Farley 2
4Q/2010 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Dec 31, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Station Guidance on Use of Extension Cords and Placement of Equipment in Safety-Related Cable Trays (Section 1R05)
An NRC identified NCV of Technical Specification (T.S.) 5.4.1 was identified for failure to follow station maintenance procedures related to the use of extension cords, which resulted in an energized smoke eductor and its extension cord located within one inch of a safety-related cable tray. On September 30, 2010, the inspectors discovered an operating smoke eductor sitting atop safety-related cable tray AID15A in the Unit 2 component cooling water (CCW) pump and heat exchanger room. The inspectors also noted safety-related cable tray AHD21A ran parallel with, and approximately 36 inches above, cable tray AID15A. The inspectors evaluated the cables in both safety-related cable trays, and learned Unit 2 train 'A' residual heat removal (RHR) and the hot shutdown panel were likely components that would be negatively affected in the event of a fire from this energized equipment. The inspectors immediately notified control room personnel, who then removed the smoke eductor and wrote condition report (CR) 2010113318.
The failure to maintain an energized and operating smoke eductor with its extension cord greater than one inch from a safety-related cable tray as required by station procedure, FNP-0-ACP-59, Extension Cord Usage and Temporary Electrical Cable Installation Guidelines, is a performance deficiency. The finding was more than minor because it adversely affected the mitigating systems (MS) cornerstone objective of ensuring the availability, reliability, and capability of systems responding to initiating events to prevent undesirable consequences. Specifically, a fire resulting from this energized equipment would challenge train 'A' RHR pump and valves, and potentially lead to the train being inoperable. The significance of this finding was assessed using the Phase 1 screening worksheets of Attachment 4 and Appendix F, Attachment 1 of Manual Chapter (MC) 0609, SDP. Additionally, Phase 2 worksheets of Appendix F, Attachment 1 were used, and the finding was determined to be of very low safety significance (Green), because the safe shutdown path was deemed independent of fire damage state scenarios for the given fire ignition source. The finding was assigned a cross-cutting aspect in the Work Practices component of the Human Performance cross-cutting area because station personnel failed to follow guidance in station procedures related to the control of cable trays (H.4 (b)).
Inspection Report# : 2010005 *(pdf)*

Significance: SL-IV Sep 30, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to adopt appropriate procedures to evaluate deviations and failures to comply with 10 CFR 21 evaluations
SL IV. An NRC identified violation of 10 CFR 21.21, Notification of failure to comply or existence of a defect and its evaluation, was identified for an inadequate procedure, resulting in the licensees' untimely reporting of a substantial safety hazard. Specifically, the licensees' station procedure FNP-0-AP-62, Evaluation of Defects and Non-compliances Potentially Reportable Under 10CFR21, failed to identify the appropriate timeliness aspect required by 10 CFR 21.21(a), and allowed the term "discovery" to be the date of the Plant Review Board (PRB) approval, regardless of the date of discovery of the deviation. This resulted in a substantial safety hazard being reported approximately 260 days after the deviation was identified. The NRC received the Part 21 report on July 6, 2010 (approximately 260 days after discovery of the deviation).

The inspectors determined the inadequate procedure allowing untimely reporting of substantial safety hazards was a performance deficiency. This finding was more than minor because if the procedure was left uncorrected, a more serious safety concern could occur. Specifically, failure to evaluate deviations and to perform notifications within the specified time frame, 60 days, does not allow for timely evaluation of other components that could be subject to the deviation. Because this issue affected a potential reporting requirement and the NRC's ability to perform its regulatory function, it was evaluated using the traditional enforcement process. Consistent with the guidance of the NRC Enforcement Policy, this violation was categorized at Severity Level IV NCV. This finding was assigned a cross-cutting aspect in the CAP component of the PI&R area in that problems should be thoroughly evaluated such that the resolutions address causes and extent of conditions, as necessary. This includes properly classifying, prioritizing, and evaluating for operability and reportability conditions adverse to quality. Specifically, the licensee was untimely in evaluating and reporting the substantial safety hazard (P.1(c)). (Section 4OA2.2)

Inspection Report# : 2010004 *(pdf)*

Significance: G Sep 30, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate procedure leads to LOSP on Unit 2 4160 volt safety related bus
Green. A self-revealing NCV of 10 CFR 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings, was identified for the licensees' failure to modify surveillance test procedure FNP-2-STP-40.0, Safety Injection with Loss of Off-site Power (LOSP) Test. Following implementation of a modification to the LOSP/Safety Injection (SI) sequencer on both units, the licensee failed to update FNP-2-STP-40.0, resulting in an inadequate procedure. The procedure failed to address placing the Test Trip Override Switch in its "OFF" position during restoration steps. This resulted in an unplanned power interruption to the 2F electrical bus from its only source of power during the test conducted on April 30, 2010, and subsequent re-loading of safety-related loads by the LOSP/SI sequencer, B2F. Following the unplanned power interruption, the licensee implemented a temporary procedure change and promptly restored plant components to required conditions for the current plant mode of operation. The licensee entered the event in its corrective action program (CAP) as CR 2010105854.

The finding is more than minor because it adversely affected the procedure quality attribute of the Mitigating Systems (MS) cornerstone objective of ensuring the availability, reliability, and capability of systems responding to initiating events to prevent undesirable consequences (i.e. core damage). Specifically, this finding affected the Unit 2 Train 'A' 4160 volt safety-related 2F electrical bus's ability to provide power to engineered safeguards feature components. Because the unit was in Mode 6, with greater than 23 feet of water above the reactor vessel, the significance of this finding was assessed using the Phase 1 screening worksheets of Attachment 4 and Appendix G, Attachment 1, Checklist 4 of IMC 0609, SDP. The inspectors determined this finding was of very low safety significance (Green), because it did not increase the likelihood of a loss of reactor coolant system (RCS) inventory or degrade the licensees' ability to terminate a leak path or add to RCS inventory. This finding was assigned a cross-cutting aspect in the resources component of the Human Performance area because complete, accurate, and up-to-date procedures were not provided (H.2(c)). (Section 4OA3.2)

Inspection Report# : 2010004 *(pdf)*

Significance: G Jun 30, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to maintain safety-related cables in a non-submerged environment
•Green An NRC-identified Green NCV of 10 CFR 50, Appendix B, Criterion III, Design Control, was identified for the licensee's failure to implement measures to assure that safety-related cables remained in an environment for which they were certified. Safety-related cables purchased and installed in underground electrical pull boxes at Farley Nuclear Plant have been subjected to submergence, a condition for which they are not designed. To address this issue, the licensee has performed the immediate corrective action of increasing the frequency of measuring water level in the pull boxes and removing excess water to ensure cables are not submerged. The licensee entered the issue into their corrective action program as CR 2010100512.

Failure to maintain safety-related electrical cables in a physical environment for which the cables are designed to operate is a performance deficiency. This performance deficiency is more than minor because it is associated with the Design Control attribute of the Mitigating Events cornerstone, and adversely affected the cornerstone objective to ensure the reliability of systems responding to initiating events to prevent undesirable consequences. Specifically; because 1) testing of these cables has not been performed, 2) the cables have not been maintained within the parameters they are designed, and 3) there have been documented failures of cables throughout the nuclear industry due to degradation caused by submergence in water. The significance of this finding was screened using the Phase 1 of the SDP in accordance with NRC Inspection Manual Chapter 0609 Attachment 4. The finding screened as Green, because the finding is a design or qualification deficiency confirmed not to result in loss of operability or functionality. The inspectors determined the inadequate assessment of available information in the CAP caused the licensee to fail to aggregate the programmatic and common cause problems reflective of cross-cutting aspect P.1(b). (Section 4OA2)

Inspection Report# : 2010003 *(pdf)*

Significance: G Apr 15, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate controls for service water pump procurement
A self-revealing non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion VII, “Control of Purchased Material, Equipment, and Services,” was identified for the licensee’s failure to establish measures to assure that the 2E service water pump (SWP) installed on November 22, 2006, conformed to purchase order requirements. The failure to assure that the 2E SWP minimum rotor critical speed met the purchase order design specification resulted in an increased susceptibility of the SWP to resonant vibration, which was a factor that contributed to the pump failure. The licensee entered this event into their corrective action program as CR 2009110325.

The finding was determined to be greater than minor because it was associated with the design control attribute of the mitigating systems cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the performance deficiency contributed to the failure of the 2E SWP, and thus impacted the reliability of the service water system. Using Inspection IMC 0609, “Significance Determination Process,” Attachment 4, “Phase 1 - Initial Screening and Characterization of Findings,” the finding was determined to have very low safety significance (Green) because it did not represent an actual loss of safety function of a single Train for greater than its Technical Specification (TS) allowed outage time. No cross-cutting aspect was identified since the issue was not reflective of current licensee performance, in that the performance deficiency occurred in 2006. (Section 4OA5.3)

Inspection Report# : 2010007 *(pdf)*

Significance: G Mar 31, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to re-evaluate significant changes in assumption to prompt operability determination of Unit 2 TDAFW pump
The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion V, Instructions, Procedures, and Drawings for the failure to implement procedure NMP-AD-012, Operability Determinations and Functionality Assessments. Specifically, the licensee failed to revise the existing prompt determination of operability (PDO) as required by NMP-AD-012 for the Unit 2 Turbine Driven Auxiliary Feedwater (TDAFW) pump when significant non-conservative changes in water content of oil samples challenged assumptions used to establish pump operability. This issue was entered into the licensee’s CAP as CR 2010101426.

The finding is more than minor because it is associated with the reactor safety mitigating systems cornerstone attribute of equipment performance and adversely affected the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, this finding was analogous to MC0612, Appendix E example 3.j in that a reasonable doubt about the

continued operability of the pump existed prior to further evaluation. This finding was assessed using the Phase 1 screening worksheets of Appendix 4 of MC 0609, SDP and determined to be of very low safety significance because the finding did not result in the loss of safety function of a single train or screen as risk significant due to external events. This finding was assigned a cross-cutting aspect in the Resources component of the Human Performance area in that complete, accurate and up-to-date design documentation, procedures, work packages, and correct labeling of components were not provided (H.2(c)). Specifically, the oil sampling program procedures and methods lacked the detail and rigor necessary to verify assumptions in the PDO and called into question the continued operability of the TDAFW pump. (Section 1R15)

Inspection Report# : 2010002 *(pdf)*

Significance: G Mar 31, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Violatin of technical specification 5.4.1 for failure to maintain procedures for full flow recirculation after a loss of coolant accident
The inspectors identified a Green NCV of TS 5.4.1 for the failure to maintain emergency procedure FNP-1/2-ESP-1.3, Transfer to Cold Leg Recirculation, Rev. 19. ESP-1.3 contained a step to verify containment sump level was sufficient to adequately cover the containment sump screens prior to initiating cold leg recirculation following a loss of coolant accident (LOCA) which led to a full flow recirculation. The containment sump level specified by the procedure was not sufficient to ensure suction vortexing and air ingestion into the emergency core cooling system (ECCS) would have been prevented. This finding was entered into the licensee's corrective action program as condition report (CR) 20101101103. Planned corrective actions included issuing a standing night order to ensure adequate containment sump level is verified prior to transferring to cold leg recirculation and formally changing the value in ESP-1.3.

This finding is more than minor because it affects the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems (containment spray and residual heat removal) that respond to initiating events (LOCAs which lead to full flow recirculation phase) to prevent undesirable consequences (i.e., core damage) and the cornerstone attribute of Procedure Quality, i.e. Operating (Post Event) Procedures (EOPs). The team assessed this finding using the SDP and determined that the finding was of very low safety significance (Green) because the inspectors determined that there was no loss of safety system function. Safety system function was determined to be maintained since the analyzed LOCAs in the accident analysis of the facility updated final safety analysis report (UFSAR) would introduce sufficient water into the containment from ECCS and the reactor coolant system (RCS) to provide sufficient containment sump level to ensure water level above the sump screens to prevent air introduction. This finding was reviewed for cross-cutting aspects and none were identified since the performance deficiency has existed since initial operation and is not indicative of current licensee performance. (Section 1R17)

Inspection Report# : 2010002 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G Jun 30, 2010
Identified By: Self-Revealing
Item Type: NCV NonCited Violation

Failure to perform adequate surveys to identify potential radiological hazards during reactor cavity drain down
•Green A self-revealing non-cited violation (NCV) of 10 CFR Part 20.1501(a) was identified for failure to perform adequate surveys to identify rising radiation levels during the lowering of water level in the reactor cavity. This resulted in an uncontrolled High Radiation Area (HRA) in a worker-occupied area of the refueling floor near the edge of the reactor cavity. The immediate corrective actions were to post the affected areas as required by licensee procedures and re-flood the cavity. The licensee entered the issue into their corrective action program as condition report (CR) 2010105943.

This finding is more than minor because it was associated with the Occupational Radiation Safety Cornerstone attribute of Program and Process (Monitoring and Radiation Protection Controls) and adversely affects the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation from radioactive material during routine nuclear reactor operation. The finding was evaluated using the Occupational Radiation Safety Significance Determination Process (SDP) and was determined to be of very low safety significance (Green) because it was not related to As Low As Reasonably Achievable (ALARA) Planning and the ability to assess dose was not compromised. In addition, it did not involve overexposure or substantial potential for overexposure because the lower cavity was inaccessible at the time of the event. The cause of this finding was directly related to the cross-cutting aspect of radiological safety in the Work Control component of the Human Performance area because the potential job site conditions (radiological hazards) associated with reduction of water shielding following underwater cutting of significant radiation sources were not adequately identified [H.3(a)]. (Section 2RS1)

Inspection Report# : 2010003 *(pdf)*

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: N/A Aug 24, 2007
Identified By: NRC
Item Type: FIN Finding
Biennial Identification and Resolution of Problems Inspection Results
One finding of very low safety significance (Green) was identified. The licensee was generally effective in identifying problems at a low threshold and entering them into the corrective action program. The licensee properly prioritized issues entered into the corrective action program (CAP) and routinely performed evaluations that were technically accurate and of sufficient depth to address the issue documented in the condition reports (CRs). Overall, corrective actions were effective; however, minor examples of inadequate condition report broadness reviews and documentation issues related to the closure of action items were identified. In general, operating experience was found to be used both proactively and reactively by personnel involved in the corrective action program; however, an example of industry operating experience was identified in which the licensee did not completely develop interim compensatory measures for a condition to which Farley was vulnerable. The licensee's programmatic self-assessments and audits were generally effective in identifying weaknesses in the corrective action program; however, a missed opportunity in the trending of issues which could result in adverse effects on safety-related plant components was identified. The inspectors also concluded that the workers at Farley felt free to report safety concerns.

Inspection Report# : 2007006 *(pdf)*

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