Harris 1
2Q/2013 Plant Inspection Findings

Initiating Events

Significance: G Jun 30, 2013
Identified By: NRC
Item Type: FIN Finding
Power Transient due to a Main Feedwater Pump Oil Leak
A self-revealing Green finding (FIN) was identified for the licensee's failure to adequately implement their procedure CAP-NGGC-0205, Condition Evaluation and Corrective Action Process, for two oil leaks from the "B" MFP which occurred on February 14, 2013 and February 17, 2013. Specifically, these failures resulted in a significant oil leak on the "B" MFP which required a rapid downpower to 55 percent RTP on March 29, 2013. The licensee entered this finding into their CAP as Action Request (AR) #598302. The licensee took corrective action to perform a design change to the breather to correct the plant issue.

The licensee's failure to adequately implement their procedure CAP-NGGC-0205 was a performance deficiency. The performance deficiency was more than minor because it was associated with the human performance attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. Specifically, this failure resulted in another oil leak on the "B" MFP which required a rapid downpower to 55 percent RTP on March 29, 2013. In accordance with IMC 0609.04, "Initial Characterization of Findings," and Exhibit 1 of IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at Power," the inspectors determined that this finding was of very low safety significance (Green) because the performance deficiency did not cause a reactor trip or the loss of mitigation equipment. The finding had a cross-cutting aspect of Evaluation of Identified Problems, as described in the Corrective Action component of the Problem Identification and Resolution cross-cutting area because the licensee failed to thoroughly evaluate the two oil leaks in February 2013 to ensure that the resolution addressed the cause, resulting in the transient on March 29, 2013. (P.1(c))

Inspection Report# : 2013003 *(pdf)*

Significance: G Apr 30, 2013
Identified By: NRC
Item Type: FIN Finding
"Reactor Power Transient due to Inadvertent Isolation of the "4B" Feedwater Heater."
A self-revealing Green finding (FIN) was identified for the licensee's failure to establish and implement an adequate operating procedure (OP-136, Feedwater Heaters, Vents and Drains, Revision 41) to restore the "4B" feedwater heater (FWH) alternate level control valve (1HD-323) to automatic operation. The licensee entered this issue into the Corrective Action Program (CAP) as Action Request (AR) #592336. The licensee took corrective action to reduce reactor power immediately and revise OP-136 to include a power reduction prior to restoring 1HD-323 to automatic operation.

The licensee's failure to establish and implement an adequate operating procedure (OP-136, Feedwater Heaters, Vents and Drains, Revision 41) to restore 1HD-323 to automatic operation was identified as a performance deficiency. The performance deficiency was more than minor because it was associated with the procedure quality attribute of the

Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. Specifically, failure to establish and implement an adequate operating procedure resulted in a steam plant transient that caused an unplanned reactor power increase to 101.1 percent Rated Thermal Power (RTP). In accordance with IMC 0609.04, “Initial Characterization of Findings,” and Exhibit 1 of IMC 0609, Appendix A, “The Significance Determination Process (SDP) for Findings at Power,” the inspectors determined that this finding is of very low safety significance (Green) because the performance deficiency did not involve the complete or partial loss of a support system that contributes to the likelihood of an initiating event and it did not affect mitigation equipment. The finding has a cross-cutting aspect of Implements and Institutionalizes Operating Experience, as described in the Operating Experience component of the Problem Identification and Resolution cross-cutting area because the licensee failed to institutionalize operating experience from the previous month. (P.2(b))
Inspection Report# : 2013002 *(pdf)*

Mitigating Systems

Significance: G Apr 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
“Inadequate Corrective Actions Involving the Incorrect Determinations of Operability.”
An NRC-identified Green NCV of 10 CFR 50, Appendix B, Criterion XVI,
Corrective Action was identified for the licensee’s failure to take corrective actions related to incorrect operability determinations which resulted in violation of TS 3.8.1.1
(Electrical Power Sources) associated with the S-2B-SB failure to secure on October 26, 2012. The licensee entered the issue into their CAP as AR #569593. As corrective actions, on October 31, 2012, Operations opened the supply breaker (1B21-SB-4B) for the primary shield fan to remove any impact to the Emergency Diesel Generator (EDG) operability. Additionally, the licensee created AR #584473 to evaluate and correct issues associated with their operability determinations.

The licensee’s failure to take timely, appropriate corrective actions for inadequate operability determinations was a performance deficiency. The performance deficiency was more than minor because if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, the failure to take timely, appropriate corrective actions could have resulted in a more safety significant violation of TS than the identified violation of TS 3.8.1.1 (Electrical Power Sources) associated with the S-2B-SB failure to secure on October 26, 2012. 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,” the inspectors determined that this finding is of very low safety significance (Green) because the performance deficiency did not involve a deficiency affecting the design or qualification of a mitigating system and did not represent a loss of system function. The cause of the finding was directly related to the cross-cutting aspect for appropriate corrective actions to address safety issues in a timely manner commensurate with their safety significance and complexity in the CAP component of the cross-cutting area of Problem Identification and Resolution, in that the licensee failed to take appropriate and timely corrective actions to address incorrect determinations of operability (P.1(d)).
Inspection Report# : 2013002 *(pdf)*

Significance: G Apr 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation

"Failure to Implement Design Control Measures for the EDG Starting and Control Air System."
The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," involving two examples. In one example, the licensee did not translate instrument uncertainties associated with the EDG low-pressure alarm and pressure indicator into operating and alarm response procedures. In the second example, the licensee failed to verify the design adequacy for blocking the EDG non-emergency generator trips during emergency operation. The licensee entered the first example into their CAP as ARs #586788, #586837, #588517, and #589308 and initiated a standing instruction to verify starting air pressure was maintained above 200 psig while evaluating appropriate corrective actions. The licensee entered the second example into their CAP as ARs #382359 and #412546, and implemented a facility change to correct the design deficiency.

The failure to translate instrument uncertainties associated with the EDG low-pressure alarm and pressure indicator into operating and alarm response procedures, and failure to verify the design adequacy for blocking the EDG non-emergency generator trips were performance deficiencies. The performance deficiencies were more than minor because they were associated with the Design Control attribute of the Mitigating System Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors assessed the finding using IMC 0609 Attachment 4, "Initial Characterization of Findings;" and IMC 0609 Appendix A, "The Significance Determination Process for Findings At-Power," and determined the finding was of very low safety significance (Green) because the design deficiencies were confirmed not to result in loss of operability of the EDGs. The finding was reviewed for cross-cutting aspects and none were identified since the performance deficiencies were not indicative of current licensee performance.
Inspection Report# : 2013002 *(pdf)*

Significance:  Oct 31, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Technical Specification Inoperability of MSIVs Due to Failure to Conduct Diagnostic Testing
•Green. The inspectors identified a non-cited violation of Technical Specification (TS) 3.7.1.5, Main Steam Line Isolation Valves, due to one or more MSIVs being inoperable for a time greater than the allowed outage time and a plant shutdown was not completed in accordance with the action statement of TS 3.7.1.5. MSIV diagnostic testing in accordance with EGR-NGGC-0205, Air Operated Valve (AOV) Reliability Program, had not been conducted by the licensee. This contributed to the licensee not identifying long-term corrosion/oxidation of the valve piston rings that resulted in the "B" and "C" MSIV failure to initially close during stroke time testing on April 21, 2012. The licensee conducted repairs of all three MSIVs and restored them to an operable condition prior to entering Mode 4 following the completion of an ongoing refueling outage. The licensee entered this condition into their corrective action program (CAP) as Nuclear Condition Report (NCR) 531773.

The failure to properly classify the MSIVs as risk significant and implement MSIV diagnostic testing in accordance with the AOV program procedure EGR-NGGC-0205 was a performance deficiency (PD). The PD is more than minor because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affected the cornerstone objectives of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is also associated with the containment isolation barrier performance attribute of the Barrier Integrity cornerstone and 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 conduct periodic diagnostic testing that would have identified long-term internal valve degradation due to unexpected corrosion/oxidation of the valve piston rings in all three MSIVs resulted in two MSIVs failing to initially close during TS stroke time testing on April 21, 2012, and excessive internal friction in all three MSIVs such that they may not have been capable of performing their safety-related closure function during certain design basis events. Using IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," the inspectors determined there was an actual loss of safety function greater than the TS allowed outage time associated with the finding which required a more detailed risk evaluation. A detailed risk evaluation was performed

by a regional senior reactor analyst. The result of the analysis of the risk of the PD was a delta core damage frequency (CDF) of <1E-6/year and a delta Large Early Release Fraction (LERF) of <1E-7/year, a GREEN finding. No cross-cutting aspect was assigned to this finding because licensee decisions made in regard to classifying the MSIVs in the AOV program were made more than three years ago and therefore, not reflective of current plant performance.

Inspection Report# : 2012009 *(pdf)*

Significance: G Sep 30, 2012
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Adequately Perform Containment Visual Inspection when Containment Integrity is Required
The inspectors identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion XVI, Corrective Action, when the licensee failed to adequately correct a previously identified issue associated with the performance of OST-1081, "Containment Visual Inspection when Containment Integrity is Required." Specifically, on June 3, 2012 during an independent containment closeout inspection by the NRC resident inspectors, cables were identified as not having been analyzed for the impact on the operation of the containment sumps. The licensee did not identify or reconcile the unanalyzed cables in containment during the performance of OST-1081. The licensee removed a large portion of the cabling and then completed an operability evaluation, while in mode 3, on June 6, 2012 for the cables that remained. The evaluation concluded that the containment sump was fully operable, but with reduced margin because of the cables. The cables were further analyzed and recorded in Engineering Change 87249, with a similar conclusion. The issue was placed into the corrective action program (CAP) as action request (AR) #566201.
The licensee's failure to adequately identify and take prompt corrective actions to evaluate temporary cables in containment during OST-1081, which had not been previously analyzed was identified as a performance deficiency. The performance deficiency was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and it adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, it could potentially cause one or more Residual Heat Removal (RHR), Containment Spray (CT) pumps, and associated Emergency Core Cooling SystemsECCS) trains to be inoperable in the event that the containment sump became clogged and lost the required Net Positive Suction Head (NPSH) to the pump, during certain accidents. Using IMC 0609, Significance Determination Process, this finding was determined to be of very low safety significance because it was not a design or qualification deficiency, did not represent an actual loss of function of at least a single train for greater than the Allowed Out-of-service Time (AOT) or two separate safety systems out-of-service for greater than the AOT, did not result in a loss of safety function of one or more non-Technical Specification (TS) trains of equipment designated as risk significant for greater than 24 hours, and did not involve the loss or degradation of equipment or function specifically designed to mitigate a seismic, flooding, or severe weather initiating event (e.g., seismic snubbers, flooding barriers, tornado doors). The finding had a cross-cutting aspect of Evaluation of Identified Problems, as described in the Corrective Action component of the Problem Identification and Resolution cross-cutting area, because the licensee did not implement adequate corrective actions to prevent recurrence of unanalyzed material left in containment following the performance of OST-1081 (P.1(c)).
Inspection Report# : 2012004 *(pdf)*

Significance: G Sep 30, 2012
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
"B" Startup Transformer Lockout due to Loss of Oil Filled Cable Pressure
A self-revealing Green NCV of Technical Specification (TS) 6.8.1, Procedures, was identified for the licensee's failure to develop an adequate procedure for maintenance on an oil filled cable. Specifically, the licensee failed to provide adequate instructions to prevent causing additional damage to the cable which resulted in the lockout of the "B" Startup Transformer (SUT) on June 25, 2012. This also resulted in unavailability of the preferred power source

for the “B” safety related equipment for over two days. As corrective actions, the licensee repaired the cable, restored oil pressure and returned the “B” SUT to its normal standby configuration. Additionally, the licensee performed an investigation which concluded that the cable had been damaged at the site of a previous repair when it was handled during maintenance. The issue was placed into the CAP as AR #545920.
The licensee’s failure to develop an adequate procedure to ensure proper handling of the cable and prevent inadvertently causing damage was a performance deficiency. The performance deficiency was more than minor because it was associated with the Procedure Quality attribute of the Mitigating Systems cornerstone, and it affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, it resulted in the lockout of the “B” SUT and unavailability of the preferred power source for the “B” safety related equipment for over two days. Using IMC 0609, Significance Determination Process, this finding was determined to be of very low safety significance because it was not a design or qualification deficiency, did not represent an actual loss of function of at least a single train for greater than the TS AOT or two separate safety systems out-of-service for greater than the AOT, did not result in a loss of safety function of one or more non-TS trains of equipment designated as risk significant for greater than 24 hours, and did not involve the loss or degradation of equipment or function specifically designed to mitigate a seismic, flooding, or severe weather initiating event (e.g., seismic snubbers, flooding barriers, tornado doors). The finding had a cross-cutting aspect of complete, accurate, and up-to-date procedures, as described in the Resources component of the Human Performance cross-cutting area, because the licensee did not develop adequate procedures to prevent further damage while performing maintenance on the SUT cables (H.2(c)).
Inspection Report# : 2012004 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

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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