Dresden 3
4Q/2016 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: TBD Nov 15, 2016
Identified By: Self-Revealing
Item Type: AV Apparent Violation
Failure to Verify the Adequacy of Design for the Unit 3 HPCI AOP Motor Shunt Resistor Setting
A self-revealing finding preliminarily determined to be of low to moderate safety significance, and an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was associated with the licensee's failure to ensure that the applicable design basis for applicable structures, systems, and components was maintained by the performance of design reviews, through the use of alternate or simplified calculational methods, or by the performance of a suitable testing program. Specifically, the licensee failed to verify the adequacy of design for the Unit 3 high pressure coolant injection (HPCI) auxiliary oil pump (AOP) motor shunt resistor setting during motor replacement in March of 2002, and then again in March of 2015, eventually resulting in pump failure in June of 2016, and inoperability of the HPCI system. The licensee documented this issue in its corrective action program (CAP) as IR 2686163.
The inspectors determined that the licensee's failure to verify the adequacy of design for the Unit 3 HPCI AOP motor shunt resistor setting was a performance deficiency, the cause was reasonably within the licensee's ability to foresee and correct due to previous events and licensee generated causal determinations regarding the significance of adjusting the shunt field resistors on motor and pump operations, and should have been prevented. The inspectors determined the issue was more than minor because it adversely impacted the Mitigating Systems Cornerstone attribute of Design Control and adversely 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 failure to control the design of the Unit 3 HPCI AOP motor resulted in the degradation and ultimate failure of the pump motor windings, which is a required component for HPCI operation. The inspectors applied IMC 0609, Attachment 4, and IMC 0609, Appendix A, Exhibit 2, Section A, for "Mitigating Systems" to screen this finding and determined that a detailed risk evaluation was required because the finding represented a loss of system and/or function. Therefore, a coordinated effort between inspection staff and regional Senior Reactor Analyst (SRA) was required to perform an appropriate risk evaluation for the degraded condition that resulted from the finding. The SRA used the Dresden Standardized Plant Analysis Risk (SPAR) model, version 8.24 for the detailed risk evaluation. This evaluation concluded that the exposure time for the HPCI system was 1 year. The total delta core damage frequency (CDF) for the 1 year exposure period was 6.9E–6/year, which is a finding of low to moderate safety significance (White). HPCI is an important high pressure injection system that is used to mitigate internal events, internal flooding, and internal fire events at Dresden. The inspectors determined the contributing cause that provided the most insight into the performance deficiency was associated with the cross–cutting area of Human Performance, Design Margins because the licensee failed to operate and maintain equipment within design margins, in that margins are carefully guarded and changed only through a systematic and rigorous process with special attention placed on maintaining fission product barriers, defense-in-depth, and
safety-related equipment [H.6]. Specifically, the licensee failed to verify the adequacy of design for the Unit 3 HPCI AOP motor shunt resistor setting during motor replacement in March of 2002 and then again in March of 2015.
Inspection Report# : 2016010 *(pdf)*

Significance: G Jul 01, 2016
Identified By: NRC
Item Type: FIN Finding
Main Steam Acoustic Safety/Relief Valve Monitoring Channel Calibration Not Performed
The inspectors identified a finding of very-low safety significance for the failure to perform a 24-month channel calibration of the Regulatory Guide 1.97 safety/relief valve acoustic monitoring system in accordance with the Technical Requirements Manual. Specifically, the licensee failed to perform a channel calibration, where the channel calibration shall encompass all devices in the channel required for channel operability and the channel functional test. The performance deficiency was determined to be more-than-minor because the finding was associated with the Mitigating System's cornerstone attribute of Procedure Quality and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee failed to maintain the acoustic safety/relief valve position indicators instrumentation in accordance with the Technical Requirements Manual. The performance deficiency affected the design or qualification of a mitigating system, structure or component; however, the system, structure or component maintained its functionality based on successful completion of channel functionality checks. Since the system, structure or component remained functional, the inspectors screened the finding as having very low safety significance (Green). The inspectors did not identify a cross cutting aspect associated with this finding because the finding was not representative of the licensee's current performance.
Inspection Report# : 2016009 *(pdf)*

Significance: G Mar 31, 2016
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Maintain Design Control of the 2/3 Emergency Diesel Generator
A finding of very low safety significance and an associated NCV of Title 10 of the Code of Federal Regulations Part 50, Appendix B, Criterion III, "Design Control," was self-revealed associated with the licensee's failure to assure that the applicable design basis for applicable structures, systems, and components were correctly translated into specifications, procedures, and instructions. Specifically, since initial plant construction the licensee failed to correctly identify the effect a loss of non-safety 2/3 emergency diesel generator (EDG) room ventilation could have on maintaining operability of the 2/3 EDG. On November 6, 2015, during a planned maintenance outage of the normal non-safety related instrument air pneumatic supply and a failure resulting in the depressurization of the back-up non-safety related nitrogen system, the 2/3 EDG ventilation intake and exhaust dampers failed closed making the 2/3 EDG inoperable for approximately 20 minutes on two occasions from the time of discovery of the condition. The licensee incorrectly believed that a loss of the non-safety related instrument air system and its non-safety related back-up nitrogen system would cause the dampers to fail in the conservative open position. This feature was never tested; and therefore the licensee incorrectly believed the non-safety related control systems for the room ventilation system would not adversely affect the safety-related EDG's operability.
The performance deficiency was determined to be more than minor, and thus a finding, in accordance with IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, because it was associated with the Design Control attribute of the Mitigating Systems Cornerstone and affected the associated cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and if left uncorrected could lead to a more significant safety concern. The finding screened as very low safety significance (Green) because the inspectors answered "no" to questions A.1. through A.4. of IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 2, dated June 19, 2012. This finding has a cross-cutting aspect in the area of Human Performance, Training, because the licensee did not ensure licensed operations and engineering personnel properly understood the operation and configuration of the 2/3 diesel generator ventilation system under accident conditions and its impact on the safety-related 2/3 EDGs ability to accomplish its design function. Specifically, the licensee incorrectly believed that the 2/3 EDG room ventilation system failed in a conservative manner with a loss of its non-safety related pneumatic supply systems. Corrective Action Program

documents and other engineering products up until September 2015 incorrectly state that the 2/3 EDG's operability was not adversely affected by a loss of damper control pneumatics as the dampers were expected to fail open. [H.9]
Inspection Report# : 2016001 *(pdf)*
Inspection Report# : 2016004 *(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G Jun 30, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Implement and Maintain Written Procedures Regarding Breathing Air Quality Testing
A finding of very-low safety significance and an associated NCV of Title 10 of the Code of Federal Regulations (CFR), Part 20.1703, was an NRC-identified finding for failure to implement and maintain written procedures regarding breathing air quality that resulted in the failure to perform a continuous in-line breathing air quality test during filling of self-contained breathing apparatus (SCBA) cylinders since 2009. Specifically, on May 4, 2016, during an inspection of the licensee's air compressor, the inspectors identified that the in-line carbon monoxide (CO) detector located at the compressor high-pressure filling station was inoperable since 2009, the procedure does not specify an alternative method of CO monitoring during the filling of the SCBA cylinders. Without specifying an alternative method of monitoring and only relying on the high-temperature safety shut-off, hazardous CO gas could be introduced into the SCBA cylinders, thus degrading the Grade-D air quality, during a compressor malfunction. The licensee's corrective actions included but were not limited to revising the applicable procedures, servicing or replacing the CO monitor by the manufacturer, and installing a new air compressor at the facility.
The inspectors determined that that the finding was more than minor in accordance with Inspection Manual Chapter (IMC) 0612, in that the finding impacted the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation through the use of SCBAs during an emergency response use by maintaining certified air quality. Specifically, the licensee failed to implement and maintain written procedures regarding an alternative method of monitoring air quality testing to maintain the Grade-D air quality during filling of SCBA cylinders. The finding was determined to be of very-low safety significance in accordance with IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," because it was not an as low as reasonably-achievable planning issue, there was no overexposure nor substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised.
The inspectors concluded that the cause of the issue involved a cross-cutting component in the area of human performance, resources, in that, the license did not ensure the adequacy of the procedure describing the alternate methods of CO monitoring during filling of Grade D air into the SCBA cylinders. [H.1]
Inspection Report# : 2016002 *(pdf)*

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.

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Miscellaneous

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