tracking ECCS Leakage PIR Question 64-02
- AR 4057170; 2017 PIR NRC Observation on Self-Assessment
- AR 4057177; 2017 PIR NRC Observation on EFRs
- AR 4057184; 2017 PIR NRC Structural Monitoring Observation
- AR 4056302; PIR 2017 TMOD EC 403656 Contains Typographic Error in Calc
- AR 4056734; 2017 PIR CA(s) not Created for Level 3 IR 2614744
- AR 4056591; 2017 PIR IR 3977720 (SL3) Does not Have CA as Required
- AR 4056956; 2017 PIR NRC SCWE Observation

- AR 4056957; 2017 PIR NRC Observation on CAPE 3996571
- AR 4056960; 2017 PIR NRC Observation of IR Documentation
- AR 4056964; 2017 PIR NRC Observation on Root Cause 2670593
- AR 4056823; 2017 PIR AR 2614744 Requires a Corrective Action

LIST OF ACRONYMS

ACE	Apparent Cause Evaluation
ACIT	Action Tracking Item
ADAMS	Agencywide Documents Access and Management System
AR	Action Request
CA	Corrective Action
CAP	Corrective Action Program
CAPE	Corrective Action Program Evaluation
CAPR	Corrective Action to Prevent Recurrence
CAQ	Condition Adverse to Quality
CFR	<i>Code of Federal Regulations</i>
CPS	Clinton Power Station
ECP	Employee Concern Program
EOP	Emergency Operating Procedure
IMC	Inspection Manual Chapter
LIV	Licensee Identified Violation
LLRT	Local Leak Rate Test
MSIV	Main Steam Isolation Valve
NCV	Non-Cited Violation
NRC	U.S. Nuclear Regulatory Commission
PARS	Publicly Available Records
PBI	Plant Barrier Impairment
PI&R	Problem Identification and Resolution
QATR	Quality Assurance Topical Report
RCIC	Reactor Core Isolation Cooling
SCAQ	Significant Condition Adverse To Quality
SSC	Structures, Systems or Component
SX	Shutdown Service Water
TS	Technical Specification
VX	Switchgear Cooling