

# Perry 1

## 4Q/2015 Plant Inspection Findings

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### Initiating Events

**Significance:**  Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Ensure that Systems, Structures, and Components Necessary to Achieve and Maintain Hot Shutdown Conditions were Free of Fire Damage without Repair Actions (Section 1R05.1b)**

The inspectors identified a finding of very low safety significance and an associated NCV of Technical Specifications (TS) Section 5.4.1.a for the licensee's failure to perform fire watches in two fire areas for a non-functional fire barrier. Specifically, the licensee failed to perform fire watches as required by Section 16.D(1)a.(1) of Attachment 3 to procedure PAP-1910, "Fire Protection Program." The licensee entered the issue into their Corrective Action Program (CAP), and added the two fire areas to the fire watch list.

The inspectors determined that the performance deficiency was more than minor because the finding, if left uncorrected, would become a more significant safety concern. Specifically, by failing to perform fire watches the licensee may not have been able to identify transient combustible materials that could have impacted the unprotected circuits associated with this deficiency in the event of a fire. This finding was of very low safety significance because it only impacted one train of equipment important to safety. This finding has a cross-cutting aspect in the area of Human Performance, Documentation because the licensee did not create and maintain complete, accurate, and up-to-date documentation. Specifically, when the licensee developed the fire watch list they did not include all impacted fire zones as listed in the initial impairment. [H.7]

Inspection Report# : [2015008](#) (*pdf*)

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### Mitigating Systems

**Significance:**  Dec 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Ensure Required 3 Hour Fire Barriers Were In-Place**

The inspectors identified a finding of very low safety significance and an associated NCV of Perry Operating License Condition 2.C(6), Fire Protection, for the licensee's failure to maintain a three-hour fire barriers as required by the Updated Safety Analysis Report (USAR). Specifically, the inspectors identified a through-wall hole, approximately two feet wide and two feet tall in the common wall between the Unit 2, Division 1 and Division 2, direct current (DC) switchgear rooms and another hole, approximately one foot wide and one foot tall between the Unit 2, Division 2 DC switchgear room and the outside hallway.

The two through-wall holes were determined to be a performance deficiency associated with compliance to the licensee's fire protection program because the walls are described in the USAR as three-hour fire barriers for the rooms in question. The performance deficiency 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 to ensure the availability, reliability, and capability of systems that respond to initiating

events to prevent undesirable consequences. The inspectors determined that the finding was of very low safety significance through analysis of the issue as a fire confinement problem and the fact that the reactor would still be able to reach and maintain safe shutdown despite the deficiency. The inspectors identified no cross-cutting issues associated with this finding because the condition has existed since at least July 2011, and therefore, is not indicative of current plant performance.

Inspection Report# : [2015004](#) (*pdf*)

**Significance:**  Dec 31, 2015

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

**Failure to Properly Implement the System Operating Instruction to Restore RHR “B” to Service**

A finding of very low safety significance and an associated NCV of Technical Specification (TS) 5.4.1, “Procedures,” was self-revealed on November 4, 2015 when operators failed to follow procedures and caused an increase in level of the suppression pool. Specifically, during the process of recovering the “B” RHR system in accordance with system operating instruction SOI-E12, “Residual Heat Removal System,” the operators failed to follow an “If/Then” statement and did not isolate the alternate keep-fill system prior to starting the RHR pump to sweep voids into the suppression pool. This resulted in the condensate transfer system remaining lined up to “B” RHR train and transfer of an estimated 15,000 gallons of condensate water to the suppression pool. The resultant increasing suppression pool level caused a suction swaps for both HPCS and RCIC to the suppression pool. The licensee took immediate actions to suspend the evolution, restored the suppression pool level to the middle of the acceptable band, and restored the suction sources for HPCS and RCIC to the condensate storage tank. A human performance event response investigation was conducted and the operating crew was remediated. The issue was entered into the licensee’s CAP as

CR 2015–15089.

The operator’s failure to follow the procedure was a performance deficiency that was determined to be more than minor; and thus a finding, because it 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. The finding was determined to be of very low safety significance because it did not represent an actual loss of function of one or more non-TS trains of equipment designated as high safety-significance in accordance with the licensee’s Maintenance Rule Program for greater than 24 hours. This finding has a cross-cutting aspect in the area of problem identification and resolution, problem resolution, because the licensee had not solved a similar issue in third quarter of 2015 that involved the same contributing factors of poor maintenance supervision, inadequate pre-job briefs and poor shift management oversight. [P.3]

Inspection Report# : [2015004](#) (*pdf*)

**Significance:**  Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Inspect Penetration Seals Within the Required Time Frequency (Section 1R05.2b)**

The inspectors identified a finding of very low safety significance (Green), and associated NCV of license condition 2.C(6) for the licensee’s failure to ensure that systems, structures, and components necessary to achieve and maintain hot shutdown conditions were free of fire damage. Specifically, the licensee did not ensure that circuits associated with the emergency closed cooling (ECC) heat exchanger ‘A’ temperature control valve 1P42-F665A were free of fire damage for a fire in the control room and instead relied on lifting leads and replacing fuses to take manual control of the valve. The licensee entered the issue into their CAP, and credited the existing repair activities in the procedure. The inspectors determined that the performance deficiency was more than minor because a fire in the control room

could result in the licensee losing the ability to remotely control the ECC heat exchanger 'A' temperature control valve and needing to take manual control of the valve. The finding was of very low safety significance because it did not affect the ability to reach and maintain a stable plant condition within the first 24 hours of a fire event. The finding did not have a cross-cutting aspect associated with it because it was not reflective of current performance

Inspection Report# : [2015008](#) (pdf)

**Significance:**  Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Provide Adequate Guidance to Override Spurious CO2 Initiation Signal in the Diesel Generator Rooms (Section 1R05.6b)**

The inspectors identified a finding of very low safety significance (Green), and an associated NCV of license condition 2.C(6) for the licensee's failure to adequately implement and maintain surveillance procedures and work processes associated with fire barrier and penetration seal inspections. Specifically, the licensee failed to perform fire barrier penetration seal inspections for 42 penetration seals at least once per 15 years (plus an additional 25 percent grace period) as required by the Fire Protection Program. The licensee entered the issue into their CAP, and will inspect the accessible portions of the barriers and will perform a full inspection at the next available opportunity. The inspectors determined that the performance deficiency was more than minor because the licensee's failure to inspect the fire barrier penetrations could result in not identifying degraded seals which could affect their ability to prevent a fire from spreading from one fire area to another. The finding was of very low safety significance because the failure to inspect a portion of fire barrier penetration seals did not impact the plant's ability to reach and maintain safe shutdown. The finding has a cross-cutting aspect in the area of Human Performance, Work Management because the licensee improperly closed a notification to track the inspection of fire barrier penetrations without creating a work order. [H.5]

Inspection Report# : [2015008](#) (pdf)

**Significance:**  Oct 23, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Perform Fire Watches (Section 1R05.10b)**

The inspectors identified a finding of very low safety significance (Green), and an associated NCV of TS Section 5.4.1.a for the licensee's failure to have adequate procedural guidance in their fire response procedure. Specifically, Procedure ONI-P54, "Fire," Revision 19 did not list all the fire areas where a potential fire induced spurious carbon dioxide (CO2) initiation in the emergency diesel generator (EDG) room could occur. The licensee entered this issue into their CAP, and established hourly fire watches for the affected areas.

The inspectors determined that the performance deficiency was more than minor because a fire in any of the affected fire zones could damage circuits for the nonsafety related CO2 systems for the EDG rooms causing a potential spurious CO2 initiation in the diesel rooms and affecting the operation of the ventilation fans and dampers in the diesel rooms. The finding was of very low safety significance because it did not affect the ability to reach and maintain a stable plant condition within the first 24 hours of a fire event. The finding did not have a cross-cutting aspect associated with it because it was not reflective of current performance.

Inspection Report# : [2015008](#) (pdf)

**Significance:**  Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Inadequate Operating Procedure for Diesel Generator Building Ventilation System**

The inspectors identified a finding of very low safety significance and associated non-cited violation (NCV) of Title 10 of the Code of Federal Regulations Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the licensee’s failure as of July 8, 2015, to establish and maintain an adequate procedure for operation of the Diesel Generator Building Ventilation System (DGBVS). Specifically, the DGBVS operating procedure did not ensure that diesel room temperature would remain below limits during testing.

The failure to establish and maintain an adequate procedure was a performance deficiency and resulted in the Division 2 Diesel Generator room temperatures exceeding specified limits. 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 cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that the finding was of very low safety significance because the finding is a deficiency affecting the design or qualification of a mitigating structure, system, and component (SSC) that maintained its operability. This finding has a cross-cutting aspect in the area of human performance, design margins, because the licensee did not incorporate the degree of redundancy specified in the Updated Safety Analysis Report for DGBVS into the applicable operating procedures (H.6).

Inspection Report# : [2015003](#) (*pdf*)

**Significance:**  Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Properly Implement Steps Outlined in a Technical Specification Surveillance Procedure**

A finding of very low safety significance and associated NCV of Technical Specification (TS) 5.4.1., “Procedures,” was self-revealed on August 5, 2015, when an unexpected isolation of the reactor core isolation cooling (RCIC) system occurred as a result of the licensee’s failure to properly implement the steps outlined in TS Surveillance Procedure, SVI-E31-T5395B, “RCIC Steam Line Flow High Channel Functional for 1E31-N684B.” Specifically, during performance of the surveillance, several steps were marked as not applicable that were applicable to prevent the isolation of the RCIC system. As a result, the licensee failed to lift leads as required by the procedure and the RCIC steam supply inboard isolation valve then closed when the isolation trip signal was applied during the test. The licensee took immediate actions to restore system operability and availability and conducted a human performance event response investigation. A standing order for both Operations and Instrumentation and Controls personnel was initiated addressing interim actions for control room surveillance performance and to reinforce maintenance fundamentals and human performance behaviors.

The licensee’s failure to properly implement the steps in the procedure was a performance deficiency that was determined to be more than minor, and thus a finding, because it 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. The finding was determined to be of very low safety significance because it did not represent an actual loss of function of one or more non-Technical Specification trains of equipment designated as high safety-significant in accordance with the licensee’s maintenance rule program for greater than 24 hours. This finding has a cross-cutting aspect in the area of human performance, avoid complacency, for failing to recognize and plan for the possibility of mistakes, and for failure to implement appropriate error reduction tools, such as proper self-checks and peer checks, which resulted in an isolation of the RCIC system (H.12).

Inspection Report# : [2015003](#) (*pdf*)

**Significance:**  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**FAILURE TO INITIATE A TRANSIENT COMBUSTIBLE PERMIT**

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).

Inspection Report# : [2015001](#) (*pdf*)

**Significance:**  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

**LIQUID PENETRANT TESTING PROCEDURE WAS NOT QUALIFIED FOR ITS FULL APPLICABILITY RANGE**

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.

Inspection Report# : [2015001](#) (pdf)

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## Barrier Integrity

**Significance:**  Aug 07, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

### Failure to Adequately Evaluate Damaged CRD Flange

The inspectors identified a finding of very low safety significance and an associated NCV of 10CFR50, Appendix B, Criterion III, "Design Control," for the licensee's failure to adequately evaluate a non-conforming safety-related component prior to returning it to service. Specifically, the inspectors identified that the licensee had misapplied a generic vendor evaluation on June 18, 2013, to evaluate the surface damage on control rod drive (CRD) 30-15 and therefore, failed to adequately evaluate the "Use As-Is" disposition on the damage to the flange surface prior to returning it to service. As part of the licensee's immediate corrective actions, the licensee performed a prompt operability determination of CRD 30-15 flange which adequately documented the basis for acceptance of "Use As-Is" for the flange.

Inspection Report# : [2015007](#) (pdf)

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## Emergency Preparedness

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## Occupational Radiation Safety

**Significance:**  Dec 18, 2015

Identified By: NRC

Item Type: VIO Violation

### Unqualified Radiation Protection Manager

Green. The inspectors identified a finding of very low safety significance, and an associated violation of Technical Specification (TS) 5.3.1 when an unqualified individual was designated and performed the duties of the Radiation Protection Manager since early 2015. Specifically, the individual did not have the required experience and background necessary to provide sound judgement for safe and successful operation of the plant. This designation occurred after an April 29, 2015 report documented an internal review by the licensee's Fleet Oversight group that concluded that the candidate did not meet qualifications of TS 5.3.1. The NRC determined that this violation did not meet the criteria to be treated as a Non-Cited Violation because this issue was not documented in the licensee's Corrective Action Program. In addition, the licensee's staff communicated to the inspector that no violation of TS had taken place.

The inspectors determined that the performance deficiency was more than minor in accordance with IMC 0612 because it was associated with the human performance attribute of the Occupational Radiation Safety Cornerstone, and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that the lack of experience and background necessary to provide sound judgement for the Radiation Protection Program affects the licensee's ability to control and limit radiation exposures. The finding was

determined to be of very low safety significance (Green) in accordance with IMC 0609, Appendix C, “Occupational Radiation Safety Significance Determination Process,” because it was not an as-low-as-reasonably-achievable planning issue, there was neither an overexposure nor a substantial potential for an overexposure, and the licensee’s ability to assess dose was not compromised. The inspectors concluded that the cause of the issue involved a cross-cutting aspect in the area of Human Performance, change management, because the licensee did not use a systematic process for evaluating and implementing change so that nuclear safety remains the overriding priority. (Section 40A2) (H.3)

Inspection Report# : [2015010](#) (*pdf*)

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## Public Radiation Safety

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### Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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### Miscellaneous

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