



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION III  
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May 14, 2015

Mr. Ernest Harkness  
Site Vice-President  
FirstEnergy Nuclear Operating Company  
Perry Nuclear Power Plant  
P. O. Box 97, 10 Center Road, A-PY-290  
Perry, OH 44081-0097

SUBJECT: PERRY NUCLEAR POWER PLANT INTEGRATED INSPECTION REPORT  
05000440/2015001

Dear Mr. Harkness:

On March 31, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed a baseline inspection at your Perry Nuclear Power Plant. On April 16, 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 two findings of very low safety significance (Green) in this report. The findings involved violations of NRC requirements. 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

E. Harkness

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the NRC's Public Document Room or from the Publicly Available Records System (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

*/RA/*

Michael Kunowski, Chief  
Branch 5  
Division of Reactor Projects

Docket No. 50-440  
License No. NPF-58

Enclosure:  
Inspection Report 05000440/2015001  
w/Attachment: Supplemental Information

cc w/encl: Distribution via LISTSERV®

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-440  
License No: NPF-58

Report No: 05000440/2015001

Licensee: FirstEnergy Nuclear Operating Company

Facility: Perry Nuclear Power Plant, Unit 1

Location: North Perry, Ohio

Dates: January 1 through March 31, 2015

Inspectors: M. Marshfield, Senior Resident Inspector  
J. Nance, Resident Inspector  
J. Beavers, Acting Resident Inspector  
T. Bilik, Senior Reactor Inspector

Observer: N. McMurray

Approved by: M. Kunowski, Chief  
Branch 5  
Division of Reactor Projects

Enclosure

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## SUMMARY OF FINDINGS

Inspection Report (IR) 05000440/2015001, 01/01/2015–03/31/2015, Perry Nuclear Power Plant; Fire Protection and Inservice Inspection Activities.

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. Two findings were identified by the inspectors that were considered Green non-cited violations (NCVs) of NRC regulations. The significance of inspection findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," dated December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, updated February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

### Cornerstone: Mitigating Systems

Green. The inspectors identified a finding of very low safety significance and associated NCV of Perry Operating License Condition 2.C(6) for failure to follow the site Fire Protection Program. Specifically, a large quantity of material from the previous space utilized as the Diesel Maintenance Shop had been placed in the Diesel Generator (DG) Hallway to allow reconstruction of the space as a storage area for post-Fukushima equipment and awaiting completion of a new maintenance shop location. However, as of the inspectors' observations on February 3, 2015, the licensee failed to evaluate the impact of this large quantity of combustibles or to issue a transient combustible permit as required by Perry Administrative Procedure (PAP) 1910, Fire Control Program. This finding was entered into the licensee's corrective action program for resolution as Condition Report 2015–01280 and immediate corrective action was taken to evaluate and issue a transient combustible permit for the DG Hallway.

The failure to comply with the site Fire Protection Program was determined to be more than minor performance deficiency because it was associated with the protection against external factors (i.e., fire) 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 failure to evaluate the fire impact of the stored material and process a permit for the excess combustible material stored in the DG Hallway fire area prevented the licensee from initiating compensatory fire watch actions, and additionally did not address the potential issue of restricting the availability of fire protection equipment in the area. The inspectors determined that the finding was of very low safety significance because the impact of a fire would have been limited to no more than one train of equipment important to safety. The finding has a cross-cutting aspect in the area of human performance, work management, in that the licensee work process did not provide for management of the risk commensurate to the work and the need for coordination with different groups or job activities, specifically fire safety personnel (H.5). (Section 1R05)

Green. The inspectors identified a finding of very low safety significance and associated NCV of Title 10 of the *Code of Federal Regulations* (CFR) Part 50, Appendix B,

Criterion IX, "Control of Special Processes," for the licensee's failure to properly qualify a non-destructive testing procedure in accordance with applicable codes. Specifically, a liquid penetrant testing procedure was not qualified for its full applicability temperature range in accordance with American Society for Mechanical Engineers (ASME) Code, Section V, "Non-Destructive Examination." This finding was entered into the licensee's corrective action program as Condition Report 2015-03175.

The failure to qualify a liquid penetrant testing procedure in accordance with ASME Section V was determined to be a more than minor performance deficiency because if left uncorrected, it has the potential to lead to a more significant safety concern. Specifically, since the liquid penetrant testing procedure was not qualified for its full applicability temperature range, liquid penetrant examinations would not be assured to detect flaws in the unqualified temperature range and as a consequence, the potential would exist for a rejectable flaw to go undetected, unknowingly impacting the operability of the inspected system. The inspectors determined the finding was of very low safety significance because it did not result in the loss of operability or functionality for any mitigating systems; thus, the inspectors answered "No" to the screening questions. The licensee completed a review of liquid penetrant examination records, and did not find an example where the procedure was implemented in the unqualified temperature range. The inspectors did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency. Specifically, the inadequate qualifications were performed more than 3 years ago. (Section 1R08)

## REPORT DETAILS

### Summary of Plant Status

The plant began the inspection period at 100 percent power. Plant power began to decrease on January 19, 2015, due to end-of-core life prior to refueling outage (RFO) 1R15. Plant coastdown continued until March 9, when at 12:01 a.m., the plant disconnected from the grid and was shut down for RFO 1R15. The plant remained shut down for RFO 1R15 at the end of the quarter.

### 1. REACTOR SAFETY

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

#### 1R01 Adverse Weather Protection (71111.01)

##### .1 Readiness for Impending Adverse Weather Condition—Extreme Cold Conditions

##### a. Inspection Scope

Since extreme cold conditions were forecast in the vicinity of the facility for January 14 and 15, 2015, the inspectors reviewed the licensee's overall preparations/protection for the expected weather conditions. On January 14, 2015, the inspectors walked down the auxiliary boiler room, including the auxiliary boilers and associated piping systems; the Unit 1 condensate storage tank heat trace system; and the emergency service water (ESW) pump house, including the ESW 'A' and 'B' systems, because their safety-related functions could be affected or required as a result of the extreme cold conditions forecast for the facility. The inspectors observed insulation, heat trace circuits, space heater operation, and weatherized enclosures to ensure operability of affected systems. The inspectors reviewed licensee procedures and discussed potential compensatory measures with control room personnel. The inspectors focused on plant management's actions for implementing the station's procedures for ensuring adequate personnel for safe plant operation and emergency response would be available. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one sample for readiness for impending adverse weather conditions as defined in Inspection Procedure (IP) 71111.01–05.

##### b. Findings

No findings were identified.

#### 1R04 Equipment Alignment (71111.04)

#### Quarterly Partial System Walkdowns

a. Inspection Scope

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

- annulus exhaust gas treatment system 'A';
- emergency service water system 'A'; and
- reactor core isolation cooling (RCIC) system.

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 Updated Safety Analysis Report (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 corrective action program (CAP) with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

.2 Semi-Annual Complete System Walkdown

a. Inspection Scope

On March 20, 2015, the inspectors performed a complete system alignment inspection of the residual heat removal (RHR) system 'A' and its sub-systems 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)

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:

- Auxiliary Building Elevations (AB 574'), Fire Zones 1AB-1A through 1AB-1G;
- Control Complex (Div 1 SWGR & CC 679'), Fire Zones 1CC-3C, 1CC-3D;
- Intermediate Building (IB 620'), Fire Zone 0IB-3;
- Fuel Handling Building (FHB 574'/585'/599'), Fire Zones 0FH-1 through 0FH-2B; and
- Containment and Drywell, Fire Zones 1RB-1A through 1RB-1C.

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

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

b. Findings

Introduction: The inspectors identified a finding of very low safety significance (Green) and associated NCV of License Condition 2.C(6) for failure to evaluate the impact of excessive stored material in the DG hallway and the need for a combustible storage permit in accordance with the plant fire protection program main procedure. Specifically, on February 3, 2015, the inspectors identified that large quantities of material had been removed from the former Diesel Maintenance Shop and were stored in the DG hallway without any identification of an evaluation for fire hazard and associated combustible storage permit. The excess material was positioned in such a way as to roughly support access to staged fire-fighting equipment but in combination with several scaffolds supporting work in the area provided for a complicated challenge to access equipment in the event of a fire.

Description: On February 3, 2015, while transiting the DG hallway the inspectors identified that the Diesel Maintenance Shop material stored in the DG hallway did not have an associated transient combustible permit. Additional review of the hallway identified that access to stored fire-fighting equipment was inhibited by the storage and additional scaffolding in the hallway to support FLEX modification installation associated with the same modification that caused the material to be moved into the hallway. The restricted access to fire-fighting equipment was determined by the inspectors to not be so limiting as to prevent fire-fighting actions. A review of the Perry Pre-Fire Plan Instruction shows that a fire in this area can affect safe-shutdown equipment and the calculation for fire loading in Fire Area "DG-1D" shows a limit of 80,00 BTU/ft<sup>2</sup>. The transient combustible permit control process described in Perry Administrative Procedure (PAP) 1910, Fire Control Program, is "the process for controlling the use of combustible materials that are not fixed in place or an integral part of an operating system or component." Additionally in PAP-1910, an initiator of a transient combustible permit is required to identify the "specific amount of combustibles" to complete the permit, as well as "perform a walk down of the area and verify no other combustibles present, no hot work taking place and no impairments in the area."

The licensee generated CR 2015-01480 and determined that a transient combustible permit was needed. The licensee initiated a transient combustible permit on February 3, 2015, and implemented compensatory measures that included hourly fire watches and direction to not block fire protection equipment. The permit was issued for 45 days but calculation of the end date was completed incorrectly and subsequently identified by regulatory compliance personnel on March 23, 2015, which was after the original permit should have expired. Subsequently, the licensee took immediate action to generate a new transient combustible permit.

Analysis: The inspectors determined that the failure to evaluate the DG hallway for storage of the combustible materials removed from the former Diesel Maintenance Shop was a performance deficiency that warranted further evaluation. Using guidance in IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 7, 2012, the inspectors determined that the issue was more than minor, and thus a finding, because it was associated with the protection against external factors attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Table 3 of Attachment 4 of IMC 0609, "The Significance Determination Process (SDP) for Findings at Power," dated

June 19, 2012, the inspectors answered “Yes” to the Fire Protection question, “Does the finding involve: (1) A failure to adequately implement fire prevention and administrative controls for transient combustible materials, transient ignition sources, or hot work activities?” By answering “Yes,” the inspectors were directed to evaluate the significance using IMC 0609, Appendix F, “Fire Protection Significance Determination Process,” dated September 20, 2013. In Appendix F, Attachment 1, Step 1.2, “Category of Fire Inspection Finding,” the inspectors assigned Category 1.4., “Fire Prevention and Administrative Controls,” to the finding. The inspectors then answered “Yes” to question 1.4.1.B because the impact of the fire in the DG hallway would “be limited to no more than one train/division of equipment important to safety” and determined the issue to be of very low safety significance (Green).

The inspectors identified a cross-cutting aspect in the area of human performance, work management, where the licensee work process did not provide for management of the risk commensurate to the work and the need for coordination with different groups or job activities, specifically fire safety personnel (H.5).

Enforcement: License condition 2.C(6) requires the licensee to “implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report, as amended, and as approved through Safety Evaluation Report (NUREG–0887) dated May 1982 and supplemental numbers 1 through 10.” In PAP 1910, the Perry Fire Protection Program, specific directions are provided for the administration of transient combustible permits to ensure that the plant is protected from combustible materials that are not part of operating systems or components. Contrary to the above, as of February 3, 2015, the licensee failed to initiate and maintain a transient combustible permit when significant amounts of combustible materials were placed in the DG hallway, essentially as a temporary storage location. Because this violation was of very low safety significance and was entered into the licensee’s CAP (as CR 2015–01480) and the licensee took actions in accordance with the fire protection program, including initiation of compensatory measures for the affected fire areas, it is being treated as an NCV, consistent with Section 2.3.2.a of the NRC Enforcement Policy (**NCV 05000440/2015001–01, “Failure to Initiate a Transient Combustible Permit.”**)

#### 1R08 Inservice Inspection Activities (71111.08)

From March 9, 2015, through March 13, 2015, the inspectors conducted a review of the implementation of the licensee’s Inservice Inspection (ISI) Program for monitoring degradation of the reactor coolant system, risk-significant piping and components, and containment systems. Documents reviewed are listed in the Attachment to this report.

The ISI’s described in Sections 1R08.1 and 1R08.5 below constituted one inspection sample as defined in IP 71111.08–05.

#### Piping Systems Inservice Inspection

##### a. Inspection Scope

The inspectors either observed or reviewed the following non-destructive examinations mandated by the American Society for Mechanical Engineers (ASME) Section XI Code to evaluate compliance with the ASME Code Section XI and Section V requirements,

and, if any indications and defects were detected, to determine if these were dispositioned in accordance with the ASME Code or an NRC-approved alternative requirement.

- Ultrasonic examination (UT) of control rod drive hydraulic (CRDH) control system, 8 inches elbow-to-tee weld, 1C11-0003;
- UT of CRDH system, 8 inches cap-to-pipe weld, 1C11-0030;
- UT of CRDH system, 12 inches pipe-to-cap weld, 1C11-0007;
- Magnetic Particle examination (MT) of RHR system piping support welded attachment, 1E12-H0120-WA;
- MT RHR system piping support welded attachment, 1E12-H0187-WA;
- Visual-3 examination (VT-3) of CRDH system mechanical snubber, 1C11-H0673;
- VT-3, examination of RHR system rigid guide, 1C11-H0052; and
- VT-3, examination of CRDH system mechanical snubber 1E12-H0652.

The inspectors reviewed the following examination completed during the previous outage with relevant/recordable conditions/indications accepted for continued service to determine whether acceptance was in accordance with the ASME Code Section XI, or an NRC-approved alternative:

- Indication (VT-3) disposition rejected during variable spring can examination (1E21-H0064) examination (WO 200472269);
- Indication (VT-3) disposition rejected during variable spring can examination (1C41-H0068) examination (WO 200472038);
- Indication (VT-3) disposition rejected during variable spring can examination (1N11-H0229) examination (WO 200472057);
- Indication Liquid Dye Penetrant examination (PT) disposition rejected on 2 inch pipe to-valve weld (1G33-0024D); and
- Indication (PT) disposition rejected on 1 ½ inch elbow-to-pipe weld (1G33-0036).

The inspectors reviewed records for pressure boundary weld repair completed for WO 2000394360, "Install structural plate-on-pipe support 1E21H9987, low-pressure core spray," for a risk-significant system during the last outage to determine if the licensee applied the pre-service non-destructive examinations, and acceptance criteria required by the Construction Code, and/or the NRC-approved Code relief request. Additionally, the inspectors reviewed the welding procedure specification and supporting weld procedure qualification records to determine whether the weld procedure was qualified in accordance with the requirements of the Construction Code and the ASME Code, Section IX.

b. Findings

Introduction: The inspectors identified a finding of very low safety significance (Green), and an associated NCV of 10 CFR Part 50, Appendix B, Criterion IX, "Control of Special Processes," for the licensee's failure to properly qualify a non-destructive testing procedure in accordance with applicable codes. Specifically, a liquid penetrant testing procedure was not qualified for its full applicability temperature ranges in accordance with ASME Code, Section V, "Non-Destructive Examination."

Description: While reviewing the procedure qualification/verification section for expanded temperature for visible dye penetrant, Procedure NQI-0941, which indicated it was applicable for use down to 45 degrees Fahrenheit (°F), the inspectors noted that the licensee had failed to properly qualify the procedure for expanded temperature application less than the ASME Code limit of 50°F.

ASME Section V, Article 6, "Liquid Penetrant Examination," states that "when it is not practical to conduct a liquid penetrant examination within the temperature range of 50°F to 125°F, the examination procedure at the proposed lower or higher temperature range requires qualification of the penetrant materials and processing in accordance with Mandatory Appendix III of this Article." In order to qualify the procedure for the proposed higher or lower temperature range, Appendix III requires the fabrication of "comparator" blocks for use in performing the demonstrations. Specifically, Appendix III, Section III-630, "MATERIALS", states, in part, that, "The liquid penetrant comparator blocks shall be made of aluminum, Type 2024, 3/8 inch thick, and should have approximate face dimensions of 2 inch x 3 inch. At the center of each face, an area approximately 1 inch in diameter shall be heated to a temperature between 950°F and 975°F then immediately quenched in cold water, which produces a network of fine cracks on each face. The block shall be cut in half. One-half of the specimen shall be designated and marked block "A" and the other block "B" for identification in subsequent processing."

Appendix III, Paragraph 641.1, "Temperature Less Than 50°F," states, in part, that "to qualify a liquid penetrant examination procedure at a temperature of less than 50°F, the proposed procedure shall be applied to block "B" after the block and all materials have been cooled and held at the proposed examination temperature until the comparison is completed. A standard procedure which, has previously been demonstrated as suitable for use shall be applied to block "A" in the 50°F to 125°F temperature range. The indications of cracks shall be compared between blocks "A" and "B." The inspectors noted that the resulting crack density and pattern on both blocks "A" and "B" should look similar to each other since the blocks were adjacent pieces taken from the same material. As a result, the PT examination results should look similar if the processes are equivalent.

The inspectors noted that the licensee had failed to follow the demonstration methodology as required by the ASME Code to qualify Procedure NQI-0941 for use below the Code allowable lower limit of 50°F. Per the ASME Code, this would have required tests to be performed at both 45°F (the lower bound of the extended range), and within the Code standard range (50°F-125°F), and the results compared. Specifically, while the licensee completed the 45°F test on block "B", the licensee failed to perform the standard temperature range demonstration on block "A" in order to compare the results. Hence, the licensee failed to adequately establish the requisite level of confidence that the procedure could identify flaws at the lower temperature range.

The licensee captured the concern in the CAP as CR 2015-03175. As an immediate corrective action, the licensee reviewed completed liquid penetrant examination records and did not find an example where the procedure was implemented in the unqualified temperature range. The licensee planned to evaluate the procedure for possible revision for examinations less than 50°F to bring the procedures back into compliance with the Code.

Analysis: The inspectors determined that the failure to qualify liquid penetrant testing procedures in accordance with ASME Section V was a performance deficiency. The performance deficiency was determined to be more than minor, in accordance with IMC 0612, appendix B, "Issue Screening," dated September 7, 2012, because, if left uncorrected, it has the potential to lead to a more significant safety concern. Specifically, since the liquid penetrant testing procedure was not qualified for its full applicability temperature range, liquid penetrant examinations would not be assured to detect flaws in the unqualified temperature range. As a consequence, when performing inspections on safety-related components at temperatures less than 50°F, the potential would exist for the licensee for a rejectable flaw to go undetected, unknowingly impacting the structural integrity of the inspected component.

The inspectors determined the finding could be evaluated using the Significance Determination Process in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," dated June 19, 2012. Because the finding impacted the Mitigating Systems Cornerstone, the inspectors screened the finding through IMC 0609 Appendix A, "The Significance Determination Process for Findings At-Power," dated June 19, 2012. The finding screened as very low safety significance (Green) because it did not result in the loss of operability or functionality of a safety significant system; thus, the inspectors answered "No" to all of the screening questions. The licensee completed a review of liquid penetrant examination records, and did not find an example where the procedure was implemented at the unqualified temperature range.

The inspectors did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency. Specifically, the inadequate qualifications were performed more than 3 years ago.

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion IX, requires, in part, "measures to be established to assure that non-destructive testing are controlled and accomplished using qualified procedures in accordance with applicable codes." ASME Section V, Article 6, "Liquid Penetrant Examination," states that "when it is not practical to conduct a liquid penetrant examination within the temperature range of 50°F to 125°F, the examination procedure at the proposed lower or higher temperature range requires qualification of the penetrant materials and processing in accordance with Mandatory Appendix III of this Article." Contrary to the above, as of March 13, 2015, the licensee did not properly qualify liquid penetrant testing for non-standard temperatures below 50°F for Procedure NQI-0941. Specifically, while the licensee completed the demonstration on test block "B", holding the examination materials and test block at the proposed examination temperature of 45°F throughout the demonstration, the licensee did not perform a demonstration on block "A" in the standard temperature range for comparison to the 45°F demonstration block. The licensee was still completing its planned corrective actions at the end of the inspection. However, the inspectors determined that the non-compliance did not present an immediate safety concern because the licensee did not identify instances where the procedure was implemented at the unqualified temperature range. Because this violation was of very low safety significance, and was entered into the licensee's CAP (as CR-2015-03175), this violation is being treated as an NCV, consistent with Section 2.3.2.a of the NRC Enforcement Policy (**NCV 05000440/2015001-02, "Liquid Penetrant Testing Procedure Was Not Qualified for Its Full Applicability Range."**)

Reactor Pressure Vessel Upper Head Penetration Inspection Activities/(Not Applicable)

Boric Acid Corrosion Control/(Not Applicable)

Steam Generator Tube Inspection Activities/(Not Applicable)

Identification and Resolution of Problems

a. Inspection Scope

The inspectors performed a review of ISI-related problems entered into the licensee's CAP, and conducted interviews with licensee staff to determine if:

- the licensee had established an appropriate threshold for identifying ISI-related problems;
- the licensee had performed a root cause evaluation (if applicable) and taken appropriate corrective actions; and
- the licensee had evaluated operating experience and industry generic issues related to ISI and pressure boundary integrity.

The inspectors performed these reviews to evaluate compliance with 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requirements. The corrective action documents reviewed by the inspectors are listed in the Attachment to this report.

b. Findings

No findings were identified.

1R11 Licensed Operator Regualification Program (71111.11)

Resident Inspector Quarterly Review of Licensed Operator Regualification (71111.11Q)

a. Inspection Scope

On January 20, 2015, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator regualification training to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

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

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

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

b. Findings

No findings were identified.

.2 Resident Inspector Quarterly Observation During Periods of Heightened Activity or Risk (71111.11Q)

a. Inspection Scope—Refueling Outage Shutdown Activities

On March 8, 2015, the inspectors observed control personnel as the reactor was shut down for a refueling outage. The inspectors observed downshifting of recirculation pumps, removal of feed water pumps from service, disconnect from the grid, and nuclear instrument operations and manipulations throughout the shutdown process. The shutdown was an activity that required heightened awareness or was related to increased risk. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- 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 (if applicable).

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 (71111.12)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk-significant systems:

- digital feedwater control system; and

- fuel pool cleanup and cooling system.

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

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

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

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

b. Findings

No findings were identified.

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

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:

- RHR 'A' risk associated with Surveillance Instruction (SVI)–E12-T1193; low-pressure core injection pump 'A' discharge low flow (bypass) channel calibration for 1E12–N052A;
- redundant reactivity control system problem solving and operational decision making activities;
- ESW 'A' out-of-service and unavailable for three fuel pool cooling and cleanup system valve replacements;
- high pressure core spray risk associated with SVI–E22–T2680; and
- average power range monitor bypass switch.

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 constitute five 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:

- fuel assembly bail handle damaged during new fuel receipt inspection;
- Division 3 emergency diesel generator (EDG) room supply fan 1C actuator failure;
- Division 1 EDG jacket water heater disconnect repair;
- RCIC inoperability due to unexpected isolation; and
- ESW 'A' system operability following freeze seal removals.

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

### a. Inspection Scope

The inspectors reviewed modifications to the digital feedwater control system power supply.

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 system(s). 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 permanent 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 post-maintenance testing related to the following activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- RCIC post-maintenance outage repairs;
- nuclear closed cooling to fuel pool cooling and cleanup heat exchanger 'A' outlet valve replacement post-maintenance test;
- containment floor drain outboard isolation valve post-maintenance test;
- annulus exhaust gas treatment system 'A' charcoal sampling post-maintenance test;
- source range monitor 'D' replacement; and
- Unit 1 startup transformer replacement.

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 six post-maintenance testing samples as defined in IP 71111.19-05.

b. Findings

No findings were identified.

1R20 Outage Activities (71111.20)

Refueling Outage Activities

a. Inspection Scope

The inspectors reviewed the Outage Safety Plan (OSP) and contingency plans for Perry's Unit 1 RFO, which began on March 9, 2015, and was still in progress at the end of the inspection quarter, to confirm that the licensee had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense-in-depth. During the RFO, the inspectors observed portions of the shutdown and cool down processes and monitored licensee controls over the outage activities listed below:

- licensee configuration management, including maintenance of defense-in-depth commensurate with the OSP for key safety functions and compliance with the applicable TS when taking equipment out-of-service;
- implementation of clearance activities and confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing;
- installation and configuration of reactor coolant pressure, level, and temperature instruments to provide accurate indication, accounting for instrument error;
- controls over the status and configuration of electrical systems to ensure that TS and OSP requirements were met, and controls over switchyard activities;
- monitoring of decay heat removal processes, systems, and components;
- controls to ensure that outage work was not impacting the ability of the operators to operate the spent fuel pool cooling system;
- reactor water inventory controls, including flow paths, configurations, and alternative means for inventory addition, and controls to prevent inventory loss;
- controls over activities that could affect reactivity;
- maintenance of secondary containment as required by TSs;
- licensee fatigue management, as required by 10 CFR 26, Subpart I;

- refueling activities, including fuel handling and sipping to detect fuel assembly leakage; and
- licensee identification and resolution of problems related to RFO activities.

Documents reviewed during the inspection are listed in the Attachment to this report.

This inspection constitutes portions of the RFO sample as defined in IP 71111.20-05, which will be counted as a full sample upon completion of the RFO in the next inspection period.

## 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:

- SVI-R43-T1318; Diesel Generator Start and Load Division 2; Revision 16 (Routine);
- SVI-E12-T2003; RHR 'C' Pump and Valve Operability Test; Revision 29 (Routine);
- SVI-P45-T2002; ESW Pump 'B' and Valve Operability Test; Revision 33 (Inservice testing)
- SVI-C71-T0258-C; TCV Fast Closure and EOC-RPT Response Time for Turbine Control Channel 'C'; Revision 3 (Routine); and
- SVI-B21-T0076-D; MSL Low Condenser Vacuum Channel 'D' Functional for 1B21-N675D; Revision 6 (Routine).

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

- did preconditioning occur;
- the effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;
- as-left setpoints were within required ranges; and the calibration frequency was in accordance with TSs, the USAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;

- where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, 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 four routine surveillance testing samples, and one inservice testing sample as defined in IP 71111.22, Sections–02 and–05.

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 January 20, 2015, which required emergency plan implementation by a licensee operations crew. This evolution was planned to be evaluated and included in performance indicator 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 corrective action program. 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, and Barrier Integrity**

##### 4OA1 Performance Indicator Verification (71151)

##### Unplanned Scrams per 7000 Critical Hours

###### a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Scrams per 7000 Critical Hours performance indicator (PI) for the first quarter 2014 through the fourth quarter 2014. To determine the accuracy of the PI data reported, PI definitions and guidance contained in Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC Integrated Inspection Reports (IRs) for the period of January 1, 2014, through December 31, 2014, 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 unplanned scrams per 7000 critical hours (IE01) sample as defined in IP 71151-05.

###### b. Findings

No findings were identified.

##### Unplanned Scrams with Complications

###### a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Scrams with Complications PI for the first quarter 2014 through the fourth quarter 2014. To determine the accuracy of the PI data reported, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated IRs for the period of January 1, 2014, through December 31, 2014, 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. A frequently asked question was answered during the quarter which documented that the actions for the scram in October 2014, which were taken by the operators in the control room, were appropriate for an uncomplicated scram. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one unplanned scrams with complications (IE04) sample as defined in IP 71151-05.

b. Findings

No findings were identified.

Unplanned Power Changes per 7000 Critical Hours

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Power Changes per 7000 Critical Hours PI for the first quarter 2014 through the fourth quarter 2014. To determine the accuracy of the PI data reported, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7 were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, maintenance rule records, event reports, and NRC integrated IRs for the period of January 1, 2014, through December 31, 2014, 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 sample for unplanned power changes per 7000 critical hours (IE03) as defined in IP 71151-05.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

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.

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.

Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 40A2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the 6-month period of July 1, 2014 through December 31, 2014, although some examples expanded beyond those dates where the scope of the trend warranted.

The review included issues that were documented outside of the normal CAP, in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's CAP trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

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

b. Findings

No findings were identified.

Selected Issue Follow-Up Inspection: Bottom Head Reactor Vessel Drain Line Valve Replacement Freeze Seal Plans

a. Inspection Scope

During a review of items scheduled in RFO 1R15, the inspectors recognized a previous issue identified by an NRC modifications inspection team inspection as an NCV. The performance deficiency involved a failure by the licensee to evaluate the effects of a freeze seal on the reactor coolant boundary and the requirement to consider under 10 CFR 50.59 the impact of maintenance involving a freeze seal on the bottom head drain line. The freeze seal was required due to leak-by of the isolation valve on the bottom head drain line which caused problems with the completion of isolation boundary valve local leak rate testing conducted during previous outages. A review of current plans indicated an expectation to utilize a freeze seal to replace the leaking valve during the RFO commenced during this inspection period. The replacement of the valve was identified by the inspectors as a planned inspection for the upcoming outage and thus spurred the review of licensee plans and documentation of a solution to the original NCV. Condition Report 2014-19615 documented the original deficiency and was reviewed for this sample of corrective actions as well as other CRs documenting bottom head drain valve issues and engineering change paperwork.

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

b. Findings

No findings were identified.

Annual Follow-up of Selected Issues: Review Long-Term Corrective Actions for Human Performance Inspection Scope

a. Inspection Scope

The inspectors performed a review of the licensee's long-term corrective actions associated with safety culture components and human performance of a number of root cause evaluations to ensure that the licensee has planned and/or implemented corrective actions commensurate with the significance of identified issues. Of important note were the corrective actions designed to improve the integration of Radiation Protection into the work management process to improve the quality of work plans and the coordination of radiological work. In the details of the safety culture evaluation for CR 2013-09891 it was stated, "The amount of work that the site can complete without errors or excess radiation exposure is routinely overestimated."

The initial interim effectiveness review for CR-2013-09891, ER-2013-09891-1, performed in the fall of 2013, identified that items 2, 4, and 6 from the initial effectiveness review plan were not on track. As a result, CR-2014-00334 was written and a second interim effectiveness review planned. The second interim effectiveness review, ER-2013-09891-3, demonstrated that the corrective actions associated with CR-2013-09891 have begun to be effective in addressing the root causes identified in the original CR. The final effectiveness review, due in June of 2015, will necessarily evaluate the sustainability of the licensee's long-term corrective actions.

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

b. Findings

No findings were identified.

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

(Closed) Licensee Event Report 05000440/2014-004-00: Loss of Feedwater Results in Automatic Reactor Protection System Actuation

a. Inspection Scope

The inspectors reviewed the plant's response to an automatically actuated reactor protection system scram due to loss of feedwater flow to the reactor pressure vessel on October 20, 2014, at 2:17 a.m. The event was caused by the failure of the balance-of-plant static transfer switch, which provides electric power to the digital feedwater control system. The licensee determined that a circuit card in the static transfer switch was degraded and caused a loss of power to the digital feedwater control system during manual transfer operations. The licensee states in its Licensee Event Report (LER) in part, that "A" design change was completed to provide diverse power sources for the digital feedwater control system availability logic to prevent similar occurrences." This design change was started as part of the licensee's corrective action for a similar automatic scram in January 2013, but had not been completed or implemented prior to the October 20, 2014, event. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

4OA6 Management Meetings

Exit Meeting Summary

On April 16, 2015, the inspectors presented the inspection results to Mr. E. Harkness 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.

Interim Exit Meetings

On March 13, 2015, an interim exit meeting was conducted concerning the results of the inservice inspection with Mr. E. Harkness, Site Vice-President, and other members of the staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary. Proprietary material received during the inspection was returned to the licensee.

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

05000440/2015001-01 NCV Failure to Initiate A Transient Combustible Permit  
(Section 1R05)

05000440/2015001-02 NCV Liquid Penetrant Testing Procedure Was Not Qualified for Its  
Full Applicability Range (Section 1R08.1.b)

#### Closed

05000440/2014-004-00 LER Loss of Feedwater Results in Automatic Reactor Protection  
System Actuation (Section 4OA3)

## 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

- IOI-0015; Seasonal Variations; Revision 24
- NOP-OP-1003; Grid Reliability Protocol; Revision 7
- eSOMS Narrative Logs; January 14 and 15, 2015
- ONI-R36-2; Extreme Cold Weather; Revision 5

### 1R04 Equipment Alignment

- SOI-M15; Annulus Exhaust Gas Treatment System; Revision 11
- VLI-M15; Annulus Exhaust Gas Treatment System (Unit 1); Revision 4
- SOI-E12; Residual Heat Removal System; Revision 64
- VLI-E12; Residual Heat Removal System; Revision 14
- SOI-E51; Reactor Core Isolation Cooling System; Revision 32
- VLI-E51; Reactor Core Isolation Cooling System; Revision 9
- SOI-P45; Emergency Service Water System; Revision 27
- VLI-P45; Emergency Service Water System; Revision 15
- Perry Nuclear Power Plant Health Report 2014-02; Dated January 27, 2015

### 1R05 Fire Protection

- FPI-1AB; Auxiliary Building Unit 1; Revision 3
- FPI-0FH; Fuel Handling Building; Revision 4
- FPI-0IB; Intermediate Building; Revision 7
- FPI-0CC; Control Complex; Revision 9
- FPI-1RB; Reactor Building; Revision 4
- CR 2015-03857; Insufficient Combustible Loading on the Transient Combustible Permit for Diesel Generator Hallway; Dated March 22, 2015
- CR 2015-03855; Transient Combustible Permit TCC/596/920 for the Diesel Generator Hallway Has Errors; Dated March 20, 2015
- CR 2015-01480; NRC Identified: Material Stored Without Approved Transient Combustible Permit; Dated February 4, 2015
- PAP-1910; Fire Protection Plan; Revision 31
- FPI-1DG; Pre-Fire Plan Instruction for Diesel Generator Building; Revision 6
- Calculation #P54-024; Calculation of Combustible Loading and Allowable Limits for Fire Loading; Revision 4
- Transient Combustible Permit #TCC/596/920; Dated February 3, 2015

### 1R08 Inservice Inspection

- CR-2013-07092; Leak-by on 1G33-F0057 and 1G33-F0058 as Evident by Pipe-Cap-Leakage; Dated May 5, 2013

- CR-2014-02765; MS-C-14-01-13; Condition Report Hardware Disposition Response Issues Identified; Dated February 12, 2014
- CR-2013-07072; Leak Found in E-51 Head Spray Piping Figure; Dated May 4, 2013
- CR-2013-07094; ISI-B21-T1300-1 RCS Leakage Pressure Test; Dated May 5, 2013
- CR-2014-18562; Welding Preheat Requirements Not Observed for Work Packages 200557294 and 200275752; Dated December 19, 2014
- CR-2013-03248; Rejectable Linear Indications on 1F15E0010; Dated March 5, 2013
- CR-2013-02984; Work Delay on Cattle Chute Strongback; Dated March 30, 2013
- CR-2013-07091; Document CRDM Undervessel Leaks During RPV Leak Test; Dated May 5, 2013
- CR-2013-18628; Errors in VT of Pipe Hanger Support or Restraint; Dated November 20, 2013
- CR-2013-09548; Snubber 1B21H0453 Failed VT Performed per NQI-1042; Dated June 20, 2013
- CR-2015-03175; NRC ID: Liquid Penetrant Procedure NQI-0941 Not Qualified for Lower Temperature Range; Dated March 11, 2015
- CR-2013-00159; Boron Crystalline Formations Identified During ISI-C41-T1100-2 on 1C41-003 and 1C41-F0554; Dated January 4, 2013
- CR-2015-01439; PT Pre-Service Examination Reveals Unacceptable Indications; Dated February 3, 2015
- CR-2015-01443; PT Pre-Service Examination Reveals Unacceptable Indication; Dated February 3, 2015
- CR-2015-01980; Weld Wire Being Issued Without a Suitable Container; Dated February 16, 2015
- Borg Warner Vendor Manual 0051-013A
- NQI-0941; Liquid Penetrant Examination; Revision 20
- NQI-0941; Liquid Penetrant Examination; Revision 14
- NQI-0941; Liquid Penetrant Examination; Revision 13
- NQI-0942; Magnetic Particle Examination; Revision 19
- NQI-1042; Visual Examination; Revision 17
- GWI-0004; General Welding Requirements; Revision 22
- NOP-WM-5015; Tool Issue and Control; Revision 2
- NOP-LP-2001; Corrective Action Program; Revision 35
- 1042-15-058; VT-3 of 1C11-H0673; Dated March 10, 2015
- 1042-15-059; VT-3 of 1C11-H0052; Dated March 10, 2015
- 1042-15-057; VT-3 of 1C11-H0652; Dated March 10, 2015

#### 1R11 Licensed Operator Regualification Program

- OTLC-3058201501A\_PY-SGB, Cycle 1A 20; ONI (Off Normal Instruction); Revision 0

#### 1R12 Maintenance Effectiveness

- Perry Nuclear Power Plant, Plant Health Report 2014-02; System - C34 – Feed Water Control; Dated January 27, 2015
- NOBP-ER-3009; FENOC Plant Health Report Program; Revision 11
- CR 2014-16769; Reactor SCRAM 11/7/2014 at 0847 Due to Lowering Reactor Water Level; Dated November 7, 2014
- CR 2014-18486; Maintenance Rule (a)(1) Evaluation Is Required To Be Completed On C34; Dated December 18, 2014
- CR 2014-00950; Entered ONI-ZZZ-5, Radioactive Spill, Due to Feedwater Venturi Leakage; Dated January 20, 2014

- CR 2014-18735; ODMI "Problem Solving & Decision Options for RRCS Runback Signal Into Digital Feedwater Control System" Per NOP-OP-1010; Dated December 29, 2014
- WO 200622099; Plant Scram – Apparent Loss of Feedwater; Dated December 15, 2014
- CR 2015-00855; The Overall System Ranking For The Digital Feedwater Control System Health Report For The 3rd and 4th Quarter 2014 is Rated RED; Dated January 21, 2015
- Perry Nuclear Power Plant, Plant Health Report 2014-02; System - G41 – Fuel Pool Cooling and Cleanup; Dated January 27, 2015

#### 1R13 Maintenance Risk Assessments and Emergent Work Control

- CR 2015-00235; Incorrect RHR 'A' Availability Logged; Dated January 7, 2015
- CR 2015-00560; Incorrect Assessment of Online Risk Due to an Incorrect Categorization of Availability Status; Dated January 14, 2015
- NOP-OP-1007; Risk Management; Revision 19
- ODMI from CR 2014-18203; Problem Solving & Decisions Options for Redundant Reactivity Control System (RRCS) Runback Signal Into Digital Feedwater Control System; Revision 0
- NOP-ER-3001; Problem Solving Plan; Data Collection and Analysis That Was Obtained Under Order 200622099 Troubleshooting Detected Voltage Perturbations That Can Be Seen On The RRCS FW Runback Initiation Signal From the Div 1 C22 Panel; Dated December 10, 2014
- Perry Nuclear Power Plant Work Implementation Schedule – Week 09, Period 7, Division No; From 1200 Monday, 02/16/15 to 1200 Tuesday, 02/17/15
- eSOMS Narrative Logs; Dated February 17, 2015
- SVI-E22-T2680; HPCS ECCS Integrated Test; Dated February 27, 2015
- CR 2015-03600; Undervessel LPRM Removal Tool Not Extracting LPRM; Dated March 18, 2015
- RWP 156074; Undervessel Activities – Troubleshoot LPRM Cutter Work; Revision 0
- WO 20595656; Replace APRM Bypass Switch; Dated February 28, 2015

#### 1R15 Operability Determinations and Functionality Assessments

- CR 2015-00239; New Fuel Receipt Bundle Bail Handle Damage; Dated January 7, 2015
- CR 2015-00240; Fuel Assembly Bail Handle Damaged During New Fuel Receipt; Dated January 7, 2015
- CR 2015-00501; Division 3 1C Supply Fan Low Flow During Operation; Dated January 13, 2015
- eSOMS Narrative Logs; January 13 and 14, 2015
- WO 200629122; EF1A08-T Contactor Charring; Dated January 17, 2015
- ECP No. 15-0021-000; Allowance to Move Connection Stabs for MCC EF1A08-T; Revision 0
- SVI-E31-T0100A; RCIC Steam Supply Pressure – Low Channel A Functional For 1E31-N685A; Revision 8
- SVI-E51-T2001; RCIC Pump and Valve Operability Test; Revision 37
- eSOMS Narrative Logs; January 31, 2015
- CR 2015-01336; Unanticipated Reactor Core Isolation Cooling isolation; Dated January 31, 2015
- eSOMS Narrative Log; Dated February 17, 2015
- Magnetic Particle Examination; PY-0P42, Emergency Closed Cooling – Horizontal Pipe Between 2P42H0114 and Weld 0-P42-34-FW-01; Dated February 18, 2015
- Magnetic Particle Examination; PY-0P42, Emergency Closed Cooling – Horizontal Pipe Between 2P42H0044 and Weld 0-P42-31-FW-01; Dated February 18, 2015

### 1R18 Plant Modifications

- ECP 02-0078; Digital Feedwater Control System; Dated August 9, 2004
- ECP 14-0178; Digital Feedwater Control System Improvements – Level 8 Trip Channel Modification; Dated August 21, 2014
- CR 2014-16769; Reactor Scram 11/7/2014 at 0847 Due to Lowering Reactor Water Level; Dated November 7, 2014
- CR 2013-01011; Inverter 1R14S0004 Was on Its Alternate Source with Fail Light On Following the Plant Scram; Dated January 22, 2013
- WO 200622371; Replace Field Bus Module C34K0424 and its Termination Assembly Wiring; Dated November 26, 2014
- ODMI 2014-18203; Problem Solving and Decisions Options for Redundant Reactivity Control System Runback Signal into Digital Feedwater Control System; Dated December 11, 2014
- NOP-CC-1001; Configuration Management Program; Revision 1
- NOP-CC-2003; Engineering Changes; Revision 13

### 1R19 Post-Maintenance Testing

- SVI-E51-T2001; RCIC Pump and Valve Operability Test; Dated January 29, 2015
- WO 200549430; RCIC Pump and Valve Operability Test; Dated January 30, 2015
- WO 200486064; Replace 10" Butterfly Valve, Results in a Loss of Both FPCC HX; Dated February 17, 2015
- CR 2013-02744; Unable to Isolate Nuclear Closed Cooling to the "A" Fuel Pool Heat Exchanger; Dated February 24, 2013
- eSOMS Narrative Log; Dated February 13 and 14, 2015
- SVI-G61-T2001; Liquid Radwaste Sumps Isolation Valves Operability Test; Dated February 23, 2015
- WO 200632705; Containment Floor Drain Outboard Isolation Valve; Dated February 24, 2015
- SVI-M15-T1240A; Annulus Exhaust Gas Treatment System Train A Flow and Filter Operability Test; Revision 6
- WO 200621261; Annulus Exhaust Gas Treatment System Train A Charcoal Sample; Dated February 26, 2015
- WO 20034815; Source Range Monitor D; Dated March 16, 2015
- WO 20034991; Source Range Monitor D; Dated March 19, 2015
- TXI-423; Unit 1 Startup Transformer Energized Testing; Revision 2
- WO 200581290; Unit 1 Startup Transformer Replacement; Dated March 24, 2015

### 1R20 Outage Activities

- CR 2015-00239; New Fuel Receipt Bundle Bail Handle Damage; Dated January 7, 2015
- CR 2015-00240; Fuel Assembly Bail Handle Damaged During New Fuel Receipt; Dated January 7, 2015
- 1R15 Defense In Depth Report; Dated January 19, 2015
- 1R15 Defense in Depth; Revision 1; Dated March 6, 2015
- CR 2015-03543; UTT Inspection Results of ECC HX B; Dated March 17, 2015
- CR 2015-03546; Erosion on ECC HX B End Bell Cap; Dated March 17, 2015
- CR 2015-03533; Bundle 14P158 Has a Defect. This Bundle Is Scheduled for Discharge; Dated March 17, 2015
- CR 2015-03495; Bundle 14P224 Has a Defect and Is Scheduled for Reload into Cycle 16; Dated March 17, 2015

- CR 2015-03534; There Is a Lack of Grounding in the Secondary Boxes of the New HICO Transformer for the Cable Shields; Dated March 17, 2015
- CR 2015-03411; Damage to Grove Crane and Containment Equipment Hatch; Dated March 16, 2015
- CR 2015-03407; MSL B Tested at Wrong Test Pressure During SVI-B21T9000; Dated March 15, 2015
- CR 2015-03362; LPRM Cal Tubes Undervessel Discovered Bent; Dated March 14, 2015
- CR 2015-03387; Outage Schedule Delays Due to M&TE Found Outside of Calibration Date; Dated March 15, 2015
- CR 2015-03391; Upper Refueling Bridge F15 Grapple Engage Light Working Intermittently; Dated March 15, 2015
- CR 2015-03385; Perry 1R15 Local Leak Rate Project Test Re-perform Portion of SVI-B21-T9000; Dated March 15, 2015
- CR 2015-03378; New U1 SU Transformer Project – Inadequate Cable Tray Design; Dated March 15, 2015
- CR 2015-03539; LPRM Detector 16-41C Became Stuck During Removal with IRADS Tool; Dated March 17, 2015
- CR 2015-03662; LLRT Failure of 1P11-F545; Dated March 19, 2015
- CR 2015-03629; SRM D INOP; Dated March 19, 2015
- CR 2015-03655; B21-F028D, OTBD MSIV Minimum Closed Stroke Time Unsat during Performance if SVI-B21-T2001; Dated March 19, 2015
- CR 2015-03559; The MAXSUM Shroud Exam Tool Was Lifted Over an Open Core with Fuel Outside of Procedure; Dated March 18, 2015
- CR 2015-03685; Perry 1R15 FME Observed on Fuel Bundle in Reactor; Dated March 19, 2015
- CR 2015-03262; Additional Findings Associated with Elevated Temperatures in the Upper Drywell; Dated March 12, 2015
- CR 2015-03551; As Found Location of Division 2 Diesel Generator Governor Drive Shaft and Coupling Is Not in Accordance with Vendor File and Drawing; Dated March 18, 2015
- CR 2015-03698; ESW Pump 1P45C0001B Upper Pump Shaft Sleeve Is Worn .060” at the Upper Packing Area of the Shaft; Dated March 20, 2015
- CR 2015-03745; Short Blade Guide Caught Channel Fastener on Fuel Bundle 15P402; Dated March 20, 2015
- CR 2015-03743; Potential Trend with Calibration of Transmitters; Dated March 20, 2015
- CR 2015-03681; Transmitter Found Out of Calibration – MMD Program; Dated March 19, 2015
- CR 2015-03753; Not Completing Critical or Near Critical Path Work on Schedule; Dated March 20, 2015
- CR 2015-03706; SVI-N11-T5239 Requirement To Inspect a Steam Extraction Valve Is Not Scheduled in 1R15; Dated March 20, 2015
- CR 2015-03632; PA-PY-15-01: Shortfalls in the Timely Communication of Safety Issues Concerning the Unit 2 Temporary Structures Identified in CR 2015-03424; Dated March 19, 2015
- CR 2015-03584; Work Was Unable To Be Performed as Listed in the Perry Outage Schedule; Dated March 17, 2015
- CR 2015-03679; Unmarked LPRM Cables Found in Junction Box During Order Operation for Cable Replacement; Dated March 19, 2015
- CR 2015-03699; As Found Condition of the Cooling Water Lines to Lower Motor Cooler on 1P45C0001B Are About 90% Restricted (ESW Pump Motor B); Dated March 20, 2015
- CR 2015-03731; Leak By of 1E12-F010 During Performance of SVI-E12-T2200; Dated March 20, 2015

- CR 2015-03768; 1E22-F523 and/or 1E22-F524 Sticking During System Fill and Vent; Dated March 21, 2015
- CR 2015-03781; IOI-9 Preparation for Fuel Movement Not Consistent with TS Basis for 3.9.1; Dated March 21, 2015
- CR 2015-03700; HCU 42-23 / EP-115 Valve Assembly Over-Torque Condition; Dated March 20, 2015
- CR 2015-03775; LPRM Detector Incorrectly Pulled by Undervessel Tooling; Dated March 1, 2015
- CR 2015-03790; High Leak Rate on Valve 1E51F068 Indicated on SVI-E51-T9106; Dated March 21, 2015
- CR 2015-03838; 1R15 LLRT: 1M17F0020 Failed As-Found LLRT; Dated March 22, 2015
- CR 2015-03813; FME Observed on Fuel Bundle in Reactor at Core Location 17-34; Dated March 22, 2015
- CR 2015-03878; Bundle 15P479 Has a Defect and Is Scheduled for Reload into Cycle 16; Dated March 23, 2015
- CR 2015-03843; Documentation for HCU (C11) Torque Discrepancies Identified in Various Orders; Dated March 23, 2015

#### 1R22 Surveillance Testing

- SVI-R43-T1318; Diesel Generator Start and Load Division; Dated January 6, 2015
- SOI-M43; Diesel Generator Building Ventilation System; Revision 12
- SOI-M25/26; Control Room HVAC and Emergency Recirculating System; Revision 24
- SOI-R43; Division 1 and 2 Diesel Generator System; Revision 43
- SOI- M21; Controlled Access and Miscellaneous Equipment Area (CA & MEA) HVAC System; Revision 11
- SOI-M32; Emergency Service Water Pump House Ventilation System; Revision 8
- SOI-P45/P49; Emergency Service Water and Screen Wash Systems; Revision 27
- SVI-E12-T2003; RHR 'C' Pump and Valve Operability Test; Dated February 4, 2015
- SVI-P45-T2002; ESW Pump 'B' and Valve Operability Test; Dated February 5, 2015
- WO 200549908; ESW Pump 'B' and Valve Operability Test; Dated February 5, 2015
- SVI-C71-T0258-C; TCV Fast Closure and EOC-RPT Response Time for Turbine Control Channel 'C'; Dated February 10, 2015
- SVI-B21-T0076-D; MSL Low Condenser Vacuum Channel D Functional for 1B21-N675D; Dated February 11, 2015
- WO 200550155; MSL Low Condenser Vacuum Channel D Functional for 1B21-675D; Dated February 11, 2015

#### 1EP6 Drill Evaluation

- OTLC-3058201501A\_PY-SGB, Cycle 1A 20; ONI (Off-Normal Instruction); Revision 0

#### 40A1 Performance Indicator Verification

- NOBP-LP-4012-01, Revision 2; Unplanned Scrams per 7,000 Critical Hours; January 2014 Through December 2014
- NOBP-LP-4012-02, Revision 3; Unplanned Scrams with Complications (USwC); January 2014 Through December 2014
- NOBP-LP-4012-03, Revision 2; Unplanned Power Changes per 7,000 Critical Hours; January 2014 Through December 2014

- CR 2015-03605; NRC Question Regarding Reactor SCRAM Hardcard OAI-1703; Dated March 18, 2015

#### 40A2 Problem Identification and Resolution

- CR 2013-19615; NRC NCV – 10 CFR 50.59 Evaluation Did Not Consider the Freeze Seal Effect to the Reactor Coolant Pressure Boundary; Dated February 28, 2014
- CR 2013-11377; NRC ID 2013 50.59: LTA 50.59 Evaluation 09-01526; Dated October 5, 2013
- CR 2013-11217; NRC ID 50.59 2013 – Deficiencies with 50.59 Evaluation 09-05126; Dated August 21, 2013
- CR 2014-02749; Bottom Head Drain Valve Project – Unplanned Financial Impact; Dated March 14, 2014
- CR 2014-18328; PA-PY-14-03 – Discrepancies Found Between the Bottom Head Drain Line ECP and the Installation Orders; Dated January 14, 2015
- CR 2013-10798; NRC ID 50.59, LTA Controls and Evaluation for SVI-G33-T9131 for Irradiated Fuel in Upper Pool Storage Rack; Dated August 14, 2013
- CR 2013-01080; Reactor Bottom Head Temperature Rise Following Restoration of Flow Through the Vessel; Dated February 23, 2013
- CR 2015-02663; Bottom Head Drain Line Project – New Valve Stem (G33F0101) Appears to Be Out of Plumb; Dated March 2, 2015
- WO 200059470; Remove Old and Install New Limitorque SMB-000 Operator, RWCU From Vessel Drain Suction Valve; To Be Completed During RFO15
- WO 200004636; Replace Valve 1G33F0101; To Be Completed During RFO15
- ECP 09-0015-001; Documentation Update That Addresses the Replacement of the Reactor Water Cleanup (G33/RWCU) System Reactor Bottom Head Drain Line Valves and Modification of B33 and G33 Pipe Supports; Revision 4
- PERP 0391; Equivalent Replacement Valve for 1G33F0101; Revision 0
- ECP 14-0490-001; Addition of Packing Leak-off Line to Replacement Valve PY-1G33F0101; Revision 0
- Notification 600933160 (Pri-600); Sludge Downstream of 1E22F0031; Dated November 14, 2014
- CR 2014-11969; Air Observed During HPCS System Venting per SVI-E22-T1183; Dated July 20, 2014
- CR 2014-12959; PA-PY-14-02: Increasing Times Air Found in HPCS; Dated August 12, 2014
- CR 2014-16991; Sludge Found in HPCS Fast Fire Water Injection Line; Dated November 13, 2014
- CR 2014-14654; Unplanned ONI-C11-1 Entry. Inability to Move Control Rods; Dated September 21, 2014
- CR 2014-12351; Schedule and Procedure Conflict – RCIC Pump Run; Dated July 29, 2014
- CR 2014-12391; Wood Found Embedded in ISFSI Pad Concrete; Dated July 30, 2014
- CR 2014-18715; Water in Bottom of Fire diesel Storage Tank; Dated December 27, 2015
- CR 2015-03834; Water and Sediment Visible in the Emergency Fire Diesel Storage Tank Quarterly Sample; Dated March 22, 2015
- CR 2014-12094; Received a Div 1 DG High Jacket Water Temp with the DG in Standby; Dated July 23, 2014
- CR 2014-15740; Received a Div 1 High Jacket Water Temp Alarm with the DG in Standby; Dated November 15, 2014
- CR 2014-15241; Lube Oil Outlet Temp Hi Alarm Received Several Times During Div 1 DG Run; Dated November 3, 2014
- CR 2014-18647; PERP 905 Altered Div 2 EDG Panel Without Evaluating the Affect on Alteration (sic); Dated December 23, 2014

- CR 2014-15191; Marginally Effective Performance with Regard to Division 2 Outage and AOT Preparations, as Observed by Oversight; Dated October 2, 2014
- CR 2014-16090; Marginally Effective Performance with Regard to Division 2 Outage and AOT Preparations, as Observed by Oversight; Dated October 23, 2014
- CR 2014-15959; Incorrect Temperature Point Used During Cooldown SVI Following Rx Scram on 10/20/14; Dated October 20, 2014
- CR 2014-18501; ESW Flow Requirements for NRC FLEX Submittal Are Not Clearly Identified; Dated December 18, 2014
- CR 2013-06781; Unexpected Radiological Conditions Following System Initiation; Dated April 30, 2015
- CR 2013-06892; RCE LHRA Unlocked and Unguarded; Dated May 1, 2013
- CR 2013-09891; NRC ID 2013 95002: NRC Debriefed a Finding with Multiple Examples of Radiological Work Control/Work Planning issues; Dated June 17, 2013
- CR 2015-03211; Shortfalls RP response to Changing Plant Conditions; Dated March 12, 2015

#### 4OA3 Follow-Up of Events and Notices of Enforcement Discretion

- LER 2014-004-00; Loss of Feedwater Results in Automatic Reactor Protection System Actuation; Dated December 17, 2014
- CR 2014-15989; RCIS Needed Reset After Reactor Scram; Dated November 20, 2014
- OAI-1703; Hardcards; Revision 18
- Operating Crew Statements Following the Automatic Reactor Scram on October 20, 2014

## LIST OF ACRONYMS USED

°F	Degrees Fahrenheit
ADAMS	Agencywide Documents Access Management System
ASME	American Society for Mechanical Engineers
CAP	Corrective Action Program
CRDH	Control Rod Drive Hydraulic
CFR	<i>Code of Federal Regulations</i>
CR	Condition Report
DG	Diesel Generator
EDG	Emergency Diesel Generator
ESW	Emergency Service Water
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
ISI	Inservice Inspection
LER	Licensee Event Report
MT	Magnetic Particle Examination
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
NSPDP	Nuclear Safety Professional Development Program
OSP	Outage Safety Plan
PAP	Perry Administrative Procedure
PI	Performance Indicator
PT	Dye Penetrant Examination
RACS	Rod Action Control System
RFO 1R15	Unit 1 Refueling Outage 15
RCIC	Reactor Core Isolation Cooling
RHR	Residual Heat Removal
SDP	Significance Determination Process
SVI	Surveillance Instruction
TS	Technical Specification
TSO	Transmission System Operator
USAR	Updated Safety Analysis Report
UT	Ultrasonic Examination
VT	Visual Examination
WO	Work Order

E. Harkness

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Sincerely,

*/RA/*

Michael Kunowski, Chief  
Branch 5  
Division of Reactor Projects

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