



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE RD. SUITE 210
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February 13, 2015

Mr. Ernest Harkness
Site Vice President
FirstEnergy Nuclear Operating Company
Perry Nuclear Power Plant
P. O. Box 97, 10 Center Road, A-PY-A290
Perry, OH 44081-0097

SUBJECT: PERRY NUCLEAR POWER PLANT NRC INTEGRATED INSPECTION REPORT
05000440/2014005 AND 07200069/2014001

Dear Mr. Harkness:

On December 31, 2014, the U.S. Nuclear Regulatory Commission (NRC) completed a baseline inspection and an inspection of the operation of the Independent Spent Fuel Storage Facility (ISFSI) at your Perry Nuclear Power Plant. On January 8, 2015, the NRC inspectors discussed this inspection with you and members of your staff. The inspectors documented the results of this inspection in the enclosed inspection report.

The NRC inspectors documented three findings of very low safety significance (Green) in this report. The findings involved violations of NRC requirements. Additionally, the NRC inspectors documented one Severity Level IV violation with no associated finding. Further, inspectors documented a licensee-identified violation which was determined to be of very low safety significance. The NRC is treating these violations as non-cited violations (NCVs), consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violations or significance of the NCVs, 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 Perry Nuclear Power Plant.

If you disagree with a cross-cutting aspect assignment 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 Perry Nuclear Power Plant.

In accordance with Title 10 of the *Code of Federal Regulations* 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

E. Harkness

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Sincerely,

/RA/

Michael Kunowski, Chief
Branch 5
Division of Reactor Projects

Docket No. 05000440 and 07200069
License No. NPF-58

Enclosure:
Inspection Report 05000440/2014005 and
Inspection Report 07200069/2014001
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-440 and 72-069

License No: NPF-58

Report Nos: 05000440/2014005 and 07200069/2014001

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Perry Nuclear Power Plant, Unit 1

Location: North Perry, Ohio

Dates: October 1 through December 31, 2014

Inspectors: M. Marshfield, Senior Resident Inspector
J. Nance, Resident Inspector
J. Beavers, Emergency Preparedness Inspector
R. Edwards, Reactor Inspector
B. Palagi, Senior Operator License Inspector
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Approved by: M. Kunowski, Chief
Branch 5
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

Inspection Reports (IRs) 05000440/2014005 and 07200069/2014001, 10/01/2014–12/31/2014, Perry Nuclear Power Plant; Surveillance Testing, Problem Identification and Resolution, and Other Activities.

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. Three findings were identified by the inspectors that were considered Green non-cited violations (NCVs) of NRC regulations. Additionally, the inspectors identified one traditional enforcement Severity Level IV (SLIV) violation with no associated finding. 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 June 2, 2011. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," effective January 1, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated July 9, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

NRC-Identified and Self-Revealed Violations

Cornerstone: Mitigating Systems

Green. The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the licensee's unevaluated preconditioning, on October 15, 2014, of emergency service water (ESW) pump discharge motor-operated valves and check valves prior to performing as-found inservice testing (IST). This finding was entered into the licensee's corrective action program for resolution as Condition Report 2014-15759.

The unevaluated preconditioning was a performance deficiency that was determined to be more than minor, and thus a finding, because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone, and adversely affected the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, unevaluated preconditioning of valves could mask their actual as-found conditions and result in an inability to verify their operability, as well as make it difficult to determine whether the valves would perform their intended safety function during an event. The inspectors determined that the finding was of very low safety significance because the finding was confirmed not to result in a loss of operability or functionality of the ESW system. The finding has a cross-cutting aspect in the area of human performance associated with the work management component because the licensee did not implement a process of planning, controlling, and executing work activities to prevent preconditioning of valves prior to testing (H.5). (Section 1R22)

Green. The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4.1.a., "Procedures," was identified for the licensee's failure to establish and maintain a correct surveillance inspection procedure for redundant reactivity control system (RCS) channel checks. The licensee entered the issue into the corrective action program as Condition Report 2014-17635 and took immediate actions for a missed surveillance in accordance with TS.

The inspectors determined that the failure to establish and maintain a correct surveillance procedure required by TS 5.4.1.a. was a performance deficiency and resulted in the licensee's failure to perform a channel check that meets the TS definition of a channel check. The performance deficiency was determined to be more than minor, and thus a finding, because it was associated with the procedure quality attribute of the Mitigating Systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the channel check surveillance procedure did not compare the channel indication and status to other indications or status derived from available independent instrument channels measuring the same parameter. The inspectors determined that the finding was of very low safety significance because the finding (1) did not affect a reactor protection system trip signal and the function of other redundant trips or diverse methods of reactor shutdown, (2) did not involve control manipulations that unintentionally added positive reactivity, and (3) did not result in a mismanagement of reactivity by operators. No cross-cutting aspect is assigned as this performance deficiency first occurred in 1986 and is not indicative of current licensee performance. (Section 4OA2.4(1))

Green. The inspectors identified a finding of very low safety significance and associated NCV of Technical Specification 5.4.1.a, "Procedures," for the licensee's failure to implement the requirements of Nuclear Operating Business Practice (NOBP)–LP–4003A, "FENOC 10 CFR 50.59 User Guidelines." This finding was entered into the licensee's corrective action program for resolution as Condition Report 2015–00284.

The inspectors determined that the failure to complete a Regulatory Applicability Determination (RAD) specified in NOBP–LP–4003A was a performance deficiency. The performance deficiency was more than minor, and thus a finding, because it was associated with the procedure quality attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function and/or system; (3) did not result in the loss of one or more trains of TS equipment; and (4) does not represent the loss of a non-TS train of equipment. The finding has a cross-cutting aspect in the area of human performance associated with the change management component, in that leaders use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority (H.3). (Section 4OA2.4(2))

Other Findings

- Severity Level IV. The inspectors identified a Severity Level IV NCV of very low safety significance of 10 CFR Part 72.150, "Instructions, Procedures, and Drawings," for the licensee's failure to follow procedures important to safety during dry cask operations. The licensee entered each example identified into its corrective action program as Condition Reports 2014–11637 and 2014–14279.

The violation was determined to be more than minor in that both examples identified deficiencies in the performance of dry cask operations important to safety. In this determination, the inspectors considered example 4.a in IMC 0612, Appendix E, "Examples of Minor Issues," dated August 11, 2009, and concluded that, while the errors did not result in any actual safety concern, there were multiple examples of procedural non-compliance. Additionally, if left uncorrected, a failed weld could lead to a release of radioactive materials to the environment and a malfunction of the Fuel Handling Building crane could lead to a more significant safety concern such as a load drop. The significance of the violation was found to be similar to SLIV example 6.5.d.3, of the NRC's Enforcement Policy, in that the licensee failed to adequately implement Quality Assurance processes or procedures. The issue was not found to be similar to any examples of higher significance; as such, the violation screened as a SLIV violation. Since traditional enforcement was used to disposition the violation, a cross-cutting aspect is not applicable. (Section 4OA5)

Licensee-Identified Violations

A violation of very low safety significance was identified by the licensee and has been reviewed by the NRC. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and corrective action tracking number are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

The plant began the inspection period at 100 percent power. On October 20, 2014, at 2:18 a.m. an unplanned automatic reactor scram occurred due to a reactor pressure vessel (RPV) Level 3 initiation signal (following preparations for maintenance on an inverter). The reactor returned to criticality on October 25, at 6:21 p.m. The plant synchronized to the grid on October 26, at 10:57 a.m. and reached 100 percent power on October 30, 2014. The plant operated at or near 100 percent power until November 7, 2014, when at 8:47 a.m. an unplanned automatic reactor scram occurred due to a RPV Level 3 initiation signal (following an unplanned runback of the feedwater pumps). The reactor returned to criticality on November 11, at 7:31 a.m. The plant synchronized to the grid on November 12, at 6:15 a.m. and reached 100 percent power on November 16, 2014. With the exceptions of minor reductions in power to support routine surveillances and short down powers to accomplish rod pattern adjustments, the plant remained at full power for the remainder of the quarter.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection (71111.01)

Winter Seasonal Readiness Preparations

a. Inspection Scope

The inspectors conducted a review of the licensee's preparations for winter conditions to verify that the plant's design features and implementation of procedures were sufficient to protect mitigating systems from the effects of adverse weather. Documentation for selected risk-significant systems was reviewed to ensure that these systems would remain functional when challenged by inclement weather. During the inspection, the inspectors focused on plant-specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Safety Analysis Report (USAR) and performance requirements for systems selected for inspection and verified that operator actions were appropriate as specified by plant-specific procedures. Cold weather protection, such as heat tracing and area heaters, was verified to be in operation where applicable. The inspectors also reviewed corrective action program (CAP) items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into the CAP in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems due to their risk significance or susceptibility to cold weather issues:

- auxiliary boiler systems, and
- building heating systems.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted one winter seasonal readiness preparations sample as defined in Inspection Procedure (IP) 71111.01-05.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- R23, 480–Volt load centers, Division 2;
- annulus exhaust gas treatment system B; and
- Division 1 diesel generator (DG).

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, the USAR, Technical Specification (TS) requirements, past and outstanding work orders (WOs), condition reports (CRs), and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted three partial system walkdown samples as defined in IP 71111.04–05.

b. Findings

No findings were identified.

.2 Semi-Annual Complete System Walkdown

a. Inspection Scope

On November 4, 2014, the inspectors performed a complete system alignment inspection of the emergency closed cooling system to verify the functional capability of the system. This system was selected because it was considered both safety significant and risk significant in the licensee's probabilistic risk assessment. The inspectors walked down the system to review mechanical and electrical equipment lineups; electrical power availability; system pressure and temperature indications, as appropriate; component labeling; component lubrication; component and equipment

cooling; hangers and supports; operability of support systems; and to ensure that ancillary equipment or debris did not interfere with equipment operation. A review of a sample of past and current WOs was performed to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the CAP database to ensure that system equipment alignment problems were being identified and appropriately resolved. Documents reviewed are listed in the Attachment to this report.

These activities constituted one complete system walkdown sample as defined in IP 71111.04–05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- Fire Zone; 1CC–4a,e,i & 2CC–4a,c,d,e,g,h,i (Control Complex 638' Elevation);
- Fire Zone; 0CC–1CC–4b,f, 0CC–2CC–4b,f, 1CC–5a,b,c, and 2CC–5a,b (Control Complex 654' Elevation);
- Fire Zone; SB–604 (Service Building 604' Elevation) / SB–620 (Service Building 620' Elevation) / DG–1D (Hallway Diesel Generator Building 620' 6" and 646' 6");
- Fire Zone; 0FH–1 (Fuel Handling Building 574' 10" Elevation) / 0FH–2A (Fuel Handling Building 599' Elevation North) / 0FH–2B (Fuel Handling Building 599' Elevation South); and
- Fire Zone; 0IB–4 (Intermediate Building 654' and 665' Elevation) / 0IB–5 (Intermediate Building 682' Elevation).

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. The inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP. Documents reviewed are listed in the Attachment to this report.

These activities constituted five quarterly fire protection inspection samples as defined in IP 71111.05–05.

b. Findings

No findings were identified.

.2 Annual Fire Protection Drill Observation (71111.05A)

a. Inspection Scope

On October 30, 2014, the inspectors observed fire brigade activation for a scheduled fire drill in the Water Treatment Building. Based on this observation, the inspectors evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that licensee staff identified deficiencies, openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were:

- proper wearing of turnout gear and self-contained breathing apparatus;
- proper use and layout of fire hoses;
- employment of appropriate firefighting techniques;
- sufficient firefighting equipment brought to the scene;
- effectiveness of fire brigade leader communications, command, and control;
- search for victims and propagation of the fire into other plant areas;
- smoke removal operations;
- utilization of pre-planned strategies;
- adherence to the pre-planned drill scenario; and
- drill objectives.

Documents reviewed are listed in the Attachment to this report.

These activities constituted one annual fire protection inspection sample as defined in IP 71111.05–05.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

.1 Internal Flooding

a. Inspection Scope

The inspectors reviewed selected risk important plant design features and licensee procedures intended to protect the plant and its safety-related equipment from internal flooding events. The inspectors reviewed flood analyses and design documents, including the USAR, engineering calculations, and abnormal operating procedures to identify licensee commitments. In addition, the inspectors reviewed licensee drawings to identify areas and equipment that may be affected by internal flooding caused by the failure of nearby sources of water, such as the ESW and nuclear closed cooling (NCC) systems. The inspectors also reviewed the licensee's corrective action documents

associated with the inability to isolate NCC to the 'A' Spent Fuel Pool Heat Exchanger. This included the review of the prompt functionality assessment to evaluate the diversion of ESW into the NCC system when the NCC system isolates. Documents reviewed during this inspection are listed in the Attachment to this report.

This inspection constituted one internal flooding sample as defined in IP 71111.06–05.

b. Findings

No findings were identified.

.2 Underground Vaults

a. Inspection Scope

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

- Safety-Related Manholes 1 and 2, East Vaults, Division 3 cabling; and
- Safety-Related Manholes 1 and 2, West Vaults, Division 2 cabling.

Specific documents reviewed during this inspection are listed in the Attachment to this report. This inspection constituted one underground vaults sample as defined in IP 71111.06–05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

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

a. Inspection Scope

The inspectors reviewed the overall pass/fail results of the Biennial Written Examination, and the Annual Operating Test administered by the licensee from October 27–December 12, 2014, as required by 10 CFR 55.59(a). The results were compared to the thresholds established in IMC 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process (SDP)," dated December 6, 2011, to assess the overall adequacy of the licensee's Licensed Operator Requalification Training (LORT) Program to meet the requirements of 10 CFR 55.59. (02.02)

Documents reviewed are listed in the Attachment to this report.

This inspection constituted one annual licensed operator requalification examination results sample as defined in IP 71111.11-05.

b. Findings

No findings were identified.

.2 Biennial Review (71111.11B)

a. Inspection Scope

The following inspection activities were conducted during the weeks of November 24, 2014, and December 1, 2014, to assess: (1) the effectiveness and adequacy of the licensee's implementation and maintenance of its systems approach to training (SAT) based LORT Program put into effect to satisfy the requirements of 10 CFR 55.59; (2) conformance with the requirements of 10 CFR 55.46 for use of a plant referenced simulator to conduct operator licensing examinations, and for satisfying experience requirements; and (3) conformance with the operator license conditions specified in 10 CFR 55.53. The documents reviewed are listed in the Attachment to this report.

- Licensee Requalification Examinations (10 CFR 55.59(c)); Systems Approach to Training Element 4 as Defined in 10 CFR 55.4): The inspectors reviewed the licensee's program for development and administration of the LORT biennial written examination and annual operating tests to assess the licensee's ability to develop and administer examinations that are acceptable for meeting the requirements of 10 CFR 55.59(a).
 - The inspectors conducted a detailed review of two biennial requalification written examination versions to assess content, level of difficulty, and quality of the written examination materials. (02.03)
 - The inspectors conducted a detailed review of 10 Job Performance Measures (JPMs) and four simulator scenarios to assess content, level of difficulty, and quality of the operating test materials. (02.04)
 - The inspectors observed the administration of the annual operating test and biennial written examination to assess the licensee's effectiveness in conducting the examinations, including the conduct of pre-examination briefings, evaluations of individual operator and crew performance, and post-examination analysis. The inspectors evaluated the performance of one operating crew in parallel with the facility evaluators during three dynamic simulator scenarios administered to each simulator crew, and evaluated various licensed crew members concurrently with facility evaluators during the administration of several JPMs. (02.05)

The inspectors assessed the adequacy and effectiveness of the remedial training conducted since the last requalification examinations and the training planned for the current examination cycle to ensure they addressed weaknesses in licensed operator or crew performance identified during training and plant operations. The inspectors reviewed remedial training procedures and individual remedial training plans. (02.07)

- Conformance with Examination Security Requirements (10 CFR 55.49): The inspectors conducted an assessment of the licensee's processes related to examination of physical security and integrity (e.g., predictability and bias) to verify compliance with 10 CFR 55.49, "Integrity of Examinations and Tests." The inspectors reviewed the licensee's examination security procedure, and observed the implementation of physical security controls (e.g., access restrictions and simulator I/O controls) and integrity measures (e.g., security agreements, sampling criteria, bank use, and test item repetition) throughout the inspection period. (02.06)
- Conformance with Operator License Conditions (10 CFR 55.53): The inspectors reviewed the licensee's program for maintaining active operator licenses and to assess compliance with 10 CFR 55.53(e) and (f). The inspectors reviewed the procedural guidance and the process for tracking on-shift hours for licensed operators and which control room positions were granted watch-standing credit for maintaining active operator licenses. Additionally, medical records for 10 licensed operators were reviewed for compliance with 10 CFR 55.53(l). (02.08)
- Conformance with Simulator Requirements Specified in 10 CFR 55.46: The inspectors assessed the adequacy of the licensee's simulation facility (i.e., simulator) for use in operator licensing examinations and for satisfying experience requirements. The inspectors reviewed a sample of simulator performance test records (e.g., transient tests, malfunction tests, scenario based tests, post-event tests, steady state tests, and core performance tests), simulator discrepancies, and the process for ensuring continued assurance of simulator fidelity in accordance with 10 CFR 55.46. The inspectors reviewed and evaluated the discrepancy corrective action process to ensure that simulator fidelity was being maintained. Open simulator discrepancies were reviewed for importance relative to the impact on 10 CFR 55.45 and 55.59 operator actions as well as on nuclear and thermal hydraulic operating characteristics. (02.09)
- Problem Identification and Resolution (10 CFR 55.59(c); Systems Approach to Testing Element 5 as Defined in 10 CFR 55.4): The inspectors assessed the licensee's ability to identify, evaluate, and resolve problems associated with licensed operator performance (a measure of the effectiveness of its LORT Program and their ability to implement appropriate corrective actions to maintain its LORT Program up-to-date). The inspectors reviewed documents related to licensed operator performance issues (e.g., recent examination and IRs including cited and NCVs, NRC End-of-Cycle and Mid-Cycle reports, NRC plant issue matrix, licensee event reports, licensee condition/problem identification reports including documentation of plant events and review of industry operating experience). The inspectors also sampled the licensee's quality assurance oversight activities, including licensee training department self-assessment reports. (02.10)

This inspection constituted one biennial inspection sample for the licensed operator requalification program as defined in IP 71111.11-05.

b. Findings

No findings were identified.

.3 Resident Inspector Quarterly Review of Licensed Operator Requalification (71111.11Q)

a. Inspection Scope

On October 29, the inspectors observed a crew of licensed operators in the plant's simulator during annual licensed operator requalification examination to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator requalification program simulator sample as defined in IP 71111.11.

b. Findings

No findings were identified.

.4 Resident Inspector Quarterly Observation of Heightened Activity or Risk (71111.11Q)

a. Inspection Scope

On October 20, 2014, the inspectors observed control room activities in response to a reactor scram caused by a loss of electrical power to the control system for digital feedwater and subsequently observed the startup actions by the on-shift crew to restore the reactor to 100 percent power. These were activities that required heightened awareness or were related to increased risk. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms (if applicable);
- correct use and implementation of procedures;
- control board (or equipment) manipulations;
- oversight and direction from supervisors; and

- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications (evaluation indicated that none were required although a few off-normal instructions were entered because of these event/activities).

The performance in these areas was compared to pre-established operator action expectations, procedural compliance, and task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator heightened activity/risk sample as defined in IP 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12Q)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving:

- C41–standby liquid control system;
- S11–Unit 1 startup transformer; and
- 10 CFR 50.65(a)(3) report.

The inspectors reviewed events, such as where ineffective equipment maintenance had resulted in valid or invalid automatic actuations of engineered safeguards systems, and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures;
- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;
- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- verifying appropriate performance criteria for structures, systems, and components/functions classified as (a)(2), or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

This inspection constituted three quarterly maintenance effectiveness samples as defined in IP 71111.12–05.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the conditions or maintenance and emergent work activities listed below that involved risk-significant and safety-related equipment to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- reactor water cleanup (RWC) system active leakage requiring system isolation to repair;
- forced outage shutdown risk review for reactor trip on October 20, 2014;
- Division 2 outage work week starting November 3, 2014; and
- planned work with LH1A and LH1C transformers out-of-service.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Documents reviewed during this inspection are listed in the Attachment to this report.

These maintenance risk assessments and emergent work control activities constituted four samples as defined in IP 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- RWC pump 'B' seal leakage;
- operations with DB-1-A, non-essential vital power inverter, not in service;
- reactor core isolation cooling (RCIC) injection check valve closed indication;
- continued operations with and course of action for a suspected fuel defect(s) in cycle 15; and
- elevated drywell leakage.

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the

appropriate sections of the TSs and USAR to the licensee's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment to this report.

This operability inspection constituted five samples as defined in IP 71111.15–05.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

.1 Plant Modifications

a. Inspection Scope

The inspectors reviewed a temporary modification for installation of blind flanges in the condenser air removal system piping connection to plant off-gas systems.

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

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

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

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

- drywell airlock outer door;
- source range monitoring instrument 'A' drive limit switch;
- control complex chilled water 'A' pump replacement;
- Division 2 DG room supply fan 2B molded case circuit breaker replacement; and
- drywell post-accident radiation monitor repair.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion); and test documentation was properly evaluated. The inspectors evaluated the activities against TSs, the USAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

This inspection constituted five post-maintenance testing samples as defined in IP 71111.19-05.

b. Findings

No findings were identified.

1R20 Outage Activities (71111.20)

.1 Other Outage Activities

a. Inspection Scope

The inspectors evaluated outage activities for an unscheduled outage that began on October 20, 2014, and continued through October 26, 2014. The inspectors reviewed activities to ensure that the licensee considered risk in developing, planning, and implementing the outage schedule.

The inspectors observed or reviewed the reactor shutdown and cooldown, outage equipment configuration and risk management, electrical lineups, selected clearances, control and monitoring of decay heat removal, control of containment activities, personnel fatigue management, startup and heatup activities, and identification and

resolution of problems associated with the outage. The outage followed an unplanned automatic reactor scram from 100 percent power when the licensee was attempting to place the nonsafety-related vital buses on the alternate power supply in preparations for performing maintenance on the DB1A inverter. After the scram, both high-pressure core spray (HPCS) and RCIC actuated to restore water level in the vessel, as designed.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted one other outage sample as defined in IP 71111.20-05.

b. Findings

No findings were identified.

.2 Other Outage Activities

a. Inspection Scope

The inspectors evaluated outage activities for an unscheduled outage that began on November 7, 2014, and continued through November 12, 2014. The inspectors reviewed activities to ensure that the licensee considered risk in developing, planning, and implementing the outage schedule.

The inspectors observed or reviewed the reactor shutdown and cooldown, outage equipment configuration and risk management, electrical lineups, selected clearances, control and monitoring of decay heat removal, control of containment activities, personnel fatigue management, startup and heatup activities, and identification and resolution of problems associated with the outage. The outage followed an unplanned automatic reactor scram from 100 percent power when the digital feedwater control system (DFCS) received a feedwater runback signal from RRCS self-test circuit that caused both reactor feedwater pumps to run back to zero, causing RPV water level to rapidly drop to Level 3 where the reactor protection system properly initiated a reactor scram and continued to drop to Level 2 where both HPCS and RCIC actuated to restore water level in the vessel, as designed.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted one other outage sample as defined in IP 71111.20-05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- Surveillance Instruction (SVI)–E31–T0085–A; NUMAC LDM Functional for 1E31–N700A (Reactor Coolant System (RCS) leakage);
- SVI–E22–T1319; Diesel Generator Start and Load Division 3 (Routine testing);
- SVI–P45–T2003; HPCS ESW Pump and Valve Operability Test (IST); and
- SVI–C61–T1202; (24M) Remote Shutdown Control Test – Division 2 RHR, ECC and ESW (Routine testing).

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

- did preconditioning occur;
- the effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;
- as-left setpoints were within required ranges; and the calibration frequency was in accordance with TSs, the USAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;
- where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers (ASME) code, and reference values were consistent with the system design basis;
- where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;
- where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure;
- where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished;
- prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test;
- equipment was returned to a position or status required to support the performance of its safety functions; and
- all problems identified during the testing were appropriately documented and dispositioned in the CAP.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted one RCS leakage surveillance test sample, two routine surveillance testing samples, and one IST sample as defined in IP 71111.22, Sections–02 and–05.

b. Findings

Introduction: The inspectors identified a finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," for the licensee's unevaluated preconditioning of ESW pump discharge motor-operated valves and check valves prior to as-found IST.

Description: On October 14, 2014, during review of the licensee's work implementation schedule, the inspectors noted a planned performance of the monthly operability surveillance for the HPCS DG which required the startup and shutdown of the associated HPCS ESW system. This test cycled the HPCS ESW pump discharge valve (1P45-F140) and HPCS ESW pump discharge check valve (1P45-F552) and was scheduled 3 days prior to performance of the quarterly HPCS ESW pump and valve quarterly IST. The licensee did not consider it to be unacceptable preconditioning of HPCS prior to the HPCS IST, but had not evaluated it. On October 15, the licensee documented the inspectors' question in its CAP as CR 2014-15759 and moved the HPCS ESW pump and valve operability test to October 19. The licensee also did conduct the HPCS DG monthly operability surveillance on October 15 as originally scheduled, which resulted in the preconditioning of 1P45-F140 and 1P45-F552. A record review by the inspectors for similar issues determined the following facts:

- On April 3, 2014, and July 2, 2014, the licensee preconditioned ESW 'A' pump discharge valve and discharge check valve when the ESW 'A' system was started to support Division 1 DG monthly operability surveillance runs. The quarterly IST of the ESW 'A' pump discharge valve and discharge check valve was then performed on April 4, 2014, and July 4, 2014, without having performed an evaluation prior to the "as-found" tests.
- On May 7, 2014, and August 6, 2014, the licensee preconditioned ESW 'B' pump discharge valve and discharge check valve when the ESW 'B' system was started to support Division 2 DG monthly operability surveillance runs. The quarterly IST of the ESW 'B' pump discharge valve and discharge check valve was then performed on May 9, 2014, and August 8, 2014, without having performed an evaluation prior to the "as-found" tests.
- On October 15, 2013, January 14, 2014, April 15, 2014, and July 15, 2014, the licensee preconditioned HPCS ESW pump discharge valve and discharge check valve when the HPCS ESW system was started to support HPCS DG monthly operability surveillance runs. The quarterly IST of the HPCS ESW pump discharge valve and discharge check valve was then performed on October 18, 2013, January 17, 2014, April 18, 2014, and July 18, 2014, without having performed an evaluation prior to the "as-found" tests.

Inspection Manual Technical Guidance Part 9900, "Maintenance-Preconditioning of Structures, Systems, and Components [SSCs] Before Determining Operability," defines preconditioning, in part, as: "The alteration, variation, manipulation, or adjustment of physical condition of an SSC before or during TS surveillance or ASME code testing."

The Technical Guidance also defines unacceptable preconditioning, in part, as: "The alteration, variation, manipulation, or adjustment of physical condition of an SSC before or during Technical Specification surveillance or ASME code testing that will alter

one or more of an SSC's operational parameters, which results in acceptable test results. Such changes could mask the actual as-found condition of the SSC and possibly result in an inability to verify the operability of the SSC. In addition, unacceptable preconditioning could make it difficult to determine whether the SSC would perform its intended function during an event in which the SSC might be needed."

Technical Guidance Part 9900 further describes that some types of preconditioning may be considered acceptable, but that, "this preconditioning should have been evaluated and documented in advance of the surveillance." Since the licensee had not performed an evaluation to justify whether this constituted acceptable preconditioning of the pump discharge valve and pump discharge check valve prior to conducting the HPCS DG monthly operability surveillance test, the inspectors determined that this constituted unevaluated preconditioning of the pump discharge valve and the pump discharge check valve. As such, the inspectors determined that this activity had the potential to mask the actual "as-found" condition of the valves.

Analysis: The inspectors determined that the unevaluated preconditioning of ESW pump discharge valves and discharge check valves prior to performing as-found testing of the IST surveillances was a performance deficiency. Using the guidance in IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, the inspectors determined that the performance deficiency was more than minor, and thus a finding, because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, unevaluated preconditioning of valves could mask their actual as-found conditions and result in an inability to verify their operability, as well as make it difficult to determine whether the valves would perform their intended safety function during an event.

The inspectors utilized IMC 0609, "Significance Determination Process," Appendix A, Exhibit 2, dated June 19, 2012, to evaluate the significance. The finding was determined to be of very low safety significance (Green) because the finding was confirmed not to result in a loss of operability or functionality of the ESW systems. This finding has a cross-cutting aspect in the area of human performance, work management, because the licensee did not implement a process of planning, controlling, and executing work activities to prevent preconditioning of valves prior to testing (H.5).

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," states, in part, that "A test program shall be established to assure that all testing required to demonstrate that SSCs will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents."

Contrary to the above, on October 15, 2014, the licensee cycled the HPCS ESW pump discharge valve and pump discharge check valve prior to conducting a TS-required as-found IST, causing an unevaluated preconditioning of these valves. This preconditioning called into question whether or not the valves would perform satisfactorily in-service. The licensee entered the issue into its CAP as CR 2014-15759. Because this violation was of very low safety significance and was entered into the licensee's CAP, it is being treated as an NCV, consistent with Section 2.3.2.a of the

NRC Enforcement Policy (NCV 05000440/2014005–01, Unevaluated Preconditioning of Emergency Service Water Motor-Operated Valves and Check Valves Prior to Conducting As-Found Inservice Surveillance Testing).

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

a. Inspection Scope

The inspectors performed an in-office review of the latest revisions to the Emergency Plan and various Emergency Plan Implementing Procedures (EPIPs) as listed in the Attachment to this report.

The licensee transmitted the EPIP revisions to the NRC pursuant to the requirements of 10 CFR Part 50, Appendix E, Section V, "Implementing Procedures." The NRC review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection. The specific documents reviewed during this inspection are listed in the Attachment to this report.

This emergency action level and emergency plan change inspection constituted one sample as defined in IP 71114.04–06.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

Training Observation

a. Inspection Scope

The inspector observed a simulator training evolution for licensed operators on October 29, 2014, which required emergency plan implementation by a licensee operations crew. This evolution was planned to be evaluated and included in performance indicator (PI) data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that the licensee evaluators noted the same issues and entered them into the CAP. As part of the inspection, the inspectors reviewed the scenario package and other documents listed in the Attachment to this report.

This inspection of the licensee's training evolution with emergency preparedness drill aspects constituted one sample as defined in IP 71114.06–06.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

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

4OA1 Performance Indicator Verification (71151)

.1 Reactor Coolant System Leakage

a. Inspection Scope

The inspectors sampled licensee submittals for the RCS leakage PI for the fourth quarter 2013 through the third quarter 2014. To determine the accuracy of the PI data reported during this period, PI definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6 and 7, were used. The inspectors reviewed the licensee's operator logs, RCS leakage tracking data, issue reports, event reports, and NRC Integrated IRs to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one reactor coolant system leakage (BI02) sample as defined in IP 71151-05.

b. Findings

No findings were identified.

4OA2 Identification and Resolution of Problems (71152)

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

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify they were being entered into the licensee's CAP at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Attributes reviewed included: identification of the problem was complete and accurate; timeliness was commensurate with the safety significance; evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the Attachment to this report.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure, they were considered an

integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

To assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished through inspection of the station's daily condition report packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings were identified.

.3 Annual Sample: Review of Operator Workarounds

a. Inspection Scope

The inspectors evaluated the licensee's implementation of the process used to identify, document, track, and resolve operational challenges. Inspection activities included, but were not limited to, a review of the cumulative effects of the operator workarounds (OWAs) on system availability and the potential for improper operation of the system, for potential impacts on multiple systems, and on the ability of operators to respond to plant transients or accidents.

The inspectors performed a review of the cumulative effects of OWAs. The documents listed in the Attachment to this report were reviewed to accomplish the objectives of the inspection procedure. The inspectors reviewed both current and historical operational challenge records to determine whether the licensee was identifying operator challenges at an appropriate threshold, had entered them into the CAP and proposed or implemented appropriate and timely corrective actions which addressed each issue. Reviews were conducted to determine if any operator challenge could increase the possibility of an Initiating Event, if the challenge was contrary to training, required a change from longstanding operational practices, or created the potential for inappropriate compensatory actions. Additionally, all temporary modifications were reviewed to identify any potential effect on the functionality of Mitigating Systems, impaired access to equipment, or required equipment uses for which the equipment was not designed. Daily plant and equipment status logs, degraded instrument logs, and operator aids or tools being used to compensate for material deficiencies were also assessed to identify any potential sources of unidentified operator workarounds.

This review constituted one OWA annual inspection sample as defined in IP 71152-05.

b. Findings

No findings were identified.

.4 Selected Issue Follow-Up Inspection: Redundant Reactivity Control System Troubleshooting

a. Inspection Scope

During a review of items entered in the licensee's CAP, the inspectors recognized a corrective action item (CR 2014–18203) documenting Operational Decision Making Issue (ODMI) "Problem Solving & Decision Options for RRCS Runback Signal into Digital Feedwater Control System," including problem-solving and plant operations during execution of the problem-solving plan. This issue has been tied to one or both of the automatic scrams which occurred on October 20 and November 7, 2014, and could identify the root cause for each of these events. The inspectors reviewed many of the corrective action reports created as a result of these two automatic scrams and the automatic scram which occurred in January 2013, to determine the timeliness of the licensee's actions and the effectiveness of the CAP. There are significant differences in the initial plant conditions immediately prior to each of the automatic scrams, which added an additional layer of complexity to the problem-solving process. During their inspection, the inspectors identified two findings that are documented in this report as NCVs with very low (Green) safety significance.

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

b. Findings

- (1) Introduction: The inspectors identified a finding of very low safety significance (Green) and associated NCV of TS 5.4.1.a., "Procedures," for the licensee's failure to establish and maintain a correct surveillance inspection procedure for RRCS channel checks. Specifically, the surveillance procedure used for RRCS channel checks did not include a qualitative assessment, by observation, of channel behavior during operation when it was possible to compare the channel indication and status to other indications or status derived from independent instrument channels measuring the same parameter.

Description: On November 25, 2014, the inspectors questioned the acceptability of the channel check being performed for RRCS level and pressure instruments as required by TS Surveillance Requirement (SR) 3.3.4.2.1. A "channel check" is defined in TS as, "A channel check shall be the qualitative assessment, by observation, of channel behavior during operation. This determination shall include, where possible, comparison of the channel indication and status to other indications or status derived from independent instrument channels measuring the same parameter." The method of performing a channel check on RRCS at that time was to verify reactor vessel pressure status lights were not on if RPV pressure was less than 1083 pounds per square inch gauge and reactor vessel level status lights were not on if RPV level was greater than 129.8 inches. The capability did exist to obtain values for reactor pressure and level from each of the transmitters, two per division for each of the two divisions of RRCS, using the keyboards located on the RRCS division cabinets. The licensee entered this issue into its CAP as CRs 2014–17592 and 2014–17635.

Analysis: The inspectors determined that the failure to establish and maintain a correct surveillance procedure required by TS 5.4.1.a. was a performance deficiency. Using the guidance in IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, the inspectors determined that the performance deficiency was more than minor, and thus a finding, because it was associated with the procedure quality attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the channel check surveillance procedure did not compare the channel indication and status to other indications or status derived from available independent instrument channels measuring the same parameter.

The inspectors utilized IMC 0609, "Significance Determination Process," Appendix A, Exhibit 2, dated June 19, 2012, to evaluate the significance. The finding was determined to be very low safety significance (Green) because the inspectors answered "No," to the following questions under step C, "Reactivity Control Systems," (1) Did the finding affect a single reactor protection system trip signal to initiate a reactor scram AND the function of other redundant trips or diverse methods of reactor shutdown (e.g., other automatic RPS trips, alternate rod insertion, or manual reactor trip capacity)?, (2) Did the finding involve control manipulations that unintentionally added positive reactivity (e.g., inadvertent boron dilution, cold water injection, inadvertent control rod movement, recirculation pump speed control)?, and (3) Did the finding result in a mismanagement of reactivity by operator(s) (e.g., reactor power exceeding the licensed power limit, inability to anticipate and control changes in reactivity during crew operations)?

No cross-cutting aspect is assigned as this performance deficiency first occurred in 1986 and is not indicative of current licensee performance.

Enforcement: Technical Specification 5.4.1.a., "Procedures," requires, in part, that written procedures be established, implemented, and maintained covering the applicable requirements in Regulatory Guide 1.33, Revision 2, Appendix A. Regulatory Guide 1.33, Appendix A, lists the activities that should be covered by written procedures. Section 8 of Appendix A identifies procedures for surveillance tests among which 8.b specifies, in part, "Specific procedures for surveillance tests...listed in the technical specification."

Contrary to the regulatory guide requirement, prior to November 25, 2014, the licensee did not maintain an adequate procedure to perform an acceptable channel check of RRCS. Specifically, the channel check for RRCS level and pressure instruments being performed to fulfill the requirement of TS SR 3.3.4.2.1 did not meet the channel check definition criteria as defined in TSs. Because this violation was of very low significance and it was entered into the licensee's CAP (CR 2014-17635), it is being treated as an NCV consistent with Section 2.3.2.a of the NRC Enforcement Policy **(NCV 05000440/2014005-02, Inadequate Procedure for Performing an Acceptable Technical Specification Required Channel Check).**

- (2) Introduction: The inspectors identified a finding of very low safety significance (Green) and associated NCV of TS 5.4.1.a., "Procedures," for the licensee's failure to implement the requirements of procedure NOBP-LP-4003A, "FENOC 10 CFR 50.59 User Guidelines." Specifically, the licensee failed to complete a Regulatory Applicability Determination (RAD) specified in the procedure. The RAD would have been used to determine what regulations apply to a proposed activity and "provides evidence that

10 CFR 50.59 either applies or does not apply.” In this case, the licensee made changes to the RRCS, including blocking inputs to the DFCS runback function described in the USAR and disabling the RRCS self-test for both divisions of RRCS. These changes would likely have been subject to additional review had the RAD been completed.

Description: On November 7, 2014, an unplanned automatic reactor scram occurred due to rapidly lowering RPV water level caused by a feedwater runback generated by a signal from the RRCS to the DFCS. The feedwater runback continued and level continued to rapidly decrease from Level 3 to Level 2, causing the automatic initiation of the alternate rod insertion safety feature, HPCS injection, RCIC, and balance-of-plant containment isolation. On November 9, the licensee determined that the RRCS system sent a spurious runback signal to the DFCS just prior to the automatic scram on November 7. Although the runback signal was determined to be from an internal self-test function of RRCS, the licensee was not able at that time to determine whether the signal reached the DFCS as it was designed to, or that it did so because of failed or degraded equipment. As stated, in part, in NOBP-LP-4003A 4003A section 3.26, “Broken or degraded SSC’s are not considered as maintenance activities but constitute degraded or nonconforming conditions.”

The licensee implemented temporary changes to the RRCS system which included the insertion of manual software blocks available in the circuitry between the RRCS system and the DFCS runback circuitry and turning off the self-test feature of the RRCS system. The licensee relied on additional operator oversight/action to respond to RPV High Dome Pressure. As stated in part in NOBP-LP-4003A, “the planned use of manual action in lieu of automatic control, “is an example considered as a compensatory measure requiring application of the 10 CFR 50.59 process and that “If an interim compensatory measure is taken to address the degraded or nonconforming condition and involves a temporary procedure or facility change, 10 CFR 50.59 must be applied to the temporary change. The licensee did not follow the guidance in NOBP-LP-4003A.

Analysis: The inspectors determined that the failure to implement the requirements to complete a RAD specified in procedure NOBP-LP-4003A was a performance deficiency. Using the guidance in IMC 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” dated September 7, 2012, the inspectors determined that the performance deficiency was more than minor, and thus a finding, because it was associated with the procedure quality attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, unevaluated modifications to the facility could introduce adverse changes that result in systems not able to perform an intended safety function which would not be recognized.

The inspectors utilized IMC 0609, “Significance Determination Process,” Appendix A, Exhibit 2, dated June 19, 2012, to evaluate the significance. The finding was determined to have very low safety significance (Green) because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of TS equipment; and (4) does not represent the loss of a non-TS train of equipment.

The finding was determined to have a cross-cutting aspect in the area of human performance, change management, in that leaders use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority (H.3). Specifically, leaders did not ensure that the established FENOC 10 CFR 50.59 User Guidelines Business Practice was used to determine the applicable regulatory process that applied, and consequently no evaluation of the impacts from the changes to RRCS was made in regards to the consequent effects on nuclear safety.

Enforcement: Technical Specification 5.4.1.a., “Procedures,” requires, in part, that written procedures be established, implemented, and maintained covering the applicable procedures in Regulatory Guide 1.33, Revision 2, Appendix A. Regulatory Guide 1.33, Appendix A, lists activities that should be covered by written procedures. Section 1 identifies administrative procedures among which 1.d specifies, in part, “procedure adherence and temporary change method.”

Contrary to the above, on December 12, 2014, the licensee failed to implement the requirements of a required administrative procedure NOBP–LP–4003A, “FENOC 10 CFR 50.59 User Guidelines.” Specifically, the licensee failed to follow the requirements of NOBP–LP–4003A to complete a RAD which is used to determine what regulations apply to a proposed activity and “provides evidence that 10 CFR 50.59 either applies or does not apply.” Specifically in this case the licensee made changes to the RRCS, including blocking inputs to the DFCS runback function described in the USAR and disabling the RRCS self-test for both divisions of RRCS. These changes would likely have been subject to additional review had the RAD been completed.

Because this violation was of very low safety significance and it was entered into the licensee’s CAP (CR 2015–00284), it is being treated as an NCV consistent with Section 2.3.2.a of the NRC Enforcement Policy (**NCV 05000440/2014005–03, Failure to Follow Licensee Procedure to Properly Screen and Evaluate Temporary Changes to Plant Facilities / Structures, Systems, or Components**).

4OA5 Other Activities

.1 Operation of an Independent Spent Fuel Storage Installation at Operating Plants (60855.1)

a. Inspection Scope

The inspectors observed and evaluated the licensee’s performance during loading the first canister of the 2014 spent fuel storage campaign to verify compliance with the applicable Certificate of Compliance, TS, 10 CFR Part 72, “Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater than Class C Waste,” and associated procedures.

The inspectors observed heavy loads movements inside the fuel handling building (FHB); loading spent fuel assemblies from the spent fuel pool into the Multi-Purpose Canister (MPC); MPC welding and processing operations; and storage overpack cask (HI-STORM), the storage cask containing the dry fuel storage cask or MPC, transport operations.

During performance of the activities the inspectors evaluated: the familiarity of the licensee's staff with procedures, supervisory oversight, and communication and coordination between the groups involved. The inspectors reviewed loading and monitoring procedures and evaluated the licensee's adherence to these procedures.

The inspectors reviewed the licensee's proposed analysis to conduct a freestanding stack-up, an evolution where a transfer cask is placed atop a storage overpack, the HI-STORM, to allow the transfer of a MPC into and out of the storage overpack. Specifically, the inspectors reviewed calculations HI-2135834, "Updated Dynamic Analysis of HI-STORM/HI-TRAC Stack-up for PNPP Using ANSYS," and HI-2094276, "Structural Evaluation of the Perry Mating Device." The non-linear time history analyses of the stack-up and the structural evaluation of the mating device were reviewed to verify whether the calculations were carried out in accordance with NRC-endorsed methodologies and demonstrated that the stack-up would remain stable during a seismic event.

The inspectors verified that contamination and radiation levels of the transfer cask (HI-TRAC), HI-STORM, and ISFSI were below applicable regulatory, TS, and administrative limits.

The inspectors reviewed CRs related to ISFSI operations and the associated follow-up actions that were generated before and during the loading campaign. Specifically, the inspectors reviewed several CRs involving the FHB crane which experienced several trips from the main hoist overspeed sensor during the campaign. The inspectors verified that the actual speed of the hoist was less than the trip setpoint, and concluded the sensor was tripping the crane conservatively. The inspectors also reviewed the licensee's 10 CFR Part 72.48, "Changes, Tests, and Experiments," screenings.

The inspectors also observed contingency procedures the licensee implemented following the crane overspeed trips and when a bumper on the vertical cask transporter did not retract from its engaged position. The inspectors reviewed repair WOs, procedures, drawings, and oscilloscope data to evaluate the conditions demonstrated by the operation of the FHB crane.

b. Findings

Failure to Follow Procedures During Dry Cask Operations

Introduction: The inspectors identified a SLIV NCV of very low safety significance of 10 CFR 72.150, "Instructions, Procedures, and Drawings," for the failure of the license to follow procedures important to safety during dry cask operations.

Description: Title 10 CFR 72.150 requires, in part, that the licensee prescribe activities affecting quality by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall require that these instructions, procedures, and drawings be followed.

The inspectors identified two examples where the licensee failed to follow procedures that were important to the safe handling and storage of spent nuclear fuel. Specifically, the inspectors identified:

- (1) On July 11, 2014, the licensee was performing closure operations on the first loaded dry fuel storage canister. The NRC inspectors observed a qualified individual perform a liquid penetrant test on the MPC lid-to-shell weld using General Quality Procedure (GQP)–9.2, “High Temperature Liquid Penetrant Examination and Acceptance Standards for Welds, Base Materials and Cladding (50° – 350°F),” Revision 7. This weld provided one of the confinement boundaries between the spent nuclear fuel stored in the canister and the environment. Step 9.2.1.a of GQP 9.2 provided instruction to “apply penetrant to the surface to be examined so the entire part or area of interest is completely covered with penetrant.” Step 9.2.2 provided further instruction that “the penetrant shall be applied to the entire weld and ½ inch on each side of the weld on the adjacent base metal.” However, while observing the procedure being performed, the NRC inspectors noted several areas where penetrant was not applied to the weld being evaluated. When the individual began to remove the penetrant to move on to the next steps of the procedure, the NRC inspectors stopped the individual and pointed out the missed areas. The individual stopped the liquid penetrant test, notified the licensee, cleaned the weld area, and then repeated the liquid penetrant exam procedure from the beginning. The licensee entered this issue into its CAP as CR–2014–11637.

- (2) On September 2, 2014, and again on September 4, 2014, the FHB crane main hoist experienced multiple overspeed trips. The FHB crane was qualified as a single-failure proof crane in accordance with NUREG–0554, “Single-Failure Proof Cranes for Nuclear Power Plants,” and was utilized in the handling of spent nuclear fuel. Following the overspeed trips, the licensee entered General Maintenance Instruction (GMI)–0215, “Spent Fuel Dry Storage Response to Abnormal Conditions,” Revision 7. Section 5.3, “Fuel Handling Building Crane Malfunction,” contains multiple steps including: notifying various members of licensee supervision; evacuating personnel to safe and low dose areas; documenting activities in progress; performing radiological surveys of the FHB crane; inspecting the FHB crane for damage once permitted; and performing simple troubleshooting. Through a review of operator logs on September 2 and September 4, the NRC inspectors noted that the crane tripped, was reset, and tripped again within 5 minutes. When questioned how the steps for GMI–0215, section 5.3, were completed within 5 minutes, the inspectors identified that all steps were not completed. Specifically, a radiological survey and subsequent troubleshooting to determine the cause of the trip was not performed. The licensee assumed the cause was due to a spurious trip without validating through procedures. This issue was entered into the licensee’s CAP as CR–2014–14279.

Analysis: The inspectors determined that the failure to follow approved procedures was contrary to the instructions, procedures, drawings, and provisions of 10 CFR Part 72.150 requirements and was a performance deficiency. Specifically, the licensee intended but failed to follow GQP–9.2 and GMI–0215 which affect quality of dry cask operations.

The inspectors determined the performance deficiency was more than minor in that both examples identified deficiencies in the performance of dry cask operations important to safety. In this determination, the inspectors considered example 4.a in IMC 0612, Appendix E, “Examples of Minor Issues,” dated August 11, 2009, and concluded that, while the errors did not result in any actual safety concern, there were multiple examples of procedural non-compliance. Additionally, if left uncorrected, a failed weld could lead

to a release of radioactive materials to the environment and a malfunction of the FHB crane could lead to a more significant safety concern such as a load drop.

Consistent with the guidance in Section 2.2 of the NRC Enforcement Manual, ISFSIs are not subject to the significance determination process and, thus, traditional enforcement will be used for these facilities. Therefore, the violation was dispositioned per the traditional enforcement process using Section 2.3 of the Enforcement Policy.

Consistent with the guidance in Section 1.2.6.D of the NRC Enforcement Manual, if a violation does not fit an example in the Enforcement Policy Violation Examples, it should be assigned a severity level: (1) commensurate with its safety significance; and (2) informed by similar violations addressed in the Violation Examples. The significance of the violation was found to be similar to SLIV example 6.5.d.3, of the NRC's Enforcement Policy, in that the licensee failed to adequately implement quality assurance processes or procedures. The issue was not found to be similar to any examples of higher significance; as such, the violation screened as a SLIV violation. Since traditional enforcement was used to disposition the violation, a cross-cutting aspect is not applicable.

Enforcement: Title 10 CFR 72.150, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality be prescribed by procedures of a type appropriate to the circumstances and be accomplished in accordance with these procedures. The licensee established procedures GQP-9.2, "High Temperature Liquid Penetrant Examination and Acceptance Standards for Welds, Base Materials and Cladding (50 °–350 °F)," Revision 7, and GMI-0215, "Spent Fuel Dry Storage Response to Abnormal Conditions," Revision 7, as the implementing procedures for performing liquid penetrant examinations and responding to abnormal crane operations, both activities affecting quality.

Procedure GQP-9.2, step 9.2.2 states "the penetrant shall be applied to the entire weld and ½ inch on each side of the weld on the adjacent base metal. Procedure GMI-0215, step 5.3.9 states "request RP [radiation protection] to perform radiological survey" and step 5.3.10 states "when RP permits access, then inspect FHB crane for extent of damage."

Contrary to the above on July 11, 2014, the licensee failed to follow step 9.2.2 of GQP 9.2. Specifically, the licensee failed to ensure that liquid penetrant was applied to the entire weld being tested. Additionally, on September 2 and September 4, 2014, the licensee failed to follow step 5.3.9 and step 5.3.10 of GMI-0215. Specifically, the licensee failed to perform an RP survey and subsequent inspection for extent of damage to the FHB crane following a trip.

Because this SLIV violation was of very low safety significance and was entered into the licensee's corrective action program (as CR 2014-11637 and CR 2014-14279), it is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy **(SLIV 05000440/2014005-04; 07200069/2014001-01, Failure to Follow Procedures During Dry Cask Operations).**

4OA6 Management Meetings

.1 Exit Meeting Summary

On January 8, 2015, the resident inspectors, and the regional ISFSI inspector (via telephone), presented the inspection results to Mr. E. Harkness, the Site Vice-President, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

.2 Interim Exit Meetings

Interim exits were conducted for:

- The 2014 licensed operator requalification training biennial written examination and annual operating test results with the licensee's Supervisor Operator Training, Mr. M. Brogan, via telephone on December 4, 2014.
- The annual review of Emergency Action Level and Emergency Plan changes with the licensee's Emergency Preparedness Manager, Mr. F. Smith, via telephone on December 1, 2014.

The inspectors confirmed that none of the potential report input discussed was considered proprietary.

4OA7 Licensee-Identified Violation

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

- Title 10 CFR, Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states in part that, "activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances." The requirements of Criterion V apply to Criterion XVI of Appendix B, "Corrective Action," which states, in part, that "Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deviations, defective material and equipment, and non-conformances are promptly identified and corrected. Contrary to the above requirements, on October 27, 2014, the licensee completed a surveillance to time the operation of main steam line drain valves and could not determine the stroke time for one of the valves; 1N22F420C had a failed position indication element resulting in the inability to time the valve. The valve was declared inoperable and TSs were entered as appropriate. However, no corrective action document was initiated, contrary to procedure NOP-LP-2001, "Corrective Action Program," which requires that, "Condition Reports will be initiated upon discovery of any degraded condition that affects a safety structure, system, or component or any USAR described system, structures, or component." The main steam drain system is described in the USAR and the CAP is intended to meet the requirement of Criterion V to provide a quality procedure to support the requirements of Criterion XVI. The performance deficiency of failing to write a corrective action document was discovered when the valve timing failed again during a performance of the test on December 15, 2014, and the operators noted that no repairs had been

made since the conduct of the test in October 2014, during which the valve stroke timing test initially failed. The performance deficiency was documented in the CAP as CR 2014–18329.

The finding was determined to be more than minor in accordance with IMC 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” dated September 7, 2012, because the finding was associated with the Mitigating Systems Cornerstone attribute of equipment performance and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Additionally, if left uncorrected, the performance deficiency would become a more significant safety concern. The finding was evaluated using IMC 0609, Significance Determination Process, Attachment 0609.4, “Initial Characterization of Findings,” dated June 19, 2012. Exhibit 2 of Appendix A, the Mitigating Systems Screening Questions, Section A.1, Mitigating SSCs and Functionality, was checked as “Yes” because “the finding is a deficiency affecting design or qualification.” As a result, the finding screens as very low safety significance (Green).

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

E. Harkness, Site Vice-President
D. Hamilton, Site Operations Director
T. Brown, Performance Improvement Director
J. Ellis, Maintenance Director
D. Reeves, Site Engineering Director

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened and Closed

05000440/2014005-01	NCV	Unevaluated Preconditioning of Emergency Service Water Motor-Operated Valves and Check Valves Prior to Conducting As-Found Inservice Surveillance Testing (Section 1R22)
05000440/2014005-02	NCV	Inadequate Procedure for Performing an Acceptable Technical Specification Required Channel Check (Section 4OA2.4(1))
05000440/2014005-03	NCV	Failure to Follow Licensee Procedure to Properly Screen and Evaluate Temporary Changes to Plant Facilities / Structures, Systems, or Components (Section 4OA2.4(2))
05000440/2014005-04; 07200069/2014001-01	SLIV	Failure to Follow Procedures During Dry Cask Operations (Section 4OA5)

Discussed

None.

LIST OF DOCUMENTS REVIEWED

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

1R01 Adverse Weather Protection

- NOP-WM-2001; Work Management Scheduling, Assessment and Seasonal Readiness Processes; Revision 16
- PTI-GEN-P0026; Preparations for Winter Operation; Revision 8
- PTI-GEN-P0027; Cold Weather Support System Startup; Revision 14
- IOI-0015; Seasonal Variations; Revision 23
- ONI-R36-2; Extreme Cold Weather; Revision 4
- Winter Work List; dated October 14, 2014; 2:37 p.m.
- CR 2014-15312; Unit 2 Aux East Side Building Roll Up Door; dated October 5, 2014
- CR 2014-16566; Winter Readiness Certification Completed Late Per NOP-WM-2001; dated November 3, 2014
- CR 2014-16357; Central Deicing MOV #6 Light Not Functioning; dated October 29, 2014
- CR 2014-17234; Areas in Unit 2 With Unit 1 Support Systems at 39 Degrees; dated November 18, 2014
- CR 2014-00204; PA-PY-14-01 Capture Lessons Learned From Extreme Cold Weather During Week of 1/6/14; dated January 7, 2014

1R04 Equipment Alignment

- VLI-P42; Emergency Closed Cooling System; Revision 16
- DW 302-0621; Emergency Closed Cooling System; Revision TT
- ELI-R23; 480 Volt Load Centers; Revision 8
- ONI-S11; Hi/Lo Voltage; Revision 10
- CR-2010-72234; Elevated Bus and Equipment Voltages; dated March 1, 2010
- VLI-M15; Annulus Exhaust Gas Treatment System (Unit 1); Revision 4
- CR-2014-07999; Annulus D/P Fluctuating With AEGTS B In Service; dated April 30, 2014
- VLI-R44; Division 1 and 2 Diesel Generator Starting Air System; Revision 6
- VLI-R45; Division 1 and 2 Diesel Generator Fuel Oil System (Unit 1); Revision 5
- VLI-R46; Division 1 and 2 Diesel Generator Jacket Water Systems (Unit 1); Revision 4
- VLI-R47; Division 1 and 2 Diesel Generator Lube Oil; Revision 7
- VLI-R48; Division 1 and 2 Diesel Generator Exhaust, Intake and Crankcase Systems; Revision 6
- DW 302-0352-00000; Standby Diesel Generator Fuel Oil System; Revision KK
- DW 302-0347-00000; Standby Diesel – Engine Control Panel 1H51-P054A Division 1; Revision M

1R05 Fire Protection

- FPI-0CC; Control Complex; Revision 9
- FPI-A-A01; Preparation, Review, and Approval of Pre-Fire Plan and Fire Protection Instructions; Revision 3
- FPI-A-I02; Fire Suppression Equipment Inspection Guidelines; Revision 2

- FPI-A-A02; Periodic Fire Inspections; Revision 5
- FPI-0IB; Intermediate Building; Revision 7
- Fire Drill Planning Guide for Scenario FD-1275-103014; Water Treatment Building; dated October 30, 2014
- FENOC Attendance Sheet; FD-1275-103014 for FBC-Drill-PY; dated October 30, 2014
- FPI-A-B02; Fire Brigade Drills; Revision 8
- FPI-A-B02; Fire Brigade Drills – Attachment 2: Fire Drill Record; dated October 30, 2014
- FPI-A-B02; Fire Brigade Drills – Attachment 3: Fire Drill Assessment; dated October 30, 2014
- FPI-A-B02; Fire Brigade Drills- Fire Drill Critique – FD-1275-103014; dated October 30, 2014
- FPI-1DG; Diesel Generator Building; Revision 6
- FPI-SB; Service Building; Revision 2
- FPI-0FH; Fuel Handling Building; Revision 4

1R06 Flood Protection Measures

- CR-2013-02744; Unable to Isolate Nuclear Closed Cooling to the “A” Fuel Pool Heat Exchanger; dated February 24, 2013
- DW 302-0611; Nuclear Closed Cooling System; Revision AA
- Calculation JL-061; Auxiliary Building Flooding Analysis; dated July 9, 2004
- Calculation JL-083; CCB, IB and FHB Flooding Analysis; dated August 30, 2013
- PDB-H0055; Equipment Associated With Electrical Manholes; Revision 0
- WO 200596767; Inspect and Dewater Manholes 1,2,3,4, and 18; dated November 4, 2014

1R11 Licensed Operator Regualification Program

- Annual Regualification Examination Scenario Guide OT-3070-RP1C; Scenario Number OT-3070-003-RP1C
- PYBP-PTS-0031; “Simulator Review Board”; Revision 5
- PYBP-PYS-0033; “Simulator Configuration Control”; Revision 11
- NOP-TR-1010; Licensed Operator Regualification Exam Development; Revision 2
- TMA-4206; Licensed Operator Regualification Programs; Revision 15
- NOBP-TR-1112; FENOC Conduct of Simulator Training and Evaluation; Revision 2
- CR-2012-11585; Load Set Runback Timer Speed Appears To Be Faster Than That Specified In The GEK
- CR-2013-01812; Required Procedure Change to IOI-18 and ONI-E12-1; dated February 5, 2013
- CR-2013-12276; ARI for Main Steam Line Radiation High Not Aligned With EOP-03 Entry Conditions; dated August 9, 2013
- CR-2014-00075; Procedure Issues Identified During the Licensed Operator Annual Exams for 2013; dated January 3, 2014
- CR-2014-00845; Required Change to ONI-C61 Control Room Evacuation; dated January 17, 2014
- CR-2014-00850; ONI-N62 Procedure Needs Hard Card; dated January 17, 2014
- CR-2014-03137; ONI-D51 Change Required; dated February 17, 2014
- CR-2014-07446; Required Change to ONI-R22-1; dated April 23, 2014
- CR-2014-17800; LOR Annual Exam JPM Cue Sheet Left Unattended; December 2, 2014
- Simulator Physical Fidelity Evaluations for 2012, 2013, and 2014
- Simulator Evaluations of Turbine Vibration During Downpower on February 7, 2014; dated April 15, 2014

- Simulator Evaluations of Digital Feed Water Power Loss SCRAM on January 22, 2013; dated May 2, 2013
- Simulator Evaluations of Stator Water Cooling Runback and Subsequent Manual SCRAM on March 1, 2012; dated July 24, 2012
- Transient Test Trip All Reactor Feed Pump Turbines (ANSI B2.2.1.2); dated April 4, 2013
- Transient Test Trip All Reactor Feed Pump Turbines (ANSI B2.2.1.2); dated August 19, 2014
- Transient Test Trip Single B33 [Reactor] Recirc Pump (ANSI B2.2.1.5); dated April 3, 2013
- Transient Test Trip Single B33 [Reactor] Recirc Pump (ANSI B2.2.1.5); dated September 2, 2014
- Transient Test Maximum Rate Power Ramp (100% to 75% to 100%) Using Flow Control Valves (ANSI B2.2.1.7); dated April 4, 2013
- Transient Test Maximum Rate Power Ramp (100% to 75% to 100%) Using Flow Control Valves (ANSI B2.2.1.7); dated September 2, 2014
- Transient Test Main Steam Line Rupture in Drywell (ANSI B2.2.1.9); dated April 4, 2013
- Transient Test Main Steam Line Rupture in Drywell (ANSI B2.2.1.9); dated September 2, 2014
- Transient Test Simulator Stability/Steady State [Heat Balance] Tests; dated October 4, 2013 and October 8, 2014
- Transient Test Simulator Real Time Tests; dated October 31, 2013 and September 8, 2014
- JPM OT-3701-ADM_017_SRO; Identify Mitigating Actions For a Refuel Platform PLC Failure; Revision 0
- JPM OT-3701-C11_514_RO; Withdraw Control Rods (Alternate Path); Revision 0
- JPM OT-3701-C41_008_RO; Alternate Boron Injection Lineup; Revision 0
- JPM OT-3701-E12_506_RO; Place SDC in Operation (Alternate Path); Revision 0
- JPM OT-3701-R10_016_RO; Energize Hydrogen Igniters From Alternate Power Source; Revision 0
- JPM OT-3701-R10_301_RO, Identify Operable Power Sources Upon Failure of Emergency Diesel Generator; Revision 0
- Scenario OT-3070-PC1D; Revision 0
- Scenario OT-3070-005-RP1B; Revision 0
- Scenario OT-3070-RP5C; Revision 1
- Scenario OT-3070 RP6C; Revision 0
- Week 5 SRO Requal Exam 2014; Exam #14-10
- Week 5 RO Requal Exam 2014; Exam #14-9
- Regulatory Applicability Determination No.14-01445 (Revision 18 of OAI-1703); Revision 00
- 10 CFR 50.59 Screen No. 14-00250 (Revision 20 of PSTG); Revision 00
- Job Performance Measure Evaluation Record Sheets; dated December 2, 2014
- Simulator Crew Evaluation Form; dated December 3, 2014
- Simulator SRO Evaluation Forms; dated December 3, 2014
- Simulator RO Evaluation Forms; dated December 3, 2014

1R12 Maintenance Effectiveness

- WO 200449784; CAL 51C Device SU XMFR 100-PY-B; Planned Work
- ECP 11-0626-000; Temporary Installation of Davis-Besse Transformer in Place of Perry Unit 1 Startup Transformer; Revision 5; dated April 29, 2013
- ODMI from CR 2012-16824; Options to Lower Voltage on Safety-Related Plant Buses to Allow Exit of Off-Normal Instruction ONI-S11, Hi/Low Voltage; Revision 0
- ODMI from CR 2012-16824; Options to Lower Voltage on Safety-Related Plant Buses to Allow Exit of Off-Normal Instruction ONI-S11, Hi/Low Voltage; Revision 1

- ODMI from CR 2014-14271; Options to Lower Voltage on Safety-Related Plant Buses; Revision 4
- ONI-S11; Hi/Low Voltage; Revision 10
- CR 2013-14645; The Maintenance Rule (a)(2) Evaluation Form for S11 Cannot Be Located; dated September 19, 2013
- CR 2013-15889; Unexpected Unit 1 Startup Transformer Trouble Alarm; October 7, 2013
- CR 2014-09875; May 2014 Oil Dielectric Sample Results for Unit 1 Start-up Transformer Was Below the Trend Plan Limit; dated June 3, 2014
- CR 2014-14505; Start-up Transformer CT Wiring Not in Accordance With Temp Mod 11-0626-001; dated September 17, 2014
- CR 2013-16086; Unit 1 Start-up Transformer Oil Quality Exceeded Established Trend Plan Limits; dated October 9, 2013
- CR 2014-14211; Unit 1 Start-up Transformer Oil Quality Exceeded Established Trend Plan Limits; dated September 11, 2014
- CR 2014-14594; NEIL SHALL Requirements for Start-up Transformer Breaker Protective Relay Functional Testing Are Not Current; dated September 19, 2014
- CR 2013-14986; August 2013 Unit 1 Start-up Transformer Oil Dielectric Results Were Unacceptable; dated September 26, 2013
- DW 302-0691-00000; Standby Liquid Control System; Revision X
- CR 2012-03676; SLC Transfer Pump Seal Leakoff Isolation Valve 0C41F0511A Not Opening; dated March 9, 2012
- Calculation No. SQ-0206; Evaluation of the Capacity of Tank C41A002 For Design Basis Faulted Events, Revision 1; dated August 11, 2014
- SVI-C41-T2001-A; Standby Liquid Control "A" Pump and Valve Operability Test; Revision 19
- VLI-C41; Standby Liquid Control System Valve Lineup Instruction; Revision 8
- WO 200610958; Investigate Low Flow On SLC Transfer Pump A Seal Leakoff Isolation Valve, F0511A; dated September 12, 2014
- Periodic Assessment of Maintenance Rule Program - Perry Nuclear Power Plant – Cycle 13; May 13, 2009 through May 13, 2011

1R13 Maintenance Risk Assessments and Emergent Work Control

- NOP-OP-1007; Risk Management; Revision 19
- NOP-OP-1002; Conduct of Operations; Revision 9
- eSOMS Narrative Logs; dated October 9, 10, and 14, 2014
- PDB-C0011; PSA Pre-Solved Configurations for On-Line Risk; Revision 6
- PAP-1924; On-Line Safety Assessment; Revision 8
- On-Line Probabilistic Risk Assessment Period 6 Week 7; dated November 3, 2014
- Protected Equipment Posting Checklist for LH1-A and C Removed From Service; dated October 9, 2014
- PYBP-POS-2-2; Protected Equipment Postings; Revision 12
- NOP-OP-1005; Shutdown Defense in Depth; Revision 14
- CR 2014-18661; Both TSC UPS 'A' and 'B' Are Out of Service; dated December 23, 2014

1R15 Operability Determinations and Functionality Assessments

- NOP-OP-1010; Operational Decision Making; Revision 4
- GMI-0130; Reactor WATER Cleanup Pump Overhaul; Revision 5
- ODMI from CR 2014-01308; Continued Operation With RWCU Pump B Seal Leakage; Revision 0

- ODMI from CR 2014-12268; Continued Operation With RWCU Pump B Seal Leakage; Revision 1
- ODMI from CR 2014-12268; Continued Operation With RWCU Pump B Seal Leakage; Revision 2
- CR 2014-15784; RWCU Pump 'B' Seal Leakage Degredation (sic); dated October 16, 2014
- ODMI from CR 2014-16069; Plant Operations With DB-1-A, Non-Essential Vital Power Inverter, Not In Service; dated October 23, 2014
- eSOMS Narrative Logs; dated October 10, 2014
- eSOMS Narrative Logs; dated October 25 and 26, 2014
- CR 2014-16174; RCIC Injection Test Valve Lost Indication; dated October 25, 2014
- Prompt Operability Determination for CR 2014-16174 for RCIC Injection Check Valve Closed Indication; dated October 25, 2014
- ODMI from CR 2014-15400; ODMI to Determine the Course of Action for a Suspected Fuel Defect(s) in Cycle 15; Revision 5; dated October 10, 2014
- ODMI from CR 2014-17330; Continued Operation With Elevated Drywell Leakage; Revision 0; dated November 26, 2014

1R18 Plant Modifications

- ECP No. 14-0715; Temporary Modification for Installation of Blind Flanges in 8" N62 Condenser Air Removal System Piping Connection to N64 Off-Gas System; Revision 0; dated October 23, 2014
- WO 200620821; Simple Troubleshooting – Off Gas Vacuum; dated October 24, 2014
- GMI-0152; Installation and Removal of Preset Bars, Hydrostatic Stops and Constant Support Hangers; Revision 6
- DW 304-0942-00106; Piping Isometric Off Gas System Off Gas Building; Revision D
- DW 304-0942-00101; Piping Isometric Condenser Air Removal System Turbine Building; Revision D

1R19 Post-Maintenance Testing

- WO 200564617; Drywell Airlock Outer Door; dated October 20, 2014
- DW 208-0184-00011; Drywell Airlock; Revision K
- WO 200620665; SRM A Drive Limit Switch, dated October 21, 2014
- SVI-C51-T0234; SRM Channel Function Test; Revision 0
- WO 200585682; Rework Check Valve; dated November 28, 2014
- WO 200325129; "IPO-36" – Rev. 1 "New PM" Replace Pump PERP 000619, Control Complex Chilled Water Pump 'A'; dated November 28, 2014
- WO 200550439; Control Complex Chilled Water 'A' Pump and Valve Operability Test; dated November 28, 2014
- SVI-P47-T2001-A; Control Complex Chilled Water 'A' Pump and Valve Operability Test; Revision 10
- WO 200204840; Div 2 DG RM Supply Fan 2B MCC Bucket EF1D08-N Replacement; dated December 2, 2014
- GEI-0138; Freedom Series MCC Bucket General Maintenance; Revision 5
- GEI-0029; Testing of Molded Case Circuit Breakers and Overload Heater Relays; Revision 19
- SVI-D19-T1357-B; DW High Range Radiation Monitor Channel 'B' Electronic Calibration for 1D19-K200; Revision 1; dated December 18, 2014
- SVI-D19-T5353; Post-Accident Radiation Monitoring Channel Check for 1D19-K100 and 1D19-K200; Revision 6; dated December 18, 2014

- WO 200623260; PY-1D19 Post Accident Radiation Monitoring Repair; December 17, 2014

1R20 Outage Activities

- PDB-H0013; F-1-A Load List; Revision 3
- Perry Work Implementation Schedule; BOP Inverter Outage, Tuesday, October 21, 2014 as of 1200 hours
- Perry Work Implementation Schedule; BOP Inverter Outage, Sunday, October 26, 2014 as of 1600 hours
- eSOMS Narrative Logs; dated October 20, 2014
- Post Scram Restart Report Perry Nuclear Power Plant; Scram Number 1-14-01 on October 20, 2014 at 0218 Hours; dated October 22, 2014
- SOI-R14; 120 V AC Vital Inverters; Revision 15
- CR 2014-15998; Post-Scram Event Operating Crew Critique From the Loss of Feedwater Scram per NOBP-TR-1122; dated October 21, 2014
- CR 2014-15993; RPS Scram Times for Scram Report; dated October 21, 2014
- CR 2014-15914; Reactor Scram Due to Loss of Feedwater; dated October 20, 2014
- ONI-C85; Pressure Regulator Failure; Revision 1
- EOP-01; RPV Control; Revision 4
- Reactivity Plan – Perry Nuclear Power Plant Evolution Specific – Startup 122 [0 – 37%] Power; Revision 0, Update 1
- Reactivity Plan – Perry Nuclear Power Plant Evolution Specific – Startup 122 [37 – 100%] Power; Revision 0, Update 0
- IOI-0001; Cold Startup; Revision 40
- IOI-0003; Power Changes; Revision 52
- IOI-0005; Maintaining Hot Shutdown; Revision 14
- IOI-0012; Maintaining Cold Shutdown; Revision 15
- IOI-0017; Drywell Entry and Access Control; Revision 19
- OAI-1703; Hardcards; Revision 18
- PDB-A0006; Power Flow Map; Revision 14
- SOI-B33; Reactor Recirculation System; Revision 34
- Perry – Updated Final Safety Analysis Report; Revision 19
- eSOMS Narrative Logs; dated November 7, 2014
- Post-Scram Restart Report Perry Nuclear Power Plant; Scram Number 1-14-02 on November 7, 2014 at 0847 Hours; dated November 9, 2014
- CR 2014-16826; Crew Post-Event Critique From the Reactor Scram Due to Loss of Feedwater on 11-7-14; dated November 9, 2014
- CR 2014-16894; Criticality Reached Slightly Earlier than -0.3% dk from Target at 250 F; dated November 11, 2014
- CR 2014-16769; Reactor SCRAM 11/7/2014 at 0847 Due to Lowering Reactor Water Level; dated November 7, 2014
- Reactivity Plan – Perry Nuclear Power Plant Evolution Specific – Startup 123 [0 – 37%] power; Revision 0, Update 0
- Regulatory Applicability Determination for ECP 14-0178; Digital Feedwater Control System Improvements; dated August 14, 2014
- 10 CFR 50.59 Screen for ECP 14-0178, Digital Feedwater Control System Improvements; dated August 14, 2014
- CR 2014-17151; Redundant Reactivity Control System, Additional Troubleshooting Testing is Required for PY-1C22P0001 Voltage Perturbations Into Feedwater Digital Control; dated November 17, 2014

- CR 2014-17105; Conditional Release of Stock Numbers 13180225 and 13365295; dated November 14, 2014
- CR 2014-16190; CRs Classified as AC Without Notifications to Document Rework/Repair; dated October 26, 2014
- CR 2014-16171; IOI-1, Cold Startup, Revised Without Documenting Potential Dose Change to Workers/Public Per 10CFR20; dated October 24, 2014
- CR 2014-16114; Incorrect Voltage Readings During Troubleshooting Delayed Process; dated October 23, 2014
- CR 2014-16128; Plant Computer Server Failed; dated October 23, 2014
- CR 2014-15969; F1A Ground; dated October 21, 2014
- CR 2014-16069; ODMI for DB-1-A Not In Service; dated October 22, 2014
- CR 2014-15968; Offgas Reverse Flow; dated October 21, 2014
- CR 2014-15970; SRM 'A' Will Not Pass SVI-C51-T0234; dated October 21, 2014
- CR 2014-16074; Oil Leak Coming From Pressure Switch Inside Cabinet of RFPT 'B'; dated October 23, 2014
- CR 2014-15973; Stator Water Conductivity Has Increased Close to Alarm Point of 0.5 micromho/cm; dated October 21, 2014
- CR 2014-15989; RCIS Needed Reset After Reactor Scram; dated October 21, 2014
- CR 2014-15943; Oil Leakage from RFPT 'A' to AUX Condensator (sic) Room; dated October 20, 2014
- CR 2014-15967; Recirc Pump Seal Area; dated October 21, 2014
- CR 2014-15972; 1N21F0245 Valve Failure; dated October 21, 2014
- CR 2014-15963; Potential Foreign Material Found on Containment 620 Elevation; dated October 20, 2014
- CR 2014-15915; Potential Use of Incorrect Part for Seal in 1G36D0001 Vent Line Coupling; dated October 20, 2014
- CR 2014-16017; Operator Response Improvement Opportunities Identified; dated October 20, 2014
- CR 2014-16931; Control Valve #4 Oscillations During Turbine Shell Warming; dated November 11, 2014
- CR 2014-16850; PYBP-SITE-0019 Not Followed For Processing of Post-Scram Restart Reports; dated November 10, 2014
- CR 2014-16884; Changes to Work Order Testing Steps Delayed Change to Mode 2; dated November 11, 2014
- CR 2014-16882; Digital Feedwater Control System Power Supply Alarm Is Locked In; dated November 10, 2014
- CR 2014-16798; IRM G Did Not Insert Fully on First Attempt to Insert; dated November 8, 2014
- CR 2014-16794; 1N22R0475 Controller Stopped at 20% Following Reactor Scram; dated November 7, 2014
- CR 2014-16793; 1N22F035B Dual Indication; dated November 7, 2014
- CR 2014-16832; RRCS Alarm Received Prior to Reactor Scram Not Identified or Reported; dated November 9, 2014

1R22 Surveillance Testing

- SVI-E22-T1319; Diesel Generator Start and Load Division 3; Revision 19; dated October 15, 2014
- SVI-P45-T2003; HPCS ESW Pump and Valve Operability Test; Revision 22; dated October 19, 2014

- PTI-P45-P0003; ESW System Loop 'C' Flow and Differential Pressure Test; Revision 14;
- NORM-ER-2001; Preconditioning Structures, Systems, and Components; Revision 1
- CR 2014-15759; NRC ID: Question About Division 3 DG Run Prior to ESW "C" SVI Testing; dated October 15, 2014
- CR 2014-16331; PA-PY-14-03; Under-utilization of "Acceptable Preconditioning" Evaluations As Allowed by NORM-ER-2001; dated October 29, 2014
- Perry Work Implementation Schedule; Week 04, Period 6, Division 3; From 1200 Tuesday, 10/14/14 to Wednesday, 10/15/14
- Perry Work Implementation Schedule; Week 04, Period 6, Division 3; From 1200 Wednesday, 10/15/14 to Thursday, 10/16/14
- SVI-C61-T1202; Remote Shutdown Control Test - Division 2 RHR, ECC, and ESW; Revision 7
- SVI-E31-T0085-A; NUMAC LDM Functional for 1E31-N700S; Revision 6
- CR 2010-85341; NRC ID – Potential Preconditioning During SVI-E22-T2001; dated November 3, 2010
- CR 2010-85820; NRC NCV, Unacceptable Preconditioning of RHR A Minimum Flow Valve; dated November 15, 2010
- CR 2015-00628; NRC Potential Green, Non-cited Violation for Preconditioning ESW (CR 2014-15759); dated January 16, 2015

1EP4 Emergency Action Level and Emergency Plan Changes

- Emergency Plan; Revisions 41, 42, 43 and 44
- EPI-A1; Emergency Action Levels; Revision 26
- EPI-B1; Emergency Notifications System; Revision 25
- EPI-B8; Protective Actions and Guides; Revisions 15 and 16
- PSI-0008; Determining Availability of Perry Plant Emergency Response Facilities; Revision 3
- PSI-0013; Control and Revision of the Evacuation Time Estimate for Areas Near the Perry Plant; Revision 4
- PSI-0018; Maintenance and Inventory of Emergency Equipment; Revision 7
- PSI-0019; Emergency Action Level (EAL) Bases Document; Revision 18
- NORM-LP-5001; FENOC Position on "Release in Progress" for Emergency Response Organization; Revisions 3 and 4

1EP6 Drill Evaluation

- Simulator Exercise Guide OT-3070-RP2C; Annual Requalification Exam Scenario OT-3070-003-RP2C; Revision 0

4OA1 Performance Indicator Verification

- Mitigating Systems Performance Index Basis Document; Revision 8
- Mitigating Systems Performance Index Basis Document; Revision 7
- NEI 99-02; Regulatory Assessment Performance Indicator Guideline; Revision 7
- NEI 99-02; Regulatory Assessment Performance Indicator Guideline; Revision 6
- NOBP-LP-4012-10; Reactor Coolant System Leakage; October 2013 to September 2014; Revision 2

4OA2 Problem Identification and Resolution

- NOBP-OP-0012; Operator Work Around, Burdens, Control Room Deficiencies and Operations Aggregate Assessment; Revision 3

- Control Room Deficiencies, Operator Burdens, and Operator Work Around List; dated October 13, 2014
- Temporary Modification Tracking Listed; dated September 30, 2014
- NOP-WM-1003; Nuclear Maintenance Notification Initiation, Screening, and Minor Deficiency Monitoring Processes; Revision 6
- CR 2012-19902; ESW to RHR B Heat Exchanger Flow Low Alarm; dated May 7, 2012
- CR 2014-04336; Failure of APRM Bypass Switch; dated March 5, 2014
- CR 2014-17195; Inadequate Assessment of Plant Deficiencies for Operator Equipment Issues, Operator Work-Arounds, Operator Burdens, Control Room Deficiencies; dated November 17, 2014
- CR 2015-00284; Potential NRC Non-cited Violation for Failing to Follow Procedure During Troubleshooting Activities; dated January 8, 2015
- CR 2014-18203; ODMI "Problem Solving & Decision Options for RRCS Runback Signal Into Digital Feedwater Control System" Per NOP-OP-1010; dated December 11, 2014

4OA5 Other Activities

- 10 CFR 50.59 Screen; Removal of the Seismic Restraint for Freestanding (Main Stack-up) Configuration of Dry Cask Storage System; Revision 0
- 10CFR 72.48 Screen; Removal of the Seismic Restraint for Freestanding (Main Stack-up) Configuration of Dry Cask Storage System; Revision 0
- ALARA Plan No. 140101; Revision 0
- CR-2014-08043; Relevant Indications Identified During NDE of MPC Lift Lock; dated April 30, 2014
- CR-2014-11394; Fuel Handling Building Crane Fault on Main Hook Causes Delay to Scheduled Dry Cask Storage Work; dated July 7, 2014
- CR-2014-11637; NRC ID: Dry Cask Storage Cask #429 Dye Penetrant Test Required To Be Re-Performed; dated July 11, 2014.
- CR-2014-12017; NRC Questioned Basis for Upper and Lower Temperature Limits of Liquid Penetrant Procedure GQP-9.2 Rev. 7; dated July 21, 2014
- CR-2014-12816; Work Performed on FHB Crane Stub Shaft Exceeded Scope and Intent of Minor Maintenance Order and Caused Excessive Damage; dated August 7, 2014
- CR-2014-13093; FHB Crane ECP-13-0649 Loss of Configuration Control; dated August 14, 2014
- CR-2014-13254; Calc G58-S-R-L-006 Rev 1 Not Consistent With FHB Crane Following ECP 13-0649 Implementation; dated August 19, 2014
- CR-2014-13385; FHB Crane 0L51E0003 Shows Spurious Overspeed Fault; dated August 21, 2014
- CR-2014-14151; VCT Driver Side Bumper Would Not Retract; dated September 9, 2014
- CR-2014-14279; NRC Identified Issue With Use of GMI-215 Following Spurious FHB Crane O/S Trips on 9/2/14 and 9/4/14; dated September 11, 2014
- DCR 600907514; GMI-0215, NRC Identified Improvements; dated July 9, 2014
- ECP No. 04-0278-001; FHB Crane Upgrade; Revision 7
- ECP 14-0552-001; Modify Fuel Handling Building Crane; Revision 1
- ECP 13-0649-000; Fuel Handling Building Crane Upgrade; Revision 0
- ECP 04-0278-013; Removal of the Seismic Restraint for Freestanding (Main Stack-up) Configuration of Dry Cask Storage System; Revision 0
- Fuel Movement Checklist; dated July 9, 2014
- G58-S-R-L-006; NUREG-554 Conformance Matrix for Fuel Handling Area Crane; Revision 1
- GMI-0210; Multi-Purpose Canister (MPC) Loading; Revision 10
- GMI-0213; Multi-Purpose Canister (MPC) Sealing; Revision 11

- GMI-0215; Spent Fuel Dry Storage Response to Abnormal Conditions; Revision 4
- GMI-0215; Spent Fuel Dry Storage Response to Abnormal Conditions; Revision 7
- GMI-0222; Multi-Purpose Canister (MPC) Transfer; Revision 14
- GQP-9.2; High Temperature Liquid Penetrant Examination and Acceptance Standards for Welds, Base Materials and Cladding; Revision 7
- GQP-9.6; Visual Examination of Welds; Revision 14GQP-17.0; Quality Records; Revision 13
- HI-2094276; Structural Evaluation of the Perry Mating Device; Revision 4
- HI-2135834; Updated Dynamic Analysis of HI-STORM/HI-TRAC Stack-up for PNPP Using ANSYS, Revision 1
- IOI-19; Spent Fuel Dry Cask Storage; Revision 3
- Liquid Penetrant Examination Report No. 0941-14B-003; dated April 22, 2014
- Liquid Penetrant Examination Report No. 0941-14B-005; dated May 1, 2014
- Liquid Penetrant Examination Report No. 0941-14B-006; dated May 1, 2014
- Liquid Penetrant Examination Report No. 0941-14B-007; dated May 2, 2014
- Liquid Penetrant Examination Report No. 0941-14B-008; dated June 4, 2014
- Liquid Penetrant Examination Report No. 0941-14B-009; dated June 9, 2014
- Liquid Penetrant Examination Report No. 0941-14B-010; dated June 10, 2014
- Magnetic Particle Examination Report No. 0942-14B-009; dated May 28, 2014
- MARLA Project Summary; Dry Cask 2014; dated May 7, 2014
- NOBP-OP-0012; Operator Work-Arounds, Burdens, Control Room Deficiencies and Operations Aggregate Assessment; Revision 3
- PAP-1313; Control of Lifting Operations; Revision 17
- Part Equivalent Replacement Package No. 001049; Addition of a Modified Spacer to MPC 434, Basket Location 16; Revision 0
- PMI-0121; HI-TRAC Inspection; Examination; and Preparation; Revision 0
- PTI-G58-P0001; HI-STORM Annual Inspection; Revision 0
- PI-903001-01; Closure Welding of Multi-Purpose Canisters at Perry 1 (GPRY) Nuclear Station; Revision 1
- PQR-63; PCI Energy Services Welding Procedure Qualification Record; Revision 6
- PQR-899; PCI Energy Services Welding Procedure Qualification Record; Revision 14
- PQR-062; PCI Energy Services Welding Procedure Qualification Record; Revision 3
- PQR-600; PCI Energy Services Welding Procedure Qualification Record; Revision 6
- PQR-864; PCI Energy Services Welding Procedure Qualification Record; Revision 2
- WPS 8 MN-GTAW ; PCI Energy Services Welding Procedure Specification; Revision 3
- WO 200573823; HI-TRAC Internal/External Visual Inspection; dated July 2, 2014
- WO 200532233; Special Lifting Device Testing PMI-0120; dated June 12, 2014
- Simple Trouble Shooting Template No. 200585681

4OA7 Licensee-Identified Violations

- NOP-LP-2001; Corrective Action Program; Revision 35
- CR 2014-18329; Condition Report Not Written When Degraded Condition on 1N22F420C Was Identified; dated December 15, 2014
- CR 2014-18306; 1N22F420C, MSL C Shutoff Before Seat Drain Valve, Lost Closed Indication; dated December 14, 2014
- SVI-N22-T2001; Main Steam Drain Line Valve Exercise and Stroke Time Test; Revision 7

LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access Management System
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CFR	<i>Code of Federal Regulations</i>
CR	Condition Report
DFCS	Digital Feedwater Control System
DG	Diesel Generator
EPIP	Emergency Plan Implementing Procedure
ESW	Emergency Service Water
FENOC	FirstEnergy Nuclear Operating Company
FHB	Fuel Handling Building
GMI	General Maintenance Instruction
GQP	General Quality Procedure
HI-STORM	Storage Overpack Cask
HI-TRAC	Transfer Cask
HPCS	High-Pressure Core Spray
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
ISFSI	Independent Spent Fuel Storage Installation
IST	Inservice Testing
JPM	Job Performance Measure
LORT	Licensed Operator Requalification Training
MPC	Multi-Purpose Canister
NCC	Nuclear Closed Cooling
NCV	Non-Cited Violation
NOBP	Nuclear Operations Business Practice
NRC	Nuclear Regulatory Commission
ODMI	Operation Decision Making Issue
OWA	Operator Workaround
PARS	Publicly Available Records System
PI	Performance Indicator
RAD	Regulatory Applicability Determination
RCIC	Reactor Core Isolation Cooling
RCS	Reactor Coolant System
RP	Radiation Protection
RPV	Reactor Pressure Vessel
RRCS	Redundant Reactivity Control System
RWC	Reactor Water Cleanup
SAT	Systems Approach to Training
SDP	Significance Determination Process
SLIV	Severity Level IV
SR	Surveillance Requirement
SSC	Structure, System, and Component
SVI	Surveillance Instruction
TS	Technical Specification
USAR	Updated Safety Analysis Report
WO	Work Order

E. Harkness

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Sincerely,

/RA/

Michael Kunowski, Chief
Branch 5
Division of Reactor Projects

Docket No. 05000440 and 07200069
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