Duane Arnold
4Q/2016 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: N/A Sep 30, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
FAILURE TO SATISFY 10 CFR 50.72 AND 10 CFR 50.73 REPORTING REQUIREMENTS FOR A CONDITION THAT COULD HAVE PREVENTED FULFILLMENT OF A SAFETY FUNCTION.
The inspectors identified a Severity Level IV NCV of 10 CFR Part 50.72(a)(1) and 10 CFR Part 50.73(a)(1) due to the licensee's failure to make a required 8–hour non-emergency notification and a 60 day Licensee Event Report to the NRC after discovering a loss of safety function for the reactor core isolation cooling (RCIC) system. The licensee documented this issue in the CAP as CR 02156273 and planned to perform a causal evaluation for the failure to recognize the reportable condition.

The inspectors previously evaluated the RCIC system's loss of safety function under the SDP as a finding of very low safety significance (Green) as documented in Section 1R22.b of NRC Integrated Inspection Report 05000331/2016002–01 (ML16221A619). Violations of the NRC's reporting requirements are dispositioned using the traditional enforcement process because they are considered to be violations that potentially impede or impact the regulatory process. The inspectors reviewed the guidance in Section 6.9, Paragraph d.9, of the NRC Enforcement Policy and determined the violation associated with the failure to report was a Severity Level IV Violation because the previously evaluated loss of safety function was determined to be a Green finding under the SDP. No cross cutting aspect was assigned to this issue due to the issue being a traditional enforcement violation.
Inspection Report# : 2016003 *(pdf)*

Significance: G Sep 30, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
FAILURE TO IDENTIFY AND EVALUATE A CONDITION ADVERSE TO QUALITY.
A finding of very low safety significance and an NCV of 10 CFR Part 50, Appendix B, Criterion II, "Quality Assurance Program," was identified by the inspectors for the licensee's failure to follow Quality Assurance Program implementing procedure PI–AA–104–1000, "Condition Reporting." Specifically, the licensee failed to properly classify a condition report documenting the inappropriate revision of an alarm response procedure as a condition adverse to quality. This issue was subsequently entered into the licensee CAP as CR 2160423. Corrective actions included revising the alarm response procedure and taking action to evaluate the incorrect classification.

The inspectors determined that the failure to follow a Quality Assurance Program implementing procedure was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, because it impacted the procedure quality attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using IMC 0609 Appendix A, "The Significance Determination Process for Findings At-

Power," issued June 19, 2012, the inspectors determined the finding to be of very low safety significance because it did not represent an actual loss of function for greater than the TS allowed outage time. The finding was associated with the Problem Identification and Resolution cross-cutting aspect of Evaluation because the licensee failed to thoroughly evaluate issues to ensure that resolutions addressed the causes and extent of conditions commensurate with their safety significance.
Inspection Report# : 2016003 *(pdf)*

Significance: G Sep 30, 2016
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Implement Controls to the DAEC Switchyard Resulting in an Unplanned Technical Specification LCO 3.8.1 Entry and an Unplanned Risk Change from Green to Yellow
A self-revealed finding of very low safety significance and a non-cited violation (NCV) of Technical Specification (TS) 5.4, "Procedures," was self-revealed due to the licensee's failure to implement a written procedure recommended in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978. Specifically, the licensee did not implement Administrative Control Procedure 1408.23, "Controls to the DAEC [Duane Arnold Energy Center] Switchyard," which led to the loss of one credited offsite power source and an increase in plant risk on August 22, 2016. This issue was entered into the licensee corrective action program (CAP) as Condition Report (CR) 02151255. The licensee's corrective actions included correcting the incorrect relay wiring information which led to the loss of the offsite source and revising ACP 1408.23 to define the systematic process that will be used to review modifications, either planned or emergent, made by ITC to the DAEC Switchyard.

The inspectors determined the licensee's failure to implement a written procedure recommended in Regulatory Guide 1.33 was a performance deficiency. This issue was determined to be more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," dated September 7, 2012, because it affected the equipment performance attribute of the mitigating systems cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the performance deficiency resulted in the lockout of the T–1 transformer which required entry into TS 3.8.1 due to the loss of a required offsite power source. Using IMC 0609 Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," issued June 19, 2012, the inspectors determined the finding to be of very low safety significance because all of the questions in Exhibit 2, "Mitigating Systems Screening Questions," were answered "no." The finding was associated with the cross-cutting aspect of Work Management because the licensee failed to identify and manage risk and coordinate within different job groups.
Inspection Report# : 2016003 *(pdf)*

Significance: G Jun 30, 2016
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
FAILURE TO ACCOMPLISH A SURVEILLANCE TEST PROCEDURE IN ACCORDANCE WITH INSTRUCTIONS RESULTING IN SAFETY SYSTEM INOPERABILITY.
A self-revealing finding of very low safety significance (Green) and associated NCV of Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for the licensee's failure to accomplish surveillance test procedure (STP) 3.3.6.1-28, "[Reactor Core Isolation Cooling] RCIC Steam Line Flow HI Channel Functional Test." Specifically, on April 28, 2016, licensee personnel placed a relay block on the incorrect relay finger which when the relay was actuated, in accordance with the procedure, caused the steam supply to the RCIC system to isolate which resulted in an unplanned RCIC inoperability. Corrective actions included ceasing the performance of the STP, restoring the RCIC system to an operable status and performing an apparent cause evaluation. The apparent cause evaluation corrective actions included updated and expanded training on the proper implementation of place keeping and error reduction techniques.

Blocking the wrong relay contacts was a performance deficiency. The finding was more than minor because it affected the mitigating systems cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Although the finding constituted a loss of safety function, the finding was determined to be of very low safety significance (Green) because the three hours of system unavailability was less than the Technical Specification allowed outage time. Corrective actions included ceasing the performance of the STP, restoring the RCIC system to an operable status and performing an apparent cause evaluation. The finding was associated with the cross-cutting aspect of avoid complacency in the area of human performance because individuals failed to implement appropriate error reduction tools.
Inspection Report# : 2016002 *(pdf)*

Significance: G Jan 29, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
FAILURE TO DOCUMENT REVIEWS PERFORMED IN 50.59 SCREEN FOR NEW ABNORMAL OPERATING PROCEDURE.
The inspectors identified a finding of very low safety significance (Green) and associated NCV of Title 10, Code of Federal Regulations (CFR), Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to document the review performed to conclude that a 50.59 evaluation was not required. Specifically, the licensee failed to document the reviews performed to determine that installation of portable electric heaters in battery rooms would not have an adverse effect on the safety related batteries. The licensee's immediate corrective actions were to sequester Procedure AOP 904 (Extreme Cold Weather) and provide guidance to the Operations Department to cease use of portable electric heaters per AOP 904.

The inspectors determined that the licensee's failure to document the reviews performed to conclude that a 50.59 evaluation was not required was contrary to procedure EN-AA-203-1201, "10 CFR Applicability and 10 CFR 50.59 Screening Reviews," and was a performance deficiency (PD). The PD was determined to be more than minor, and a finding, because if left uncorrected, the PD would become a more significant safety concern. Specifically, installation of portable electric heaters in battery rooms may increase the probability of hydrogen ignition and challenge the ability of safety related batteries to perform their safety function. In accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," Table 2 the inspectors determined the finding affected the Mitigating Systems cornerstone. As a result, the inspectors determined the finding could be evaluated using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2 for the Mitigating Systems cornerstone. The finding screened as very-low safety significance (i.e. Green) because it did not result in the loss of operability or functionality of any structure, system, or component. Specifically, the licensee did not enter a condition that required the installation of portable electric heaters in the battery room per Procedure AOP 904. The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was not representative of current licensee performance.

Inspection Report# : 2016007 *(pdf)*

Barrier Integrity

Significance: G Jan 29, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation

FAILURE TO DOCUMENT 50.59 EVALUATION FOR UFSAR CHANGE CONCERNING RADIOLOGICAL DOSE CONSEQUENCE ANALYSIS METHODOLOGY.
The inspectors identified a Severity Level IV, NCV of 10 CFR 50.59, "Changes, Tests, and Experiments," having very-low safety significance (Green) for the licensee's failure to document the basis for making a change to Updated Final Safety Analysis Report (UFSAR) Table 15.0-2 to allow the use of RADTRAD Version 3.03 for all Chapter 15 Accidents. Specifically, the licensee failed to demonstrate that the change to UFSAR Table 15.0-2 did not constitute a Departure from a Method of Evaluation described in the UFSAR and would have never required prior NRC review and approval. The licensee's immediate corrective actions included performing a gap analysis between RADTRAD Version 3.02 & Version 3.03 to determine if any significant differences exist and to demonstrate that the radiological dose consequence using RADTRAD Version 3.03 would provide essentially the same results as Version 3.02. In addition, the licensee intends to update the UFSAR table 15.0-2 to accurately describe which RADTRAD Version is applicable to each accident analyzed in the UFSAR under Chapter 15.

The inspectors determined that the failure to evaluate whether the change to UFSAR Table 15-0.2 constituted a 'Departure from a Method of Evaluation' was contrary to 10 CFR 50.59(d)(1) and was a PD. The PD was determined to be more than minor, and a finding, because if left uncorrected, the PD had the potential to become a more significant safety concern. Specifically, the inspectors could not reasonably determine that use of RADTRAD version 3.03 for all UFSAR Chapter 15 Accidents would not have increased the control room dose value during accidents. In addition, the associated violation was determined to be more than minor because the inspectors could not reasonably determine that the changes would not have ultimately required NRC prior approval. The inspectors determined that finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process". Using Attachment 0609.04, "Initial Characterization of Findings," Table 2 the inspectors determined that the finding affected the Barrier Integrity cornerstone. As a result, the inspectors evaluated the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 3 for the Barrier Integrity cornerstone. The inspectors answered "Yes" to question C.1 in Exhibit 3 – Barrier Integrity Screening Questions. Specifically, the inspectors determined the finding only represented a degradation of the radiological barrier function provided for the control room. In accordance with Section 6.1.d of the NRC Enforcement Policy this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very-low safety significance (i.e., green finding). In accordance with IMC 0612, "Power Reactor Inspection Reports," Section 07.03.c, the inspectors did not assign a cross-cutting aspect to this violation because the violation and underlying technical finding was not indicative of current plant performance.

Inspection Report# : 2016007 *(pdf)*

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

Last modified : February 01, 2017