D.C. Cook 2
3Q/2016 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Sep 30, 2016
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Wetting of Safety-Related Battery Charger
A finding of very low safety significance with an associated NCV of TS 5.4, Procedures, was self revealed on June 21, 2016, when safety related N Train Battery Charger 2–BC–B was found soaked with water from a roof leak above. The licensee failed to follow administrative procedures for control of temporary catch basins. TS 5.4 states, in part, that the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978, be established, implemented, and maintained. Regulatory Guide 1.33 states, in part, that maintenance that can affect the performance of safety related equipment should be properly preplanned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances. Contrary to this requirement, the licensee installed and subsequently removed a drip catch above battery charger 2–BC–B that was being used to protect the charger from a water leak in the area pending roof repairs. On June 3, 2016, the Performance Assurance department noted the catch had been installed outside of any formal process. In response, the licensee removed the catch but did not put anything in its place to protect the charger. On June 21, 2016, a severe rainstorm occurred, resulting in the wetting of the charger. The other charger was in service at the time, so there was no impact to the affected N Train distribution system. In response, the licensee added another protective device, dried out, inspected, and tested the charger. It was restored to operable status on June 23.

The issue was more than minor because it adversely affected the Protection Against External Factors attribute of the Mitigating Systems cornerstone, whose objective is to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding screened as Green, or very low safety significance, because there was no loss of system operability. The finding had an associated cross cutting aspect in the Human Performance area, specifically, H.7., Documentation. Had the licensee kept their leak detection log up to date with the addition of the catch over the charger initially, it would have prompted the licensee to ensure the repairs to the roof were complete before removing the barrier. Further, it would not have been identified as an issue by Performance Assurance.

Inspection Report# : 2016003 *(pdf)*

Significance: G Mar 31, 2016
Identified By: NRC
Item Type: NCV Non-Cited Violation
Incorrect Auxiliary Feedwater Mission Time
The inspectors identified a finding of very low safety significance and associated NCV of with Title 10 of the Code of Federal Regulations (CFR) Part 50, Appendix B, Criterion III, “Design Control.” Specifically, the licensee failed to

ensure that regulatory requirements and design bases were correctly translated into specifications and procedures, in that the licensee used an incorrect mission time for the turbine driven auxiliary feedwater (TDAFW) pump to determine operability. The licensee developed a procedure that permitted continued operability of the TDAFW pump without room ventilation provided room temperature remained below 104° F. The underlying engineering document assumed TDAFW pump mission time was 4 hours; however, this assumption was not supported by current license bases documents. This condition violates 10 CFR 50 Appendix B Criterion III, which requires licensees to establish measures to assure that applicable regulatory requirements and the design bases, as defined in 10 CFR 50.2 and as specified in the license application, for those systems structures and components to which the Appendix applies, are correctly translated onto specifications, drawings, procedures and instructions. The licensee has since restored the room coolers to an operable status, thus, no current safety concern exists. The licensee has entered the condition into the corrective action program (CAP).

The licensee's use of an incorrect mission time was a performance deficiency that warranted a significance review. Using IMC 0612 appendix B dated September 7, 2012, the inspectors determined that the finding was more than minor because it was associated with the Mitigating System cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events and adversely affected the attribute of design control. Specifically, the licensee applied an incorrect mission time when determining room temperatures to ensure TDAFW pump operability. Using Inspection Manual Chapter 0609 Appendix A, Exhibit 2–1, dated June 19, 2012, the inspectors answered 'no' to Questions A. 1 thru 4. In particular, control room logs document about 6 hours with the TDAFW room ventilation not functioning; therefore the inspectors determined that the pump would not have been inoperable for longer than the 72 hour completion time in technical specifications.
Inspection Report# : 2016001 *(pdf)*

Significance: G Dec 31, 2015
Identified By: NRC
Item Type: FIN Finding
Probablistic Risk Assessment Model Errors
The inspectors identified a finding of very low safety significance for the failure of the licensee to follow procedure 12–EHP–9010–PRA–001, "PRA Model Update." Procedure 12–EHP–9010–PRA–001 establishes requirements to ensure that Donald C. Cook Probabilistic Risk Analysis (PRA) models represent the as built, as operated plant in a manner sufficient to support the applications for which they are used. One of the requirements is to perform an update every four years. The updates include activities such as reviewing internal and external operating experience, reviewing procedures that have an impact on human error probabilities or equipment test frequencies, and updating basic event data resulting from current reliability and unavailability data. Contrary to these requirements, the Donald C. Cook internal events model was not updated for six years following the last update in 2008. The inspectors also determined the licensee did not have a formal process to ensure all of the update items were being met. Additionally, the procedure required that any needed peer reviews are performed and that any significant model issues are addressed prior to any use of the revised model for risk informed applications. Specifically, formal peer reviews are to be performed for changes that constitute PRA "upgrades." Contrary to the procedure, a formal peer review was not completed for a change to certain test and maintenance modeling factors that met the definition of a PRA upgrade. The change resulted in an error that affected the license amendment request for National Fire Protection Association (NFPA)–805 fire regulations and several risk informed applications onsite.

The issue was more than minor because if left uncorrected, it could become a more significant safety concern. Specifically, the failure to ensure peer reviews were performed and the failure to perform updates as required were reflective of programmatic weaknesses. Per IMC 0612 Appendix E, "Examples of Minor Issues," evidence of programmatic weaknesses constitute an example of a more than minor issue. The inspectors determined the Mitigating Systems cornerstone was adversely affected by the finding since it was associated with maintenance of PRA models, which could impact probabilities of mitigating systems' ability to perform their functions. The finding screened as Green, or very low safety significance, utilizing IMC 0609 Appendix A, "The Significance Determination Process for

Findings at Power." Specifically, the inspectors answered 'no' to questions under both the "Mitigating Structures, Systems, and Components, and Functionality" and "External Event Mitigation Systems" sections. The finding had an associated cross cutting aspect in the Human Performance area, namely, Avoid Complacency (H.12), because of the lack of rigor applied in ensuring procedural requirements were met.

Inspection Report# : 2015004 *(pdf)*

Significance: G Dec 31, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Evaluate the Adverse Effects of TRM Section Deletion
The inspectors identified a Severity Level (SL) IV NCV of 10 CFR 50.59(d)(1), "Changes, Tests, and Experiments," with an associated finding of very low safety significance (Green), for the licensee's failure to perform a written safety evaluation that provided the bases for the determination that the removal of Technical Requirements Manual (TRM) Section 8.4.3, "ASME Code Class 1, 2, and 3 Components" did not require a license amendment. TRM Section 8.4.3 directed the implementation of the Inservice Inspection (ISI) Program for ASME Class 1, 2, and 3 components and directed actions if nonconformances were discovered. The licensee had received a violation in 2014 for removing the same requirement via a 50.59 Evaluation. The inspectors reviewed the corrective actions for the previous violation. The licensee had restored the section via guidance to operators, revised the wording of the TRM section, and then subsequently deleted the section from the plant's current licensing basis again via the 50.59 Screening process. The inspectors determined the licensee had incorrectly referenced NRC inspection guidance dealing with the operability of components when providing a basis for the deletion. Further, the operability determination process could result in less restrictive actions being taken for some degraded ASME components as compared to the TRM requirements. Therefore, the change should have received a 50.59 Evaluation. The licensee entered the issue into their Corrective Action Program.

The issue was more than minor because it adversely affected the Mitigating Systems Cornerstone. Specifically, a series of changes (which ultimately resulted in the deletion of TRM Section 8.4.3) had an adverse effect on component reliability given that required actions to address nonconformances within the ISI program were removed. In addition, violations of Title 10 of the Code of Federal Regulations (CFR) 50.59 are disposed using the traditional enforcement process in addition to the SDP because they are considered to be violations that potentially impede or impact the regulatory process. The associated traditional enforcement violation was determined to be more than minor because the inspectors could not reasonably determine if the changes would have ultimately required NRC prior approval. The finding screened as Green, or very low safety significance, because there was no actual known loss of functionality of components. The traditional enforcement violation was categorized as SL IV because the associated finding screened as Green in the SDP. The inspectors determined that the finding had a cross cutting aspect in the area of problem identification and resolution because the licensee did not take effective corrective action to address the issue. Specifically, the licensee received a previous finding for not evaluating the adverse effects of deleting TRM Section 8.4.3. As part of the corrective actions, the licensee revised and then deleted the TRM section; however, the resulting adverse effects were not recognized nor subsequently evaluated
Inspection Report# : 2015004 *(pdf)*

Significance: G Dec 31, 2015
Identified By: NRC
Item Type: FIN Finding
Failure to Evaluate the Adverse Effects of TRM Section Deletion
The inspectors identified a Severity Level (SL) IV NCV of 10 CFR 50.59(d)(1), "Changes, Tests, and Experiments," with an associated finding of very low safety significance (Green), for the licensee's failure to perform a written safety evaluation that provided the bases for the determination that the removal of Technical Requirements Manual (TRM)

Section 8.4.3, “ASME Code Class 1, 2, and 3 Components” did not require a license amendment. TRM Section 8.4.3 directed the implementation of the Inservice Inspection (ISI) Program for ASME Class 1, 2, and 3 components and directed actions if nonconformances were discovered. The licensee had received a violation in 2014 for removing the same requirement via a 50.59 Evaluation. The inspectors reviewed the corrective actions for the previous violation. The licensee had restored the section via guidance to operators, revised the wording of the TRM section, and then subsequently deleted the section from the plant’s current licensing basis again via the 50.59 Screening process. The inspectors determined the licensee had incorrectly referenced NRC inspection guidance dealing with the operability of components when providing a basis for the deletion. Further, the operability determination process could result in less restrictive actions being taken for some degraded ASME components as compared to the TRM requirements. Therefore, the change should have received a 50.59 Evaluation. The licensee entered the issue into their Corrective Action Program.

The issue was more than minor because it adversely affected the Mitigating Systems Cornerstone. Specifically, a series of changes (which ultimately resulted in the deletion of TRM Section 8.4.3) had an adverse effect on component reliability given that required actions to address nonconformances within the ISI program were removed. In addition, violations of Title 10 of the Code of Federal Regulations (CFR) 50.59 are disposed using the traditional enforcement process in addition to the SDP because they are considered to be violations that potentially impede or impact the regulatory process. The associated traditional enforcement violation was determined to be more than minor because the inspectors could not reasonably determine if the changes would have ultimately required NRC prior approval. The finding screened as Green, or very low safety significance, because there was no actual known loss of functionality of components. The traditional enforcement violation was categorized as SL IV because the associated finding screened as Green in the SDP. The inspectors determined that the finding had a cross cutting aspect in the area of problem identification and resolution because the licensee did not take effective corrective action to address the issue. Specifically, the licensee received a previous finding for not evaluating the adverse effects of deleting TRM Section 8.4.3. As part of the corrective actions, the licensee revised and then deleted the TRM section; however, the resulting adverse effects were not recognized nor subsequently evaluated
Inspection Report# : 2015004 *(pdf)*

Significance: G Dec 31, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Deletion of Hot Shutdown Panel Procedures
The inspectors identified an SL IV NCV of very low safety significance of 10 CFR 50.59 for the licensee’s improper deletion of procedures for the operation of the hot shutdown (HSD) panel. Specifically, in 2003, the licensee used a 50.59 screen to delete procedures associated with operation of the hot shutdown panel. The screen failed to recognize that the change impacted technical specifications and included adverse impacts. Therefore, 10 CFR 50.59 required a written evaluation to show why a license amendment was not required. The inspectors discussed the condition with the licensee and the licensee entered the condition in the Corrective Action Program and developed procedures for use of the HSD.

The licensee’s failure to comply with 10 CFR 50.59 was a performance deficiency that warranted a significance determination. Because the finding included both traditional and Reactor Oversight Program aspects, the inspectors evaluated using both process. Under the Reactor Oversight Process, the inspectors determined that the finding was more than minor because it adversely affected the Mitigating system cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events and adversely affected the attribute of procedure quality. Using IMC 0609 appendix A Ex2 1, the inspectors answered no to questions A 1 thru 4. Therefore, the finding screens as Green. For traditional enforcement, the enforcement policy considers 50.59 violations of Green significance to be SL IV. Although the performance deficiency occurred in 2003, the corrective action program documents recent opportunities to identify and correct the condition. In this instance, the inspectors concluded that the licensee did not take effective corrective actions. Therefore, the finding includes a cross cutting aspect P.3, resolution,

in the Problem Identification and Resolution area.

Inspection Report# : 2015004 *(pdf)*

Significance: G Nov 20, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Ensure the Required Seven Day EDG Fuel Oil Storage (Section 1R21.3.b(1))
Green. The team identified a finding of very low safety significance (Green), and an associated NCV of Title 10, Code of Federal Regulations (CFR), Part 50, Appendix B, Criterion III, "Design Control," for the failure to translate the emergency diesel generator (EDG) fuel oil storage design basis into applicable procedures and calculations. Specifically, the required 7-day fuel oil supply did not account for the fact that the fuel oil storage tanks (FOSTs) were shared between the two reactor units. The licensee captured this issue in their Corrective Action Program (CAP) as Action Request (AR) 2015-15019 with a proposed action to revise the applicable calculations and procedures to ensure the FOSTs can supply fuel for seven days while accounting for the diesel fuel oil consumption of both reactor units.
The performance deficiency was determined to be more than minor because it 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. The finding screened as of very low safety significance (Green) because it did not result in the loss of operability or functionality of the mitigating systems. Specifically, the licensee performed a past operability review and reasonable determined the FOST remained operable because fuel oil volume was maintained greater than the value established by calculation MD-12-DG-004-N. In addition, the availability of a fuel oil low level alarm with an administrative setpoint greater than the value established by this calculation and the expected relatively slow FOST depletion would have reasonably prompted and allowed operators to initiate actions to conserve fuel had an event occurred. The team did not identify a cross-cutting aspect associated with this finding because it was an original design issue; therefore, it was not reflective of current performance. (Section 1R21.3.b(1))

Inspection Report# : 2015008 *(pdf)*

Significance: G Nov 20, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Verify the Acceptability of the Surveillance Acceptance Limits for CRID Inverter Operability (Section 1R21.3.b(2))
Green. The team identified a finding of very low safety significance (Green), and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to verify the adequacy of the surveillance acceptance limits for control room instrumentation distribution (CRID) inverter operability. Specifically, the licensee did not verify the CRID inverter acceptance limits included in the applicable Technical Specification (TS) Surveillance Requirement procedures were adequate to demonstrate CRID operability. The licensee captured this issue in their CAP as AR 2015-14430 and AR 2015-14607, and established a compensatory action to impose more restrictive acceptance limits.
The performance deficiency was determined to be more than minor because it was associated with the equipment performance attribute of the Mitigating System cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance (Green) because it did not result in the loss of operability or functionality of mitigating systems. Specifically, the licensee reviewed the affected surveillance results for the last 12 months and reasonably determined operability was maintained because the results were within the vendor specifications. The team did not identify a cross-cutting aspect associated with this finding because it was not

confirmed to reflect current performance due to the age of the performance deficiency. (Section 1R21.3.b(2))

Inspection Report# : 2015008 *(pdf)*

Significance: G Nov 20, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Verify CRID Inverter Capability to Function During Fault Conditions (Section 1R21.3.b(3))
Green. The team identified a finding of very low safety significance (Green), and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to verify the CRID inverter capability to interrupt faulted conditions on its output during postulated design basis events. Specifically, the licensee did not ensure that the vital inverter was adequately protected from the effects of a fault occurring at the circuit non safety related loads. The licensee captured this issue in their CAP as AR 2015 14805 and AR 2015 14807, and reasonably determined the installed non safety related circuit protective devices would be expected to operate and protect the vital inverter during fault clearing conditions on the non-safety related loads powered by the inverter supplied CRID panel bus.
The performance deficiency was determined to be more than minor because it was associated with the equipment performance attribute of the Mitigating System cornerstone, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance (Green) because it did not result in the loss of operability or functionality of mitigating systems. Specifically, the licensee evaluated the condition for operability and reasonably determined that installed non-safety related circuit protective devices would be expected to operate and protect the vital inverter during fault clearing conditions on the non-safety related loads powered by the inverter supplied CRID panel bus. The team did not identify a cross-cutting aspect associated with this finding because it was not reflective of current performance. (Section 1R21.3.b(3))

Inspection Report# : 2015008 *(pdf)*

Significance: G Nov 20, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Consider All Design Basis CCW Passive Failures (Section 1R21.3.b(4))
Green. The team identified a finding of very low safety significance (Green), and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to verify that the component cooling water (CCW) design was capable of accepting a passive failure as described in the Updated Final Safety Analysis Report (UFSAR). Specifically, the passive failure definition described in the UFSAR was more limiting than the licensee postulated passive failure. The licensee entered this issue into their CAP as AR 2015-15073 with a proposed plan to reconcile the differences between the design basis and plant documentation.
The performance deficiency was more than minor because it was associated with the design control attribute of the Mitigating Systems cornerstone, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance (Green) because it did not represent a loss of function, an actual loss of function of a single TS train or two separate TS safety systems, or an actual loss of function of one or more non-TS trains. Specifically, the licensee performed a historical review of CCW isolation valve leakage and reasonably determined that actual leakage values would have reasonably allowed sufficient response time to provide system makeup to the redundant train. In addition, the licensee performed a historical review of CCW passive failures and did not find an actual loss of function due to a passive failure. The team did not identify a cross-cutting aspect associated with this finding because it was an original design issue; therefore, it was not reflective of current performance. (Section 1R21.3.b(4))

Inspection Report# : 2015008 *(pdf)*

Significance: G Nov 20, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Meet Applicable ISI Requirements for All CCW System Portions Within the ASME Code Class 3 Boundary (Section 1R21.3.b(5))
Green. The team identified a finding of very low safety significance (Green), and an associated NCV of 10 CFR 50.55a, "Codes and Standards," for the failure to meet the Inservice Inspection (ISI) requirements for all CCW components within the American Society of Mechanical Engineers (ASME) Code Class 3 boundary. Specifically, the licensee did not apply the applicable ISI requirements to all portions of the CCW system within the system ASME Code Class 3 boundary because this boundary was not appropriately established or justified. The licensee entered this issue into their CAP as AR 2015-15069 and reasonably determined the CCW remained operable.
The performance deficiency was more than minor because it was associated with the mitigating systems cornerstone attribute of design control, and affected the cornerstone objective of ensuring the availability, reliability, and capability of mitigating systems to respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance (Green) because it did not result in the loss of operability or functionality of mitigating systems. Specifically, the licensee performed a historical system health review and reasonably determined the CCW remained operable because periodic system walkdowns by the system owner and shiftly rounds by operations had not identified significant CCW system leaks. The team did not identify a cross-cutting aspect associated with this finding because it was not reflective of current performance. (Section 1R21.3.b(5))

Inspection Report# : 2015008 *(pdf)*

Significance: G Nov 20, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Develop Procedures to Provide Starting Air to the EDGs to Recover From a SBO (Section 1R21.3.b (6))
Green. The team identified a finding of very low safety significance (Green), and an associated NCV of 10 CFR 50.63, "Loss of All Alternating Current Power," for the failure to develop procedures to provide starting air to the EDGs to restore emergency alternating current power when recovering from a station blackout (SBO). Specifically, plant procedures did not ensure that there would be sufficient pressure in the EDG air receivers to start an EDG at the end of a 4-hour SBO coping period. In addition, the licensee did not have another proceduralized method of starting an EDG after a 4-hour period. The licensee entered this issue into their CAP as AR 2015-14802 and established an air receiver leak down rate administrative limit that would reasonably preserve sufficient pressure for four hours until the issue is resolved.
The performance deficiency was more than minor because it was associated with the design control attribute of the Mitigating Systems cornerstone, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance (Green). Specifically, a senior risk analyst performed a detailed risk evaluation and determined that the estimated change in core damage frequency was approximately 1.8E–8/yr. The team determined that this finding had a cross cutting aspect in the area of problem identification and resolution because the licensee did not systematically and effectively evaluate relevant external operating experience. Specifically, the licensee self-assessment, conducted in preparation to this inspection, reviewed a similar issue identified at a different station and incorrectly concluded that, "This issue is not likely to occur at Cook." [P.5] (Section 1R21.3.b(6))

Inspection Report# : 2015008 *(pdf)*

Significance: G Nov 20, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Verify the Station's Capability to Isolate Postulated CCW System Out-Leakage (Section 1R21.6.b (1))
Green. The team identified a finding of very low safety significance (Green), and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to verify the CCW design capability to isolate a postulated CCW system out leakage. Specifically, the CCW isolation valves were not periodically leak tested, and the system design and plant procedures did not include safety related and/or seismic-qualified makeup capabilities. The licensee entered this issue into their CAP as AR 2015-14961, and established temporary procedures and pre-staged equipment to quickly provide system makeup from alternate sources.
The performance deficiency was more than minor because it was associated with the design control attribute of the Mitigating Systems cornerstone, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance (Green) because it did not result in the loss of operability or functionality of mitigating systems. Specifically, the licensee performed a historical review of isolation valve leakage and reasonably determined that actual leakage values would have reasonably allowed sufficient response time to provide system makeup. The team did not identify a cross-cutting aspect associated with this finding because it was not confirmed to reflect current performance due to the age of the performance deficiency. (Section 1R21.6.b(1))

Inspection Report# : 2015008 *(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.

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Miscellaneous

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