

Davis-Besse

4Q/2012 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

OPERATOR ERROR IN RESPONSE TO A SMALL POWER TRANSIENT MOMENTARILY RENDERS TS EQUIPMENT INOPERABLE

A self-revealed finding of very low safety significance and an associated NCV of Technical Specification (TS) 5.4.1 (a) were identified following the control room crew's response to a small power rise that occurred while shifting the plant's Integrated Control System (ICS) to the "track" mode of operation on October 24, 2012. Specifically, the Unit Supervisor, a licensed senior reactor operator (SRO), directed an on-shift reactor operator (RO) to place the Steam Generator/Reactor Demand control station for the ICS in manual and lower power in response to the observed reactor power increase. However, because the plant's control rod drive (CRD) control station (known as the "Diamond panel") was already in manual as part of the planned ICS transfer to "track" mode, the signal from the Steam Generator/Reactor Demand control station only was passed through to the Feedwater (FW) System and not to the CRD System. As a result, average coolant temperature and pressurizer level both rose due to a mismatch between reactor power and steam generator power and caused an unplanned short-duration entry into TS Limiting Condition for Operation (LCO) 3.4.9, Condition A, for pressurizer level above the TS limit of 228 inches. The condition was corrected and corrective action program documents generated to review the event. This finding was associated with the Initiating Events Cornerstone of reactor safety and was of more than minor significance because it directly impacted the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors reviewed this finding using the guidance contained in Appendix B, "Issue Screening," of IMC 0612, "Power Reactor Inspection Reports." The inspectors determined that the licensee's incorrect actions in attempting to respond to the power transient by taking the Steam Generator/Reactor Demand control station for the ICS to manual and attempting to reduce power using that station with the Diamond panel in manual was a performance deficiency that was reasonably within the licensee's ability to foresee and correct and should have been prevented. The finding screened as very low safety significance (Green) because it did not adversely impact any of the following parameters:

- o Loss-of-Coolant Accident initiators;
- o Transient initiators;
- o Support System Loss initiators;
- o Steam Generator Tube Rupture initiators; or
- o External Event Initiators.

The finding had a cross-cutting aspect in the area of problem identification and resolution, corrective action program (CAP) component, because the licensee failed to take corrective action for the ICS/Unit Load Demand (ULD) power error anomaly in a timely manner, commensurate with the issue's safety significance and complexity. (P.1(d))

Inspection Report# : [2012005](#) (*pdf*)

Significance: G Jun 30, 2012

Identified By: Self-Revealing

Item Type: FIN Finding

OIL SAMPLE DRAWN FROM RUNNING RCP RESULTED IN ENTRY INTO ABNORMAL OPERATING PROCEDURE AND RCP SHUTDOWN

A self-revealed finding of very low safety significance was identified for the licensee's failure to establish and implement technically appropriate work instructions for the drawing of oil samples from the reactor coolant pump (RCP) lower bearing reservoirs, such that when an oil sample was drawn from the RCP 1-2 lower motor bearing on May 6, 2012, the lower motor bearing was damaged by the excessive heat generated due to a lack of adequate lubrication, and control room operators were forced to conduct a rapid shutdown of the pump. Specifically, the

approved work instructions called for the oil sample to be obtained with the RCP running, a practice contrary to the manufacturer's recommendations. The finding was determined to be of more than minor significance because it was associated with the Initiating Events cornerstone attribute of procedure quality and had adversely affected the associated cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, plant stability was upset when control room operators were forced to respond to an abnormal and emergent condition on RCP 1-2 when deficient written work instructions for the collection of RCP motor bearing oil samples, calling for those oil samples to be drawn with the pumps running, caused the lower motor bearing on RCP 1 2 to be damaged by a loss of adequate lubrication. The inspectors evaluated the finding using IMC 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings." Because the finding involved reactor shutdown operations in Mode 3 prior to the plant reaching the conditions for placing the Decay Heat Removal System in service, the inspectors assessed the significance of the finding using the criteria for transient initiators for reactors operating at power. The inspectors determined that the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. Consequently, the finding was determined to be of very low safety significance. This finding had a cross-cutting aspect in the area of Human Performance, Work Control component, because the licensee did not appropriately plan the work activity for the collection of RCP oil samples to incorporate risk insights that were available. Specifically, there was sufficient information available to the licensee from both the RCP manufacturer and other industry peers, including a sister facility within the licensee's own nuclear fleet, that indicated the risk associated with obtaining oil samples from running RCPs, but these risk insights were not utilized. (H.3(a))

Inspection Report# : [2012003](#) (pdf)

Mitigating Systems

Significance:  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MAINTAIN SAFETY-RELATED DC SYSTEMS DESIGN CONTROL

The inspectors identified a finding, with two examples, of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to maintain the electrical separation of the redundant safety-related direct current (DC) systems in compliance to the design and licensing bases. The licensee initiated corrective actions including opening the breakers to the non-safety-related loads inside containment and setting the automatic transfer switches (ATSS) to prevent auto-transfer of loads. The performance deficiency was determined to be more than minor because the issue was associated with the Mitigating Systems Cornerstone attribute of design control, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to address the impact of high-impedance ground faults in non-safety equipment on safety-related DC sources and the failure to maintain compliance to RG1.6 when installing ATSS between redundant DC power sources impacted the reliability of the DC power system. The inspectors evaluated the finding to be of very low safety significance (Green) using IMC 0609, Appendix A, Attachment 1, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Using the Phase 1 SDP worksheet for the Mitigating Systems Cornerstone, the inspectors answered no to all five screening questions. Based on the date of occurrence of this violation (more than 20 years old), the inspectors did not identify a cross-cutting aspect as the finding was not representative of current performance.

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

Barrier Integrity

Significance:  Sep 30, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

OPERATOR ERROR RESTORING ESSENTIAL MCC TO SERVICE RENDERS TS EQUIPMENT INOPERABLE

A self-revealed finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," were identified for the licensee's failure to properly implement the procedure for restoring power to motor control center (MCC) E16B. Specifically, the operator repositioned circuit breakers at the incorrect MCC, inadvertently removing power from plant equipment supplied by MCC E16A and causing an unplanned entry into Technical Specification (TS) Limiting Condition for Operation (LCO) 3.3.15, Condition A, for an inoperable channel of station vent normal range radiation monitoring. As an immediate corrective action, the operating crew performed steps to restore the unintentionally lost loads associated with MCC E16A and exited LCO 3.3.15 Condition A in a timely manner. This finding was associated with the Barrier Integrity Cornerstone because a high radiation level in the station vent, as measured by the radiation monitors, is used to detect a potential threat to control room personnel and automatically isolate the control room normal ventilation system. The inspectors determined that the finding was more than minor because, if left uncorrected, the failure to follow plant procedures and the mispositioning of plant equipment would have the potential to lead to a more significant safety concern. The inspectors evaluated the finding using IMC 0609, Appendix A, the "Significance Determination Process for Findings At-Power." The inspectors used Exhibit 2 – "Barrier Integrity Screening Questions for the Control Room, Auxiliary, Reactor, or Spent Fuel Pool Building." The finding screened as very low safety significance (Green) because it only represented a degradation of the radiological barrier function provided for the control room. The finding had a cross-cutting aspect in the area of human performance, work practices component, because personnel failed to use human error prevention techniques to ensure that work was performed safely. (H.4(a))

Inspection Report# : [2012004](#) (*pdf*)**Significance:**  Sep 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO USE MATERIAL SPECIFIED MINIMUM YIELD STRESS IN STRUCTURAL DESIGN

The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to use material specified minimum yield stress in accordance with American Institute for Steel Construction design standards in evaluations of safety-related structural components. The licensee entered this issue into their corrective action program (CAP) as condition reports (CRs) 2011-98333 and 2012-13249 and initiated corrective actions to resolve identified design standard non-conformance. The finding was determined to be more than minor because the finding was associated with the Barrier Integrity Cornerstone attribute of design control 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, compliance with the design standards ensured safety-related structures would function as designed during accident and maximum seismic conditions. The finding was considered to be of very low safety significance since this was a design deficiency confirmed to not result in a loss of operability or functionality. The inspectors determined there was no cross-cutting aspect associated with this finding because the cause of the performance deficiency was the licensee's revision to the Updated Safety Analysis Report (USAR) that allowed certified material test report yield strength in structural design calculations which was not reflective of current licensee performance due to the age of the revision.

Inspection Report# : [2012004](#) (*pdf*)

Emergency Preparedness

Significance:  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

SEISMIC INSTRUMENTATION UNAVAILABLE FOR EMERGENCY EVENT CLASSIFICATION

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 50.54(q) for failing to follow and maintain an emergency plan that meets the requirements of emergency planning standard 10 CFR 50.47(b)(4). Specifically, the licensee failed to maintain configuration control of seismic instrumentation necessary for the declaration of emergency events. The seismic instrumentation was out of service without the knowledge of the on shift operating crew and no compensatory measures were in place. The licensee entered this performance deficiency into their corrective action program (CAP) as condition report (CR) 2012 01950 and CR 2012-01984. The inspectors determined that the issue was a performance deficiency as it was within the licensee's ability to foresee and correct. This finding was determined to be more than minor because it was associated with the emergency response organization (ERO) performance attribute of the Emergency Preparedness Cornerstone. This finding affected the cornerstone objective of ensuring the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The finding is of very low safety significance because it did not result in the loss or degradation of a risk significant planning standard. One Alert and one Notification of Unusual Event Emergency Action Level (EAL) initiating condition would have been rendered ineffective such that a seismic event would have been declared in a degraded manner. This finding was also associated with the cross cutting area of human performance. Specifically, the licensee's work control process failed to appropriately control work on the seismic monitoring system. This resulted in a loss of configuration control and of instrumentation necessary to classify a seismic event without compensatory measures in place. (H.3(b))

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

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

Last modified : February 28, 2013