Beaver Valley 1
3Q/2008 Plant Inspection Findings

Initiating Events

Significance: G Jun 12, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Procedure Use Errors Result in Loss of an Electrical Bus
A self-revealing NCV of TS 5.4.1.(a), "Procedures", was identified in that FENOC failed to properly implement procedures and required actions in planning, tagging, and electrical system operation. A series of procedural use errors in control of maintenance, equipment control and electrical system operation resulted in the inadvertent loss of the 1G 4160VAC (4kV) electrical bus. The licensee remediated the operating crew and communicated station expectations regarding organizational interfaces and procedural compliance. This was also communicated to all station crews, maintenance, and construction services departments. This finding is more than minor because it is similar to Inspection Manual Chapter (IMC) 0612, Appendix E, example '3b', since the procedural use errors resulted in the loss of the 1G Bus. Traditional enforcement does not apply because the issue did not have an actual safety consequence or the potential for impacting NRC's regulatory function, and was not the result of any willful violation of NRC requirements. In accordance with IMC 609, Attachment 609.04, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to be of very low risk significance. The cause of this finding is related to the cross-cutting area of human performance, in that FENOC's failed to follow station procedures resulting in a loss of the 1G bus [H.4.(b)]

Inspection Report# : 2008004 *(pdf)*

Significance: G Dec 31, 2007
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Comply with TS 3.8.1 Required Actions for One Offsite Power Source Inoperable
A green self-revealing NCV of TS LCO 3.8.1, "Electrical Power Systems - AC Sources - Operating," was identified due to FENOC's failure to comply with the LCO actions for one required offsite power circuit inoperable within the specified allowed time requirements. The performance deficiency is that the power availability of the 138kV Bus 1 to the Unit-1 1A System Station Service Transformer (SSST) [TR-1A] was not effectively monitored such that an open circuit on the phase 'A' was not identified. This resulted in exceeding the TS 3.8.1 allowed outage time. This issue was entered into the corrective action program as CR 07-30614. The open circuit on phase 'A' was repaired and immediate compensatory measures were taken to augment monitoring of off-site power system availability. A root cause investigation was initiated. Long term corrective actions are under development.

The finding is more than minor because it is associated with the Initiating Events Cornerstone attribute of configuration control and adversely affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the finding is determined to be of very low risk significance (Green) because as a transient initiator it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available.

The cause of this finding is related to the cross-cutting area of problem identification and resolution, in that FENOC did not completely and accurately identify this issue in a timely manner [P.1 (a)]. (Section 1R13)

Inspection Report# : 2007005 *(pdf)*

Mitigating Systems

Significance: G Jun 30, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Maintenance Procedure Results in Unexpected Terry Turbine Speed Increase
A self-revealing NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified in that the licensee failed to incorporate sufficient assembly detail into the maintenance procedure for the governor linkage on the Turbine-Driven Auxiliary Feedwater (TDAFW) pump. The required gaps and tightening criteria for the reassembly of the governor valve linkage were not included in

the overhaul procedure resulting in jam nuts loosening, allowing the valve stem to rotate. Rotation of the valve stem caused an uncontrolled change in position of the governor valve position. This resulted in an unanticipated speed increase of the TDAFW during the performance of surveillance test 1OST-24.4 “Steam Turbine Driven Auxiliary Feed Pump Test [1FW-P-2].” Corrective actions included a change to the maintenance procedure and the installation of spacer shims for the anti-rotation block.
This finding was more than minor because it affected the equipment performance attribute of the associated Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with NRC Inspection Manual Chapter (IMC) 0609, Attachment 609.04, “Phase 1 - Initial Screening and Characterization of Findings,” the finding was determined to be of very low risk significance.
The cause of this finding is related to the cross-cutting area of human performance, in that FENOC did not maintain a complete, accurate, and up-to-date governor overhaul procedure in regards to actuator reassembly which resulted in speed control degradation to the TDAFW [H.2.(c)]
Inspection Report# : 2008003 *(pdf)*

Significance: G Dec 31, 2007
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Control Work Activities Results in Degraded ‘C’ Steam Generator Water Level Alarm Function
A green self-revealing NCV of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was identified in that the licensee failed to properly implement and control work activities associated with the alarm and status relays for Unit 1 ‘C’ steam generator water level (SGWL), which resulted in a degraded SGWL Hi-Hi and Lo-Lo alarm status for approximately 9 days. Safety functions for the ‘C’ SGWL were unaffected and one alarm status remained available during the degraded condition. This issue was entered into the corrective action program as CR 07-29487. FENOC performed an apparent cause evaluation, evaluated appropriate human performance and organizational contributors, and initiated corrective actions and procedure revisions to prevent recurrence.

The finding is more than minor because it affected the equipment performance attribute of the associated Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with NRC Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspector conducted a Phase 1 SDP screening and the finding was determined to be of very low safety significance (Green) because the finding was not a design or qualification deficiency, did not represent a loss of system safety function or loss of a single train for greater than its allowed technical specification time, and did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events.

The cause of this finding is related to the cross-cutting area of human performance, in that FENOC failed to ensure appropriate coordination of work activities during work scope changes to activities affecting the use of ‘C’ SGWL instrumentation during outage periods, which resulted in a loss of configuration control that degraded a safety-related alarm and status indicator [H.3.(b)]. (Section 1R19)

Inspection Report# : 2007005 *(pdf)*

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate 10 CFR 50.59 Review results in Condition Beyond Design Basis during Test
The inspectors identified that the licensee did not perform an adequate safety evaluation in accordance with 10 CFR 50.59 associated with changing the periodicity of IST testing of valves MOV-1SI-890 A&B in May 2006. The review did not identify that the change allowed operations of these valves in Operational Modes where operation was prohibited by TS. The change was approved and implemented and as a result, from May 2006 until July 2007, valves MOV-1SI-890 A&B were cycled nine times total. Upon discovery, the licensee entered this issue into their corrective action program as CR 07-23462, conducted a root cause analysis and an extent of condition review, and revised the LHSI surveillance procedures. The licensee also determined that this event was reportable and issued LER 05000334/2007-001.

The performance deficiency and violation is that the licensee did not perform an adequate safety evaluation in accordance with 10 CRF 50.59, due to the fact that the evaluation failed to identify that a change would proceduralize an operation which was prohibited by TS. This change would have required prior approval from the NRC via Technical Specification Amendment, to allow this change. A 10 CFR 50.59 violation is considered to potentially impede or impact the regulatory process; therefore, Traditional Enforcement applies. Comparing this item to the examples in NUREG 1600 Supplement I, this finding is more than minor because NRC approval would have been required. The inspectors completed a Significance Determination Review using IMC 0609, Appendix A “Significance Determination of Reactor Inspection Findings for At Power Situations.” Using the Phase I Screening worksheet the finding was determined to be of very low safety significance (Green) since the finding did not represent an actual loss of safety function for greater than the Technical Specification allowed outage time. Therefore, the finding is similar to Item D.5 in NUREG 1600 Supplement I, “Violations of 10 CFR 50.59 that result in conditions evaluated as having very low safety significance (i.e., green) by the SDP.” This is an example of a Severity Level IV violation.

There is no cross cutting aspect for this finding, because it was determined that this finding is not reflective of current licensee performance. (Section 4OA3)
Inspection Report# : 2007005 *(pdf)*

Barrier Integrity

Significance: G Dec 31, 2007
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Inspection and Subsequent Failure of Fuel Transfer Up-Ender Cable
A green self-revealing NCV of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was identified, in that FENOC failed to properly establish and implement adequate work instructions and acceptance criteria to inspect the fuel transfer system cables. This led to the failure of the cable associated with the Unit 1 spent fuel pool up-ender frame during refueling operations. A new fuel assembly (FA) and an irradiated rod cluster control assembly (RCCA) were contained in the frame during cable failure. The FA and RCCA were not visibly damaged. The affected FA was not used in the core reload. Additional FAs were purchased to satisfy the core design. The licensee affected repairs and performed an extent of condition on the containment side up-ender as well as the Unit 2 up-ender equipment. This issue was entered into the corrective action program as CR 07-28471.

This finding was more than minor because it affected the procedure quality attribute of the Barrier Integrity cornerstone objective to ensure the fuel cladding barrier protects the public from radionuclide release. The inspectors determined the affected FA fuel clad barrier remained intact and that containment controls were unaffected. Therefore, a Phase 2 quantitative assessment was not required and the issue screened to Green (very low safety significance), in accordance with Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process."

This finding has a cross-cutting aspect in the area of human performance in that safety-related maintenance decisions regarding the inspection and replacement of fuel transfer system cables were based on assumptions (adequate inspection personnel and program) that were not validated and did not consider all possible unintended consequences, [H.1.(b)]. (Section 4OA3)

Inspection Report# : 2007005 *(pdf)*

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

Last modified : November 26, 2008