

Farley 1

3Q/2015 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2015

Identified By: Self-Revealing

Item Type: FIN Finding

Failure to properly implement design change

A self-revealing finding was identified for the licensee's failure to conduct adequate functional testing during implementation of a design change. Incorrect installation of protective relaying circuitry for the 1B Unit Auxiliary Transformer (UAT) was not identified during functional testing and contributed to a trip of the 1B Reactor Coolant Pump (RCP). As a result, Unit 1 was shutdown to hot standby as required by Technical Specification (T.S.) 3.4.4 Condition A.

The licensee's failure to properly implement a design change that included adequate functional testing of the 1B UAT was more than minor because it adversely affected the Design Control attribute of the Initiating Events Cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations in that inadequate functional testing of the 1B UAT contributed to the loss of the 1B UAT and resulted in a partial loss of RCS flow when the 1B RCP tripped in Mode 1. The significance of this finding was evaluated using the initiating events screening questions of IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated July 1, 2012. The inspectors determined that the finding was of very low safety significance (Green) because the finding did not result in an automatic reactor trip. The inspectors determined the finding had a cross-cutting aspect of "work management" in the human performance area (H.5), because the planning, controlling, and executing of work activities were inadequate.

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

Mitigating Systems

Significance: G Sep 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Evaluate or Test EMI/RFI Effect for Solid State Protection System Power Supply

An NRC-identified non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion III, "Design Control," was identified for the licensee's failure to evaluate or test the Electro Magnetic Interference/Radio Frequency Interference (EMI/RFI) effects of the Solid State Protection System (SSPS) power supplies to ensure adequacy of design. The licensee initiated a Condition Report (CR) 10078615, EMI/RFI Testing for SSPS Power Supplies, to address this issue. The licensee performed an Immediate Determination of Operability (IDO) and Prompt Determination of Operability (PDO) and determined the power supplies were operable but nonconforming.

The performance deficiency was determined to be more than minor because it adversely affected the Mitigating Systems cornerstone objective of ensuring availability, reliability and capability of systems that respond to initiating

events to prevent undesirable consequences and was associated with the cornerstone attribute of Design Control. Failure to evaluate or test the EMI/RFI of SSPS components could cause spurious actuations or failure to actuate. The finding was of very low safety significance (Green) because it did not affect the reactor protection system's tripping signal to initiate a reactor scram because it would be limited to a single channel at a time, did not involve control manipulation that added positive reactivity, and did not result in a mismanagement of reactivity by operators. No cross-cutting aspect was assigned to this finding because it was not indicative of current licensee performance.
Inspection Report# : [2015003](#) (*pdf*)

Significance:  Jun 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

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

An NRC-identified, Green non-cited violation 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 drain troughs that would collect leakage from all leakage points. The licensee installed new oil collection drain troughs to capture potential leakage, and entered the issue into the corrective action program as CR10064368 and CR10064530.

The failure to install drain troughs for the Unit 1 RCP oil collection system that would capture leakage from all potential leakage points was a performance deficiency (PD). The PD was more than minor 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. Specifically, the inadequate installation of the RCP oil collection system was a degradation of a fire prevention function to not allow an oil leak to reach hot surfaces. The significance of this 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 Evaluation in the Problem Identification and Resolution area (P.2) because a previous extent of condition review performed in corrective action report (CAR) 218579 on December 15, 2014, incorrectly concluded that the Unit 1 design did not require the drain troughs. (Section 1R05)

Inspection Report# : [2015002](#) (*pdf*)

Significance:  Jun 30, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Evaluate Impacts of Degraded Condition on the Unit 1 TDAFW Pump

An NRC-identified, Green non-cited violation of 10 CFR 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings, was identified with two examples. First, for the May 17, 2015, failure to evaluate the operability impact of condensate water in the steam supply of the Unit 1 turbine driven auxiliary feedwater pump (TDAFWP) as required by NMP-AD-012, "Operability Determinations and Functionality Assessments." Second, for the May 21, 2015, failure to ensure component manipulations were not performed prior to in-service testing of the TDAFWP as required by NMP-ES-013, "Inservice Testing Program." The licensee repaired the drain pot level controller on May 22, 2015, and entered the issues into the corrective action program as CR10087008 and CR10088793.

The failure to evaluate the operability of the Unit 1 TDAFWP as required by NMP-AD-012, "Operability Determinations and Functionality Assessments," on May 17, 2015, and the failure to ensure component manipulations were not performed prior to in-service testing as required by NMP-ES-013, "Inservice Testing Program," on May 21, 2015, were performance deficiencies. The performance deficiencies were more than minor because they were associated with the human 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.

Specifically, the failure to implement the operability evaluation and surveillance test of the TDAFWP while the steam supply drain pot level controller was degraded; resulted in the failure to establish reasonable continued assurance that the pump would have been available to perform its safety-related function following a design basis event. The significance of the finding was of very low safety significance (Green) because the finding did not represent an actual loss of safety function of a single train of the auxiliary feedwater system. The inspectors determined the finding had a cross-cutting aspect of “challenge the unknown” in the human performance area, because operations staff did not consider the need to evaluate the impact to the safety function of the Unit 1 TDAFWP, but instead relied on past practices (H.11). (Section 1R15)

Inspection Report# : [2015002](#) (*pdf*)

Significance:  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to identify deficiencies during a fire drill

A NRC-identified NCV of Farley Nuclear Plant, Unit 1, Operating License Condition 2.C.(4), and Unit 2, Operating License Condition 2.C.(6), “Fire Protection” was identified for the licensee’s failed to identify deficiencies during a fire drill as required by procedure NMP-TR-425, “Fire Drill Program”, Version 7.2. This violation was entered into the licensee’s corrective action program as CR 10038847 and CR 10038846.

The licensee’s failure to identify deficiencies during the drill was a performance deficiency (PD). This PD was more than minor because it was associated with the Protection Against External Events attribute (i.e., fire) of the Mitigating Systems cornerstone and adversely affected the cornerstone objective in that the failure to identify and correct fire brigade deficiencies could negatively affect the fire brigade’s capability to combat an actual fire. This finding was of very low safety significance (Green) because the ability of the fire brigade to respond to the fire drill. The finding was directly related to the cross-cutting aspect of procedure adherence in the human performance area.

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

Significance:  Mar 31, 2015

Identified By: NRC

Item Type: FIN Finding

Failure to maintain AFW pump room watertight doors

A NRC-identified finding was identified for the licensee’s failure to maintain the doors for the “1A” and “1B” motor-driven auxiliary feed water (AFW) pump room in a watertight configuration as required by the facility’s updated final safety analysis report (UFSAR) and internal flooding assessment. This finding was entered in the licensee’s corrective action program as CR10032693

The failure to maintain the “1A” and “1B” motor-driven AFW room watertight as required in the UFSAR and as assumed in the internal flooding assessment was a performance deficiency. The PD was more than minor because it was associated with the Mitigating Systems cornerstone attribute of Protection Against External Factors (Flooding) and adversely affected cornerstone objective in that gaps in the watertight door for the “1B” motor-driven pump could have impacted the operation of the turbine driven AFW pump. This finding required a detailed risk review using the NRC’s Farley SPAR model. The major analysis assumptions included: a one year exposure period, the performance deficiency was modelled as a non-recoverable failure to run of the MDAFW pump in the postulated flooded pump room as well as the TDAFW pump, and pipe failure data from EPRI Pipe Rupture Frequencies for Flooding PRAs. The finding was determined to be of very low safety significance (Green). The finding had a cross-cutting aspect of “resolution” in the problem identification and resolution area.

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

Significance:  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to ensure rolling fire doors would automatically close

A NRC-Identified NCV of Farley Nuclear Plant, Unit 1, Operating License Condition 2.C. (4), and Unit 2, Operating License Condition 2.C.(6), "Fire Protection" was identified for the licensee's failure to install rolling steel fire doors in the Appendix R 3-hour fire barriers between the auxiliary building and new fuel storage area for each of the two units in accordance with the Updated Final Safety Analysis Report (UFSAR). The licensee did not adequately locate fire detectors (fusible links or other type of labeled fire detection devices) associated with these doors to ensure these doors would automatically close under fire conditions. The licensee entered this violation in their corrective action program as CR 855837.

The licensee's failure to install the rolling steel fire doors in accordance with the approved UFSAR is a performance deficiency (PD). This PD is more than minor because the installed fire doors were associated with the Mitigating Systems cornerstone attribute of Protection Against External Factors (Fire) and adversely affected the cornerstone objective in that the fire doors would not automatically close which could allow a fire in one area to propagate to an adjacent area. The significance of this finding was determined to be of very low safety significance (Green) because the fire door, when closed, would provide a 1-hour or greater fire endurance rating. The cause of this finding was not associated with a cross-cutting area because it is not reflective of current licensee performance.

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

Significance:  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to ensure DG rolling fire doors were labeled fire doors

A NRC-identified NCV of Farley Nuclear Plant, Unit 1, Operating License Condition 2.C.(4), and Unit 2, Operating License Condition 2.C.(6), "Fire Protection" was identified for the licensee's failure to install rolling steel fire doors in the Appendix R 3-hour common fire barrier for three diesel generators in accordance with the Updated Final Safety Analysis Report (UFSAR). The installed rolling steel fire doors do not have an Underwriters Laboratory (UL) label identifying it as an "A" label fire door (3-hour fire rating), as stated in the UFSAR. The licensee entered this violation in their corrective action program as CR10029684.

The licensee's failure to install the rolling steel fire doors in accordance with the approved UFSAR is a performance deficiency. This PD is more than minor because the installed fire doors degraded one of the fire protection defense in depth elements and adversely affected the Mitigating Systems cornerstone objective in that a fire in the common hallway could propagate into the individual EDG compartments. The significance of this finding was determined to be of very low safety significance (Green) because the combustible loading on both sides of the wall was representative of a fire duration less than 1.5 hours based on FNP Fire Hazards Analysis. The cause of this finding was not associated with a cross-cutting area because it is not reflective of current licensee performance.

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

Significance:  Dec 31, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Ensure Rolling Fire Doors on Units 1 and 2 Complied with Fire Code

An NRC identified non-cited violation (NCV) of Farley Nuclear Plant, Unit 1, Operating License Condition 2.C.(4),

and Unit 2, Operating License Condition 2.C.(6), "Fire Protection" was identified for the licensee's failure to install rolling steel fire doors in the Appendix R 3-hour common fire barrier for all five diesel generators in accordance with the Updated Final Safety Analysis Report (UFSAR). Specifically, the installed rolling steel fire doors (D-702, D-705, D708, D-711, and D-714) design did not include fire detectors (fusible links or other type of labeled fire detection devices) to automatically close the doors under fire conditions, in the event of a fire in Fire Area 71 (South Hallway), as stated in the Farley Nuclear Plant UFSAR. The licensee included this deficiency in their corrective action program as CR867970 and implemented an hourly fire watch in the affected Fire Areas.

The licensee's failure to ensure that rolling steel fire doors included fire detectors to automatically close the doors under fire conditions, in the event of a fire in Fire Area 71 (South Hallway), was determined to be a performance deficiency. The performance deficiency was more than minor because it was associated with the protection against external events (fire) attribute of the Mitigating Systems Cornerstone and it adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated this finding using the NRC's significance determination process (SDP) and the finding was of very low safety significance. There is no cross cutting aspect for this deficiency because the problem was not indicative of current licensee performance.

Inspection Report# : [2014005](#) (*pdf*)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance:  Jun 30, 2015

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Survey for Radiological Conditions

A self-revealing, Green non-cited violation of 10 CFR 20.1501(a) was identified for the failure to perform radiological surveys in Unit 1 containment to ensure that the potential radiological hazards and extent of radiation levels were evaluated which resulted in the failure to barricade and conspicuously post a high radiation area (HRA). The licensee took immediate corrective action following discovery and posted the area as an HRA. The issue was entered into the licensee's corrective action program as CR 10057483.

The licensee's failure to perform radiological surveys to ensure the potential radiological hazards and the extent of radiation levels were understood and controlled was a performance deficiency. The performance deficiency was more than minor because it impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective. Specifically, the licensee failed to adequately evaluate potential radiological hazards that could be present in a work area and operators were unnecessarily exposed to HRA conditions. The finding was assessed and determined to be of very low safety significance (Green) because it was not an ALARA planning issue, there was no overexposure nor substantial potential for an overexposure, and the

licensee's ability to assess dose was not compromised. The inspectors determined that this issue had a cross-cutting aspect of Human Performance, Work Management (H.5) because the licensee failed to recognize potential changes in expected radiological conditions and radiation protection supervisors did not oversee work activities by observing and reinforcing standards and expectations to perform radiological surveys of all possible affected areas following a reactor coolant system drain down evolution. (Section 2RS1)

Inspection Report# : [2015002](#) (*pdf*)

Public Radiation Safety

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.

Miscellaneous

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