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## Farley 1 – Quarterly Plant Inspection Findings

### 3Q/2017 – Plant Inspection Findings

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#### Initiating Events

**Significance:** G Mar 31, 2017

Identified By: Self-Revealing

Item Type: FIN Finding

#### **Failure to perform PM task resulted in MSIV closure**

Green. A self-revealing finding was identified for the failure to maintain a preventive maintenance (PM) task to replace the main steam isolation valve (MSIV) test solenoid valves in accordance with the PM basis. As a result, test solenoid valve N1N11SV3369AG, which was installed for 13 years, failed and, combined with unknown additional air system leakage, led to an inadvertent closure of MSIV Q1N11HV3369A, resulting in a Unit 1 turbine trip/reactor trip with safety injection system actuation on October 1, 2016.

The licensee's failure to perform the PM task to replace the MSIV test solenoids in accordance with the PM basis as required by licensee procedure NMP-ES-006, "Preventive Maintenance Implementation and Continuing Equipment Reliability Improvement," Ver. 8.1, section 6.1.1 was a performance deficiency (PD). The PD was more than minor because it was associated with the equipment performance attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. This finding was of very low safety significance (Green) because the finding did not cause the loss of mitigation equipment relied upon to transition the plant to a stable shutdown condition following the reactor trip. The inspectors determined the finding had a cross-cutting aspect of Trending in the Problem Identification and Resolution (PI&R) area. Prior to this event, there were four documented failures of MSIV test solenoids valves in the last three years that did not get screened for programmatic or common cause issues [P.4]. (Section 40A3.2)  
Inspection Report# : 2017001 (*pdf*)

**Significance:** G Dec 31, 2016

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

### **Failure to Follow Procedure Resulted in Automatic Reactor Trip and Safety Injection**

Green: A self-revealing NCV of Technical Specification 5.4, "Procedures" was identified on October 1, 2016 when the Unit 1 operations shift crew failed to comply with annunciator response procedure FNP-1-ARP-1.9, Ver. 50 for the "JC4" annunciator. Conditions were met to trip the reactor, but the operations shift crew failed to do so. As a result, approximately 35 minutes later, MSIV 3369A closed which resulted in an automatic reactor trip and safety injection actuation. The failure of the operations shift crew to follow procedure FNP-1-ARP-1.9 as required was a performance deficiency (PD). This event was captured in the licensee's corrective action program with condition report (CR) 10280729. The licensee established a root cause evaluation team, identified the root causes, and implemented corrective actions (CAR 266911).

The PD was more than minor because it was associated with the human performance attribute of the Initiating Events cornerstone objective and adversely affected that objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during power operations. Specifically a manual reactor trip of Unit 1 as required by the ARP, would have prevented the automatic reactor trip and the automatic safety injection actuation. The significance of this finding was evaluated using IMC 0609, Appendix A, "The Significance Determination Process (SDP) for findings at Power" dated June 19, 2012. This finding was determined to be of very low safety significance (Green) because, while this issue resulted in a reactor trip, it did not cause the loss of mitigation equipment relied upon to transition the plant from the onset of a trip to a stable shutdown condition. The inspectors determined the finding had a cross-cutting aspect of Procedure Adherence in the Human Performance area, because the ARP was not followed and the operations crew did not trip the reactor as required by the procedure. [H.8]

Inspection Report# : 2016004 (*pdf*)

### **Mitigating Systems**

**Significance:** G May 18, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

#### **Failure to Translate Design Basis Time Requirement into the Time Critical Operator Action Program Procedure (Section 1R21.b.1)**

Green: The NRC identified a non-cited violation (NCV) of Title 10 Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to translate the design basis time limit for the alignment of the emergency core cooling system (ECCS) to cold leg recirculation into their time critical operator action procedure. Specifically, the licensee failed to translate the ECCS to cold leg recirculation alignment activity time requirement of 9 minutes and 25 seconds from calculation SM-94-0452-001, "RWST Depletion During Injection Mode with LOCA Until

Switchover to Recirculation," Version 5.0, and UFSAR Table 6.3-4, into procedure NMPOS- 014-001, "FNP Time Critical Operator Action Program," Version 4.0. The licensee entered this issue into their corrective action program as condition report 10365952 and determined that operability was not impacted due to conservatism in the calculation and recent operating crew simulator performance.

The performance deficiency was determined to be more than minor because it was associated with the procedure quality 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. Specifically, the licensee's failure to translate the correct design basis time requirement into their acceptance criteria in procedure NMP-OS-014-001 resulted in several unidentified periodic time validation failures without remediation, therefore adversely affecting the licensee's capability and reliability of aligning safety-related equipment needed during a loss of coolant accident within the established design basis time limits. The team determined the finding to be of very low safety significance (Green) because the finding was a deficiency affecting the design and qualification of a mitigating system, structure, or component (SSC), and the SSC maintained its operability. The team determined that no cross-cutting aspect was applicable because the finding did not reflect current licensee performance. (Section

1R21.2.b.1)

Inspection Report# : 2017007 (*pdf*)

**Significance:** G Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Adequately Install an Oil Collection System on Reactor Coolant Pump Motors**

Green: A NRC-identified NCV of 10 CFR 50.48(c) and National Fire Protection Association Standard 805 (NFPA 805), Section 3.3.12, was identified for the licensee's failure to comply with code requirements for design and installation of the Unit 1 Reactor Coolant Pump (RCP) oil collection system. The oil collection system did not include gaskets between the bolted joints on the RCP oil catch-basins, as required by the approved design for the Oil Spillage Protection System (OSPS). The licensee's failure to install gaskets on the Unit 1 RCP oil collection systems was a performance deficiency. The licensee was informed of the inspector observation and initiated CR 10289565. Gasket material was installed on all three RCPs on October 23, 2016, as documented on WO SNC464660, SNC459614, and SNC406358.

The performance deficiency was more than minor because if left uncorrected, the inadequate installation of the RCP oil collection system presented a degradation of a fire confinement function to prevent oil to leak onto hot surfaces. The significance of this finding was evaluated using IMC 0609, Appendix F, "Fire Protection Significance Determination Process", dated September 20, 2013, because the performance deficiency affected fire protection defense-in-depth strategies involving fire confinement. Using IMC 0609, Appendix F, Attachment 1, "Fire Protection Significance Determination Process Worksheet," the inspectors determined that the finding was of very low safety significance (Green) because the exposed fire area contains no potential damage targets that are unique from those in the exposing fire area. The inspectors determined the finding had a cross-cutting aspect of Procedure Adherence in the human performance area because the vendor installing the oil catch-basins did not follow the RCP reassembly procedure which required gaskets between all bolted joints. [H.8] (Section 1R05)

Inspection Report# : 2016004 (*pdf*)

**Significance:** G Dec 31, 2016

Identified By: NRC

Item Type: NCV Non-Cited Violation

**Failure to Perform Adequate NTTF Flooding Walkdowns**

Green: A NRC-identified NCV of 10 CFR 50, Appendix B, Criterion XVI, Corrective Actions, was identified because the licensee failed to identify and correct conditions adverse to quality associated with the flood protection design basis of the Unit 1 Auxiliary Building. Specifically, the licensee failed to identify missing conduit covers in electrical conduits that penetrate the Unit 1 auxiliary building below the flood protection design basis elevation of 154.5 feet (MSL). The inspectors determined that the failure to identify missing conduit covers in electrical conduits that penetrate the Unit 1 auxiliary building below the flood protection design basis elevation of 154.5 feet was a performance deficiency. The discovery of the missing conduit covers was captured in the licensee's corrective action program with CR 10273516. The licensee implemented WO SNC815778 to replace missing conduit covers. Corrective actions to inspect the remaining below grade pipe trenches are being developed and scheduled.

The performance deficiency was more than minor because it was associated with the protection against external factors attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective of ensuring availability, reliability, and capability of systems that respond to initiating events. Specifically, flood water could enter the Auxiliary Building Lower Equipment Room through unsealed electrical conduits and render the TDAFW Pump inoperable. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 2 of IMC 0609, Appendix A, "The Significance Determination Process (SDP) For Findings At-Power," issued June 19, 2012, the

inspectors utilized Section B, "External Event Mitigation Systems (Seismic/Fire/Flood/Severe Weather Degraded)," and Exhibit 4 of Appendix A and determined the finding did not involve a total loss of any safety function, identified through a PRA, IPEEE, or similar analysis, that contributes to external event initiated core damage accident sequences (i.e., initiated by a seismic, flooding, or severe weather event). The two motor driven AFW pumps are also located in the lower equipment room but are protected behind watertight doors and can satisfy the AFW safety function. Therefore, the finding screened to Green. The inspectors determined the finding had a cross-cutting aspect of Procedures in the human performance area because the licensee missed two opportunities to follow the NEI 12-07 guidance to evaluate the adequacy of the flood protection features below the design basis flood protection elevation. [H.8]

Inspection Report# : 2016004 (*pdf*)

## Barrier Integrity

**Significance:** G Jun 30, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Failure to Follow Procedure Resulted in Inoperable PRF System Boundary (1R15)**

Green: A Green NRC-identified NCV of TS. 5.4.1.a, Procedures, was identified when inspectors found the 1A containment spray (CS) pump room door (door 106) open on May 12, 2017 without the required dedicated individual to close the door. As a result, the penetration room filtration (PRF) system boundary was inoperable which rendered both trains of the PRF system inoperable. Failure to follow section 19.0 of licensee procedure FNP-0-SOP-0.0, Ver. 163 was a performance deficiency.

The performance deficiency was more than minor because it adversely affected the SSC and barrier performance attribute of the barrier integrity cornerstone to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, when door 106 was open, the PRF system boundary was inoperable which caused both PRF trains to be inoperable. Without the dedicated individual to close the door as directed, the ability of the PRF system to perform its safety function was compromised. The significance of this finding was evaluated using IMC 0609, Appendix A, "The Significance Determination Process (SDP) for findings at Power," dated June 19, 2012. This finding was determined to be of very low safety significance (Green) because the finding only represented a degradation of the radiological barrier function provided for the auxiliary building through the PRF system. The inspectors determined the finding had a cross-cutting aspect of Teamwork in the Human Performance area because maintenance did not effectively communicate and coordinate their activities with operations to ensure the requirements were met when door 106 was left open [H.4]. (Section 1R15)

Inspection Report# : 2017002 (*pdf*)

**Significance:** G May 18, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

### **Untimely Corrective Actions for Check Valve Q2E21V0026 (Section 1R21.b.2)**

Green: The NRC identified a non-cited violation (NCV) of Title 10 Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to implement timely corrective actions to change the classification of check valve Q2E21V0026 (QV026) from category "C" to category "A/C" in accordance with ASME OM Code-2001, Subsection ISTC-1300, "Valve Categories." The licensee entered this issue into their corrective action program as condition report 10377744, reclassified the valve as category "A/C" in January 2017 to perform the leakage test during the next outage, and determined there was reasonable assurance the valve could perform its intended safety function until the outage.

The performance deficiency was determined to be more than minor because it was associated with the structure, system, component, and barrier performance attribute of the Barriers Integrity Cornerstone and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the failure to implement timely corrective actions resulted in the licensee not ensuring reverse flow to the refueling water storage tank (RWST) from the containment sump during the recirculation phase of safety injection (SI) would not exceed the plant's dose rate limits. The team determined the finding to be of very low safety significance (Green) because the finding did not only represent a degradation of the radiological barrier function provided for the control room, auxiliary building, or spent fuel pool, and the finding did not represent a degradation of the barrier function of the control room against smoke or a toxic atmosphere. The team determined the finding was indicative of present licensee performance and was associated with the cross cutting aspect of Conservative Bias in the area of Human Performance because the licensee failed to use decision making practices that emphasize prudent choices over those that are simply allowable [H.14]. (Section 1R21.2.b.2)

Inspection Report# : 2017007 (*pdf*)

## Emergency Preparedness

**Significance:** G Jun 30, 2017

Identified By: NRC

Item Type: NCV Non-Cited Violation

### NCV Failure to Declare an Unusual Event During an Actual Event

Green: The inspectors identified a self-revealing non-cited violation (NCV) for failure to declare a Notification of Unusual Event (NOUE) during an actual event. Specifically, on November 1, 2016, Farley Unit 1 experienced conditions that met Emergency Action Level (EAL) HU3, Release of Toxic, Asphyxiant, or Flammable Gases Deemed Detrimental to Normal Operation of the Plant. The failure to declare a NOUE during an actual event, was considered a performance deficiency. This finding was more than minor because it was associated with the Emergency Preparedness cornerstone attribute of Emergency Response Organization (ERO) Performance (actual event response), and adversely affected the cornerstone objective of ensuring that a licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Title 10 CFR Part 50.54(q)(2) requires that a holder of a nuclear power reactor operating license under this part, follow and maintain the effectiveness of an emergency plan that meets the requirements of 10 CFR 50.47(b). Title 10 CFR Part 50.47(b)(4) requires a standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures. Title 10 CFR Part 50, Appendix E, Section IV.C.2, requires licensees to establish and maintain the capability to assess, classify, and declare an emergency condition within 15 minutes after availability of indications to plant operators that an emergency action has been exceeded. Contrary to the above, on November 1, 2016, the licensee failed to maintain the capability to assess and declare a NOUE classification by not recognizing that the detection of ammonia in the auxiliary building, which is encompassed by the owner controlled area, met the conditions for declaring a NOUE. The finding was determined to be associated with a cross-cutting aspect in the Training component of the Human Performance area because the organization did not provide adequate training to the various ERO members involved in this event to ensure knowledge transfer to maintain a knowledgeable, technically competent workforce and instill nuclear safety values [H.9].

Inspection Report# : 2017002 (*pdf*)

## Occupational Radiation Safety

**Significance:** G May 03, 2016

Identified By: NRC

Item Type: VIO Violation

### **Inaccurate Training Records**

Severity Level IV/Green: The licensee identified a violation of 10 CFR 50.9(a) requirements and an associated finding of very low significance when it was determined that an employee deliberately completed requalification examinations for other employees without their knowledge or consent. Specifically, on three occasions the proctor took annual requalification exams of Fitness-for-Duty, radiation worker, and fire watch training for two other contract employees and made inaccurate entries in training records thereby falsely indicating that the employees actually attempted and passed the examinations. The records inaccurately showed that workers had successfully completed required annual requalification exams for fire watch, fitness for duty and radiation worker training. The licensee was notified about the incident through their employee concerns program and informed the NRC about the concern.

Since the finding involved occupational radiation safety, the inspectors utilized IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008, to assess its significance. The inspectors determined that the finding did not involve an overexposure; a substantial potential for an overexposure; a compromised ability to assess dose; or unplanned, unintended occupational collective dose. Consequently, the inspectors determined that the finding was of very low safety significance (Green).

The inspectors determined that the finding has a cross-cutting aspect in the area of human performance, field presence, because the licensee did not ensure management oversight of contractor work activities (H.2).

This issue was also dispositioned using traditional enforcement due to the willful aspects of the violation. Furthermore, the failure to provide complete and accurate information has the potential to impact the NRC's ability to perform its regulatory function. In accordance with the guidance of the Enforcement Policy and Enforcement Manual, this issue is considered a Severity Level IV violation because it involved information that the NRC required to be maintained by a licensee that was incomplete or inaccurate and of more than minor significance.

Inspection Report# : 2016008 (*pdf*)

### **Public Radiation Safety Security**

The security cornerstone is an important component of the ROP, which includes various security inspection activities the NRC uses to verify licensee compliance with Commission regulations and thus ensure public health and safety. The Commission determined in the staff requirements memorandum (SRM) for SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Power Reactors from Public Disclosure," dated November 9, 2004, that specific information related to findings and performance indicators associated with the security cornerstone will not be publicly available to ensure that security-related information is not provided to a possible adversary. Security inspection report cover letters will be available on the NRC Web site; however, security-related information on the details of inspection finding(s) will not be displayed.

### **Miscellaneous**

Current data as of : November 29, 2017

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