

Hatch 1

1Q/2012 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to assess and manage the increase in risk when removing residual heat removal and core spray from service

Green. A self-revealing non-cited violation (NCV) of 10 CFR 50.65(a)(4) became apparent during the Unit 1 refueling outage when the residual heat removal shutdown cooling discharge valve, 1E11-F017B, failed to open electrically from the control room. The inspectors subsequently determined, on February 17, 2012, the licensee had failed to assess the increase in risk to the plant prior to hanging a tagout which removed reactor coolant system injection capability from all four residual heat removal pumps and both core spray pumps. This resulted in an unplanned Orange risk condition for Unit 1 versus the previously assessed Green risk condition. The licensee removed the tagout and restored operation of residual heat removal pump and core spray pump discharge valves to electrically open and restore compliance. This violation has been entered into the licensee's corrective action program as condition report (CR) 410382.

Failure to perform an adequate risk assessment prior to hanging tagout 1-DT-11-1E11-00310 and removing residual heat removal and core spray equipment from service is a performance deficiency. The performance deficiency affects the Mitigating Systems Cornerstone and was determined to be more-than-minor because this issue is similar to IMC 0612, Appendix E, example 7e, not minor if the overall elevated risk would put the plant in a higher licensee-established risk category. Because this issue involves the licensee's assessment and management of risk associated with performing maintenance activities under shutdown conditions, the inspectors utilized IMC 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," and IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process." The Phase 1 screening required a Senior Reactor Analyst (SRA) to perform an independent risk assessment because the licensee's shutdown risk assessment involved only qualitative analysis of the plant configuration. A Phase 3 analysis was performed by the regional SRA to characterize the risk associated with the performance deficiency. IMC0609, Appendix K requires performance of a risk analysis for Maintenance Rule issues. The SRA used IMC0609, Appendix G, which is a tool to estimate shutdown risk, to bound the risk of the deficiency. With the water level at the level for fuel transfer, and an exposure time of less than 3 days, the SRA used Worksheet 3 of IMC0609, Appendix G, Attachment 3. The dominant sequence was a loss of inventory, with a failure to line up an alternate source of water. Recovery credit was given for manually opening the valves or using alternate water sources due to the length of time available before fuel damage. The finding was subsequently determined to be Green. This performance deficiency has a cross-cutting aspect in the Decision-Making component of the Human Performance area, because the licensee failed to validate the underlying assumptions and identify possible unintended consequences when hanging tag out 1-DT-11-1E11-00310 and removing residual heat removal and core spray equipment from service. [H.1(b)] (Section 1R13)

Inspection Report# : [2012002](#) (*pdf*)

Significance:  Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Cables for Fire Safe Shutdown Not Protected In Accordance With 10 CFR 50 Appendix R Section III.G.2

Green. The NRC identified a Green non-cited violation (NCV) of 10 CFR Part 50, Appendix R, Section III.G.2, for the licensee's failure to protect one of the redundant trains of cables, located in the same fire area (FA), needed to achieve post-fire safe shutdown (SSD) from fire damage for multiple fire areas for Unit 1. Upon discovery, the licensee entered this item into their corrective action program as Condition Report (CR) 100755. As corrective actions, the licensee had implemented modifications to eliminate the need for local operator manual actions (OMAs) to achieve SSD. However, the inspectors discovered that, for FZ 0014K, the modifications did not adequately eliminate reliance on local OMAs to achieve SSD. The licensee entered this condition into the corrective action program as CR 364483. At the time of the exit meeting, the licensee planned to reroute affected cables out of the affected FA.

The licensee's failure to protect one train of cables and equipment necessary to achieve post-fire SSD from fire damage for fire areas designated in the fire protection program as meeting 10 CFR 50 Appendix R, Section III.G.2, is a performance deficiency. This finding is more than minor because it is associated with the reactor safety mitigating system cornerstone attribute of protection against external events (i.e., fire). Failure to protect safe shutdown cables and equipment from fire damage affects the reactor safety mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors used NRC Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," and determined the finding was of very low safety significance (Green). Inspectors determined that no cross cutting aspect was applicable to this performance deficiency because this finding was not indicative of current licensee performance. (Section 40A5.3)

Inspection Report# : [2011005](#) (pdf)

Significance:  Jun 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to promptly identify and take corrective actions to ensure Bussmann fuses identified by the Part 21 notification 2005-37 were removed from use in safety related applications.

A self-revealing NCV of 10 CFR 50, Appendix B, Criterion XVI, Corrective Actions, was identified for failure to promptly identify and take corrective actions to ensure Bussmann fuses identified by the Part 21 notification 2005-37, were removed from use in safety related applications. Corrective actions taken include replacing the KTN-R 10 amp fuses on the 1B emergency diesel generator with fuses manufactured after 1991, placing a hold on all KWN-R and KTN-R fuses size 30 amps below manufactured between 1987 and 1991, and replacement of these fuses with new KWN-R and KTN-R fuses with a date code 2009 or newer. This violation has been entered into the licensee's corrective action program as condition report (CR) 2010116039.

Failure to promptly identify and take corrective actions to ensure Bussmann fuses identified by the Part 21 notification 2005-37 were removed from use in safety related applications is a performance deficiency. This performance deficiency is more than minor because it is associated with the Equipment Performance attribute and adversely affected the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, on December 23, 2010, the Hatch 1B emergency diesel generator #3 stop circuitry operability light was discovered not illuminated on panel 1R43-P003B. Without power to this circuitry the 1B emergency diesel generator is inoperable and unavailable to provide its required safety function. The significance of this finding was screened using IMC 0609 Attachment 4, table 4a. The risk significance screening required a Phase 3 analysis, because the finding screened as potentially risk significant due to a seismic initiating event. The regional senior reactor analyst (SRA) performed a Phase 3 analysis for the finding. The analysis included two parts, the first covering the time period of total inoperability of the fuse; and the second covering the exposure time from when the non qualified fuses were installed until they were replaced, when they were subject to potential seismic failure. Calculations were performed using the NRC's plant specific risk models. The short exposure time for the first analysis, and the low likelihood of a seismic event at the plant for the second analysis, caused the combined result to be a very low risk condition. The finding was determined to be Green in the SDP. Because the performance deficiency occurred in 2006 and is outside the past three years, no cross-cutting aspect is assigned. (Section 40A2.2)

Inspection Report# : [2011003](#) (pdf)

Significance: G Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to consider potential adverse system interactions when developing procedure to open SRVs without power

An NRC-identified NCV of 10 CFR 50 Appendix B, Criterion V, Instructions, Procedures, and Drawings, was identified for failure to establish adequate procedures that address potential adverse system interactions when opening safety relief valves (SRV) without power. Immediate corrective actions taken by the licensee include changing procedure 31EO-TSG-001-0, Attachment 6, SRV Actuation Without Power to Allow Injection with Portable Pump, to ensure the SRV control circuits are isolated electrically from the direct current (DC) busses prior to installing the portable DC power supply. This violation has been entered into the licensee's corrective action program as CR 2011106008.

Failure to address potential adverse system interactions when developing procedures affecting quality is a performance deficiency. This performance deficiency is more than minor because it is associated with the Procedural Quality attribute of the Mitigating Systems Cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of the safety relief valves to reduce reactor pressure in response to a loss of alternating current (AC) and DC power event. Because this finding is associated with B.5.b mitigation strategies, the finding was assessed using MC 0609 Appendix L, B.5.b Significance Determination Process, Table 2. The inspectors performed an initial screening and determined the finding did not meet the criteria listed within Table 2 for greater than Green significance therefore this finding was screened as Green. Because the mitigating strategy was developed and implemented in site procedures in 2007, the performance deficiency occurred outside the past three years and no cross-cutting aspect is assigned. (Section 40A5.3)

Inspection Report# : [2011003](#) (*pdf*)

Significance: G Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to address the anticipated environmental conditions when developing procedures to manually operate containment vent valves

An NRC-identified NCV of 10 CFR 50, Appendix B, Criterion V. Instructions, Procedures, and Drawings, was identified for failure to establish adequate procedures that address the anticipated environmental conditions when operating containment vents without power. Immediate corrective actions taken by the licensee include changing procedure 34AB-R22-003-1/2, Station Blackout, to perform preliminary actions in the torus area before high containment pressure and temperature conditions require venting. This change is intended to allow required torus area entries to be performed prior to reaching high temperature conditions in the area. This violation has been entered into the licensee's corrective action program as CR 2011105966 and CR 2011106007.

Failure to address the anticipated environmental conditions when developing procedures affecting quality is a performance deficiency. This performance deficiency is more than minor because it is associated with the Procedural Quality attribute of the Mitigating Systems Cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of the containment vent valves to allow reliable pressure control of primary containment in response to a loss of AC and DC power event. This finding was assessed using MC 0609 Appendix L, B.5.b Significance Determination Process, Table 2. The inspectors performed an initial screening and determined the finding did not meet the criteria listed within Table 2 for greater than Green significance therefore this finding was screened as Green. Because the procedure was developed and implemented in 2005, the performance deficiency occurred outside the past three years and no cross-cutting aspect is assigned. (Section 40A5.3)

Inspection Report# : [2011003](#) (*pdf*)

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

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

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