

Dresden 2

1Q/2012 Plant Inspection Findings

Initiating Events

Significance: N/A Mar 31, 2012

Identified By: Self-Revealing

Item Type: FIN Finding

Unit 2 Control Rod Drive Flow Control Valve Failed Closed Due to Inadequate Work Order Instructions

A finding of very low safety significance was self-revealed for the failure to have adequate maintenance instructions to install the Unit 2 Control Rod Drive (CRD) Flow Control Valve A/B Selector Valve (2-302-6B) which resulted in the separation of the plastic instrument air tubing and the Unit 2 CRD flow control valves failing closed. The licensee made temporary repairs to 2-302-6B and wrote a work request to make final repairs. The licensee also wrote work requests to inspect the Unit 3 selector switch. The licensee also wrote a procedure change request to review DOA 0300-01, "Control Rod Drive System Failure," to clarify the decision to scram upon flow control valve failure. The licensee generated a corrective action to tie procurement engineering (PE) document 56060 to the new 2 302 6B model number. The licensee planned to prepare an equipment apparent cause evaluation (EACE). Additional corrective actions should result from the EACE.

The finding was determined to be more than minor because the finding was associated with the Initiating Events Cornerstone attribute of equipment performance of the Cornerstone Objectives and Attributes Tables of Manual Chapter 0612, Appendix B, dated January 1, 2010, and affected the 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. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, for the Initiating Events Cornerstone. The inspectors determined that the finding did not result in both the likelihood of reactor trip and the likelihood that mitigation equipment or functions would not have been available. Therefore, the finding screened as having very low safety significance (Green). This finding has a cross-cutting aspect in the area of Human Performance, Resources, because the licensee did not have complete, accurate, and up-to-date design documentation. Specifically, the failure to attach PE 56060 to the most current part number necessary to replace 2-302-6B resulted in the failure to include instructions to install plastic piping connectors in the work order that was used to replace 2-302-6B.

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

Significance:  Dec 31, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Bus 23 Pot Fuse Drawer Resulting in the Inoperability of the Control Room Emergency Ventilation Air Condition System

A self-revealed finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified on October 24, 2011, when two electrical maintenance technicians performing a clearance boundary safety verification opened a Bus 23 potential transformer (POT) fuse drawer causing an undervoltage load shed signal that resulted in the inoperability of the control room emergency ventilation (CREV) air conditioning system. Corrective actions taken included an electrical maintenance department clock reset and stand down to discuss the event and consequences of taking actions in the plant without proper guidance. Further licensee planned corrective actions include presenting to Operations and the Configuration Control Committee the possibility of installing robust barriers or locking devices on bus POT installations.

The inspectors determined that the finding was more than minor because it was associated with the Initiating Events Cornerstone attribute of Human Performance and affected the 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, not following clearance order 89693 instructions and operating plant equipment by opening the upper Bus 23 bus POT fuse drawer without a procedure led to the inoperability of the control room emergency ventilation air conditioning system. The inspectors evaluated the finding using IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process, Phase 1 – Operations Checklists for Both PWRs and BWRs," using the Checklist

7, "BWR Refueling Operation with Reactor Coolant System Level > 23'." The inspectors answered "no" to each of the checklist items requiring a phase 2 or phase 3 analysis and therefore the finding screened as having very low safety significance (Green). The inspectors concluded that the finding had a cross cutting aspect in Human Performance-Work Practices. The licensee staff involved in the event failed to utilize human performance error prevention techniques commensurate with the risk of the assigned task to prevent impact to the station (H.4(a)).
Inspection Report# : [2011005](#) (pdf)
Inspection Report# : [2012002](#) (pdf)

Significance:  Oct 17, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Transient Combustible Program

The inspectors identified a finding of very low safety significance and associated NCV of Technical Specifications Section 5.4.1.c for the failure to control transient combustible materials in accordance with fire protection program requirements. Specifically, the licensee failed to control the amount and location of transient combustibles in areas containing safety-related components. In addition, the licensee failed to identify the presence of transient combustibles through fire watches conducted as required by the fire protection program. The licensee removed the transient combustibles and planned on reviewing training related to the transient combustibles.

The inspectors determined that this finding was more than minor because the transient combustible materials were stored near safety-related cables and components and formed credible fire scenarios. This finding was of very low safety significance because the materials would not result in ignition of a fire from existing sources of heat or electrical energy. This finding had a cross-cutting aspect in the area of Human Performance within the decision making component because the licensee did not properly communicate and reinforce expectations related to the fire protection program implementation concerning transient combustibles to personnel performing maintenance work and fire watches. [H.1(c)]

Inspection Report# : [2011008](#) (pdf)

Significance: SL-IV Oct 17, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Obtain NRC Approval for Change Adverse to Safe Shutdown

The inspectors identified a Severity Level IV, NCV of License Conditions 2.E and 3.G, for Units 2 and 3, for the failure to obtain NRC approval prior to making a change, which was adverse to safe shutdown. Specifically, the licensee made a change to Administrative Technical Requirements, which permitted a suppression system to be inoperable without compensatory measures, thereby degrading the ability to suppress a fire and challenging the ability to achieve and maintain safe shutdown in the event of a fire. The licensee entered the issue into their corrective action program and issued an operations' standing order to require fire watches, regardless of whether there was operable detection when a suppression system was out of service.

The inspectors determined that this finding was more than minor because the change permitted suppression systems to be inoperable without any compensatory action. This finding was of very low safety significance because the majority of issues identified by fire watches would involve combustible materials, which would not result in ignition of a fire from existing sources of heat or electrical energy. Violations of fire protection program changes adverse to safe shutdown are dispositioned using the traditional enforcement process instead of the significance determination process (SDP) because they are considered to be violations that potentially impede or impact the regulatory process. In accordance with Section 6.1.d.2 of the NRC Enforcement Policy, dated April 25, 2011, this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very low safety significance.

The corresponding performance deficiency is tracked as item number 2011-008-06.

Inspection Report# : [2011008](#) (pdf)

Significance:  Jun 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Change In Unit 2 Reactor Water Level Due To A Failure To Follow Procedure

A finding of very low safety significance and associated non-cited violation of Technical Specification 5.4.1 was self-revealed for a Nuclear Station Operator (NSO) failing to follow step G.14.a of procedure DOP 0600-06, "Feedwater Regulating Valve (FWRV) Operation," Revision 39. This resulted in a reduction in Unit 2 reactor water level. The licensee took the following immediate corrective actions. The NSO placed the 2B FWRV in manual and restored reactor water level. The NSO was relieved from duty.

The finding was determined to be more than minor because the finding could be reasonably viewed as a precursor to a significant event. Specifically, the event could have lead to a reactor scram. The inspectors concluded this finding was associated with the Initiating Events Cornerstone. The inspectors evaluated the finding using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of findings," Table, 4a, for the Initiating Events Cornerstone. Since the finding did not contribute to both the likelihood of a reactor scram and the likelihood that mitigation equipment or functions will not be available, the finding screened as Green. This finding had a cross-cutting aspect in the area of human performance, work practices, because the licensee did not ensure the proper use of human error prevention techniques.

Inspection Report# : [2011003](#) (*pdf*)

Mitigating Systems

Significance:  Dec 31, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Control Rod Blade Disengages from Lifting Tool and Drops Over Reactor Core into an Empty Cell

A finding of very low safety significance and associated NCV of Technical Specification 5.4.1 was self-revealed when a control rod blade (CRB) disengaged from the lifting tool and gravity fell into an empty cell in the reactor core. The immediate actions taken by licensee personnel were to return equipment to a safe configuration and stop work. The finding was determined to be more than minor because if left uncorrected it had the potential to lead to a more significant safety concern. Specifically, had the performance deficiency not been corrected and a similar event happened again the CRB could potentially tip over and fall over fuel assemblies rather than on an empty cell. The inspectors determined that the finding could be evaluated in accordance with IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process." The inspectors determined this finding did not meet the definition of "Loss of Control" as stated in Table 1 of Appendix G. In addition, using Checklist 7, "Boiling Water Reactor Refueling Operations with RCS Level >23'," contained in Attachment 1, the inspectors determined that the finding did not require a Phase 2 or Phase 3 analysis based on the criteria established on the checklist. Specifically, 1) the finding did not increase the likelihood of a loss of RCS inventory or RCS level instrumentation 2) the finding did not degrade the licensee's ability to terminate a leak path or add RCS inventory when needed and 3) the finding did not degrade the licensee's ability to recover decay heat removal once it is lost. The issue did not need a quantitative assessment and screened as Green. This finding had a cross-cutting aspect in the area of Human Performance, Work Practices, because the licensee staff did not ensure supervisory and management oversight of work activities such that nuclear safety was supported. (H.4(c))

Inspection Report# : [2011005](#) (*pdf*)

Significance:  Oct 17, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Identify Diesel Fire Pump Battery Terminal Corrosion

The inspectors identified a finding of very low safety significance (Green) and associated NCV of Technical Specifications for the licensee's failure to implement the diesel fire pump battery surveillance procedure. Specifically, the licensee failed to identify corrosion on the diesel fire pump battery terminals, which was contrary to the surveillance procedure that implemented the fire protection program. The licensee entered the issue into their corrective action program and surface cleaned the terminals.

The inspectors determined that the finding was more than minor because, if left uncorrected, the presence of corrosion

in conjunction with identified voltage issues for two battery cells could affect the reliability of the diesel fire pump. This finding was of very low safety significance because the diesel fire pump had started as part of a recent routine surveillance. This finding has a cross-cutting aspect in the area of Human Performance because the maintenance personnel who performed the battery surveillance did not have sufficient training to recognize the presence of corrosion. [H.2(b)]

Inspection Report# : [2011008](#) (pdf)

Significance:  Oct 17, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Operators Required for Safe Shutdown Were On-Site

The inspectors identified a finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix R, Section III.L., for the licensee's failure to ensure that operators required for safe shutdown were on-site at all times. Specifically, operators required for safe shutdown in the event of a fire traveled off-site for performing routine operator rounds. The licensee entered the issue into their corrective action program and planned to evaluate their safe shutdown procedure actions and operations shift crew composition.

The inspectors determined that the finding was more than minor because the failure to ensure that operators required for safe shutdown were on-site at all times reduced the margin for time available to perform safe shutdown actions. The finding was of very low safety significance because it was feasible to perform the specified manual actions with available staff. This finding does not have a cross-cutting aspect because the finding is not representative of current performance.

Inspection Report# : [2011008](#) (pdf)

Significance:  Oct 17, 2011

Identified By: NRC

Item Type: FIN Finding

Failure to Obtain NRC Approval for Change Adverse to Safe Shutdown

The inspectors identified a finding of very low safety significance (Green) for the failure to obtain NRC approval prior to making a change, which was adverse to safe shutdown. Specifically, the licensee made a change to Administrative Technical Requirements, which permitted a suppression system to be inoperable without compensatory measures, thereby degrading the ability to suppress a fire and challenging the ability to achieve and maintain safe shutdown in the event of a fire. The licensee entered the issue into their corrective action program and issued an operations' standing order to require fire watches, regardless of whether there was operable detection when a suppression system was out of service.

The inspectors determined that this finding was more than minor because the change permitted suppression systems to be inoperable without any compensatory action. This finding was of very low safety significance because the majority of issues identified by fire watches would involve combustible materials, which would not result in ignition of a fire from existing sources of heat or electrical energy. The inspectors did not identify a cross-cutting aspect associated with the finding because the finding was not representative of current performance.

The related traditional enforcement item is tracked as item 2011-008-05.

Inspection Report# : [2011008](#) (pdf)

Significance:  Sep 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Improperly Classifying the Unit 2 and 3 Containment Cooling Service Water (CCSW) Pump Vault Drain Check Valves as Non Safety Related

A finding of very low safety significance and associated non cited violation of 10 CFR 50, Appendix B, Criterion II, "Quality Assurance Program," was identified by the inspectors for the reclassification of the Unit 2 and 3 containment cooling service water (CCSW) pump vault drain check valve from a quality status of safety related to non safety related. The licensee had not yet determined corrective actions for this violation by the end of the inspection period.

The finding was determined to be more than minor because the finding, if left uncorrected, would become a more significant safety concern. Specifically, by removing the quality assurance requirements for this part, the licensee reduced the assurance that replacement parts are of sufficient quality to assure reliable service during and following design basis events. The inspectors concluded this finding was associated with the Mitigating Systems Cornerstone. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone. The finding screened as of very low safety significance (Green) because the finding was a qualification deficiency confirmed not to result in loss of operability or functionality. The inspectors did not identify a cross cutting aspect associated with this finding, primarily because the reclassification occurred in 2004. Inspection Report# : [2011004](#) (pdf)

Significance:  Sep 30, 2011

Identified By: Self-Revealing

Item Type: FIN Finding

Inadequate Relay Preventative Maintenance

A finding of very low safety significance was self revealed for the failure to follow the preventive maintenance program which resulted in the failure of the Unit 3 303241 52A GE HFA relay. This relay gives a start permissive signal for all three reactor feed pumps (RFPs). The licensee's corrective actions included restoring the correct preventive maintenance item (replace the relay) including adding a preventive maintenance item for the associated Unit 2 relay. The licensee also included a review of relays in multiple systems to ensure that the proper preventive maintenance items were identified and scheduled.

The finding was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability, reliability, and capability of a system that responds to an initiating event to prevent undesirable consequences. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table, 4a, for the Mitigating Systems Cornerstone for the reasons stated in the previous paragraph. The inspectors answered question 4 "YES." The finding represented an actual loss of safety function of one or more trains of equipment designated as risk significant per 10 CFR 50.65 for >24 hours. The inspectors verified that Feedwater Level Control was a high safety significant function per the licensee's Maintenance Rule database and that the inability to restart any of the Unit 3 RFP's lasted longer than 24 hours. The Senior Reactor Analysts (SRAs) performed an SDP phase 2 and 3 analysis of this finding. The exposure period was determined to be approximately 5 months, the time between the last known successful operation of the relay and the failure. For the phase 2 evaluation, the SRAs solved the transient (TRANS), small loss of coolant accident (SLOCA), and of direct current bus (LODC) worksheets in the "Risk Informed Inspection Notebook for Dresden Nuclear Power Station Units 2 and 3 (Revision 2.1a)" assuming that the power conversion system (PCS) was unavailable for greater than 30 days. Using the counting rule for adding sequences described in IMC 0609 Appendix A, "Determining the Significance of Reactor Inspection Findings for At Power Situations," the SDP result was a "6" or a finding of low to moderate safety significance. The SRAs determined that a phase 3 SDP was necessary because the phase 2 result assumed that the main feedwater (MFW) pumps would always be unavailable and because the exposure period was 5 months rather than 1 year assumed by the phase 2 SDP process. For the phase 3 evaluation, the SRA modified the Standardized Plant Analysis Risk Model (SPAR) for Dresden to add basic events modeling the potential for MFW to trip. The SRAs assumed MFW would trip in response to a reactor trip approximately 6 percent of the time and that MFW would not be recoverable. The estimated delta CDF over the exposure period was 9.0E 8/yr, which is a finding of low to moderate safety significance (Green). The dominant sequence was a manual shutdown followed by the trip of MFW and the inability to restart the pumps. Random failures of the isolation condenser, high pressure coolant injection and low pressure coolant injection were also part of the dominant sequence. There were no cross cutting aspects to this finding.

Inspection Report# : [2011004](#) (pdf)

Significance:  Sep 30, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Preventive Maintenance Procedure For Valve 2 2301 29

A finding of very low safety significance and associated non cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self revealed for the failure to have a procedure adequate to ensure quality during the preventive maintenance (PM) performed on the high pressure coolant injection (HPCI) 2 2301 29, "Return to Condenser Valve," in March 2011. The violation was entered into the licensee's corrective action program as IR 1250901, "HPCI Return To Condenser Leak From Valve Body." The licensee's corrective actions included determining the acceptable internal and external inspection scope and revising procedure DMP 0040 06, "Copes Vulcan Valve and Reverse Acting (Air to Open) Operator Maintenance," as appropriate.

The finding was determined to be more than minor because the finding was associated with the Mitigating Systems Cornerstone attribute of equipment performance 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 identify long term degradation during a preventive maintenance activity in March 2011 resulted in the HPCI system becoming inoperable in August 2011. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 4a, for the Mitigating Systems Cornerstone. The inspectors answered Question 2, (Does the finding represent a loss of system safety function?) "Yes" and went to Inspection Manual Chapter 0609, Appendix A. A Region III Senior Reactor Analyst performed an SDP phase 3 evaluation using the Standardized Plant Analysis Risk (SPAR) model for Dresden. The high pressure coolant injection system was modeled as unavailable for an exposure period of 6 days. The delta CDF estimate was 7.9E 8/yr, which represents a finding of very low safety significance (Green). The dominant core damage sequence was a loss of main feedwater followed by the failure or unavailability of high and low pressure injection sources. The inspectors did not identify a cross cutting aspect associated with this finding.

Inspection Report# : [2011004](#) (pdf)

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Instructions for the Inspection of Safety-related Portions of the Intake Structure

A finding of very low safety significance and associated non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for licensee's failure to establish adequate instructions for inspecting bay 13 and portions of the intake structure surrounding the diesel generator cooling water pumps. Specifically, the procedure that provides guidance for inspecting these structures lacked specific instructions on how to detect and record degradation by erosion and corrosion. The licensee entered this issue into their corrective action program and initiated procedure revisions to provide further direction for capturing the degradation of these structures and related components.

The performance deficiency was determined to be more than minor because if left uncorrected it would have the potential to lead a more significant safety concern. The finding screened as of very low safety significance because it was a qualification deficiency confirmed not to result in loss of operability or functionality. Specifically, a qualitative assessment of historic surveillance reports found the documented results acceptable. The inspectors determined the cause of this finding did not represent current licensee performance and no cross-cutting aspect was assigned.

Inspection Report# : [2011003](#) (pdf)

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Acceptance Criteria for Testing Equipment Relied Upon to Mitigate the Consequences of a Lock and Dam Failure

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," was identified by the inspectors for the licensee's failure to establish adequate acceptance criteria for testing equipment relied upon to mitigate the consequences of a dam failure. Specifically, the acceptance criteria in DOS 0010-01, "Dresden Dam Failure Equipment Test," did not consider additional steps required to demonstrate the ability of the screen refuse pumps to deliver water to the safety-related pumps enclosure to support isolation condensers operability. The licensee entered this issue into their corrective action program and initiated procedure revisions to include these additional steps in the procedure's acceptance criteria.

The performance deficiency was determined to be more than minor because it adversely affected the availability, reliability, and capability of mitigating systems that respond to initiating events to prevent undesirable consequences (i.e., core damage.) The finding screened as of very low safety significance because it was a qualification deficiency confirmed not to result in loss of operability or functionality. Specifically, the licensee estimated that the time it would take to perform the additional steps not included in the procedure's acceptance criteria was within the time required. The inspectors determined the cause of this finding did not represent current licensee performance and no cross-cutting aspect was assigned.

Inspection Report# : [2011003](#) (*pdf*)

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Instructions for Coping with a Dresden Lock and Dam Failure

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," was identified by the inspectors for the licensee's failure to establish adequate instructions for coping with the consequences of a dam failure. Specifically, DOA 0010-01, "Dresden Lock and Dam Failure," lacked controls for the configuration of the associated foreign material exclusion screens and lacked specific instructions on how to shed load off the emergency diesel generators and restore power to the bus associated with equipment relied upon during this event. The licensee entered this issue into their corrective action program and initiated procedure revisions to provide adequate controls on the configuration of the FME screens and to provide further guidance on restoring power to the refuse screen pumps.

The performance deficiency was determined to be more than minor because it adversely affected the availability, reliability, and capability of mitigating systems that respond to initiating events to prevent undesirable consequences. The finding screened as of very low safety significance because it was a qualification deficiency confirmed not to result in loss of operability or functionality. Specifically, the licensee estimated that the additional time required to install the inner screens and restore power to the screen refuse pumps was within the required 2-hours. The inspectors determined the cause of this finding did not represent current licensee performance and no cross-cutting aspect was assigned.

Inspection Report# : [2011003](#) (*pdf*)

Significance:  Jun 30, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Scoping of a Non-Safety-related Pump Into Maintenance Rule

A finding of very low safety significance and associated NCV of 10 CFR Part 50.65(b)(2)(ii), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," was identified by the inspectors for the licensee's failure to adequately scope a non-safety-related component relied upon to mitigate an accident. Specifically, the licensee failed to include the screen refuse pumps, non-safety-related pumps credited as a support component for the isolation condensers, safety-related systems, during a dam failure, as part of their maintenance effectiveness program. As a corrective action, the licensee initiated IR1221421, to evaluate the need to include the screen refuse pumps into their maintenance rule program.

The performance deficiency was determined to be more than minor because it adversely affected the availability, reliability, and capability of mitigating systems that respond to initiating events to prevent undesirable consequences (i.e., core damage.) The finding screened as of very low safety significance because it was a qualification deficiency confirmed not to result in loss of operability or functionality. Specifically, the licensee performed further review of related maintenance and provided reasonable assurance the screen refuse pumps did not experience a complete loss of function. The inspectors determined the cause of this finding did not represent current licensee performance and no cross-cutting aspect was assigned.

Inspection Report# : [2011003](#) (*pdf*)

Barrier Integrity

Significance: N/A Mar 31, 2012

Identified By: NRC

Item Type: FIN Finding

Failure to Document a 10 CFR Part 50.59 Evaluation for Changes Made to the Facility

The inspectors identified a Severity Level IV Non-Cited Violation (NCV) of 10 CFR Part 50.59, "Changes, Tests, and Experiments," having very low safety significance (Green) for the licensee's failure to perform an adequate safety evaluation review for changes made to the facility. As part of its corrective action, the licensee entered the issue into its corrective action program as IR 1302573 and performed Engineering Change Evaluations (EC) 38018 and EC 387073 which determined that the control room envelope had been historically operable. The licensee planned to install a completely different design of the chemical addition system that completely separated the sodium hypochlorite from the HEPD. Completion of the modification is planned for August 2012.

The finding was determined to be more than minor because the inspectors could not reasonably determine that the activity to install the chemical tanks in close proximity to one another without detection and alarm circuits to notify the control room would not have ultimately required NRC prior approval. The finding was evaluated under the SDP using NRC's Inspection Manual Chapter (IMC) 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," and the inspectors answered "Yes" to the question in Table 4a; "Does the finding represent a degradation of the barrier function of the control room against smoke or a toxic atmosphere?" The SDP required a Phase 3 analysis to resolve this type of finding. However, after consultation with a Region 3 Senior Reactor Analyst it became apparent that no SDP methods or tools exist to determine the significance of the finding. Therefore, the finding was not suitable for evaluation using the SDP, so the risk significance was established in accordance with the qualitative criteria of Appendix M (dated December 22, 2006) of IMC 0609. Specifically, the qualitative decision-making attribute from Table 4.1 of Appendix M "Finding can be bounded using qualitative and/or quantitative information" was applicable to this finding. The licensee performed two quantitative engineering evaluations regarding this finding. The first (EC 387018) determined the minimum level of sodium hypochlorite stored in the tanks necessary that if it were to completely interact with the HEPD and completely release all of the contained chlorine would render the control room envelope inoperable. The second (EC 387073) determined that the tanks would not have been affected by wind, seismic, or missile impacts with a level of sodium hypochlorite equal to or greater than the level necessary to make the control room envelope inoperable identified in EC 387018. Therefore, based upon a qualitative measure of risk determined in accordance with Appendix M, NRC Management concluded that the issue was of very low safety significance (Green). This finding has no cross-cutting aspect because it does not represent current licensee performance.

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

G

Significance: Mar 31, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Inadequate Work instruction Leads to Failure of Secondary Containment Interlock

A finding of very low safety significance and associated non-cited violation of Technical Specification (TS) Section 5.4.1 was self-revealed because the work instructions associated with WO 1450006-01, "D2 SA PM 517 RB/TB INTLK DOOR (2 5850-52) ELECTRICAL CHECKS," were inadequate. The use of inadequate work instructions resulted in the temporary failure of the secondary containment boundary between the Unit 2 Reactor Building and the Unit 2 Turbine Building. The licensee's corrective actions included disciplining the maintenance planner and having each of the maintenance department heads prepare human performance improvement plans.

The finding was determined to be more than minor because the finding was associated with the Barrier Integrity Cornerstone attribute of configuration control and affected the cornerstone objective of maintaining the functionality of containment. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a for the Barrier Cornerstone because the finding affected the secondary containment. The inspectors answered all four questions 'No' which resulted in the finding screening as having very low safety significance (Green). This finding had a cross-cutting aspect in the area of Human Performance, Work Practices, because the licensee did not ensure that human error techniques such as self and peer checking was used during the creation of the work package. Licensee and management personnel stated that the work planner failed to adequately self-check and get a peer check on the completion of the preparation of the work package.

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

Emergency Preparedness

Significance: SL-IV Jun 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

(Traditional Enforcement) Changes to EAL Basis Decreased the Effectiveness of the Plan without Prior NRC Approval

The inspector identified a finding of very low safety significance involving a Severity Level IV NCV of 10 CFR 50.54 (q) for failing to obtain prior approval for an emergency plan change which decreased the effectiveness of the plan. Specifically, the licensee modified the Emergency Action Level (EAL) Basis in EAL HU6, Revision 24, which indefinitely extended the start of the 15-minute emergency classification clock beyond a credible notification that a fire is occurring or indication of a valid fire detection system alarm. This change decreased the effectiveness of the emergency plan by reducing the capability to perform a risk significant planning function in a timely manner.

The violation affected the NRC's ability to perform its regulatory function because it involved implementing a change that decreased the effectiveness of the emergency plan without NRC approval. Therefore, this issue was evaluated using Traditional Enforcement. The NRC determined that a Severity Level IV violation was appropriate due to the reduction of the capability to perform a risk significant planning standard function in a timely manner. The licensee entered this issue into its corrective action program and revised the EAL basis to restore compliance.

Inspection Report# : [2010502](#) (*pdf*)

Significance:  Jun 23, 2011

Identified By: NRC

Item Type: FIN Finding

Changes to EAL Basis Decreased the Effectiveness of the Plan without Prior NRC Approval

The inspector identified a finding of very low safety significance involving a Severity Level IV NCV of 10 CFR 50.54 (q) for failing to obtain prior approval for an emergency plan change which decreased the effectiveness of the plan. Specifically, the licensee modified the Emergency Action Level (EAL) Basis in EAL HU6, Revision 24, which indefinitely extended the start of the 15-minute emergency classification clock beyond a credible notification that a fire is occurring or indication of a valid fire detection system alarm. This change decreased the effectiveness of the emergency plan by reducing the capability to perform a risk significant planning function in a timely manner.

The violation affected the NRC's ability to perform its regulatory function because it involved implementing a change that decreased the effectiveness of the emergency plan without NRC approval. Therefore, this issue was evaluated using Traditional Enforcement. The NRC determined that a Severity Level IV violation was appropriate due to the reduction of the capability to perform a risk significant planning standard function in a timely manner. The licensee entered this issue into its corrective action program and revised the EAL basis to restore compliance.

The finding was more than minor using IMC 0612, because it is associated with the emergency preparedness cornerstone attribute of procedure quality for EAL and emergency plan changes, and it adversely affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Therefore, the performance deficiency was a finding. Using IMC 0609, Appendix B, the inspector determined that the finding had a very low safety significance because the finding is a failure to comply with 10 CFR 50.54(q) involving the risk significant planning standard 50.47(b)(4), which, in this case, met the example of a Green finding because it involved one Unusual Event classification (EAL HU6).

Due to the age of this issue, it was not determined to be reflective of current licensee performance and therefore a cross-cutting aspect was not assigned to this finding.

The related traditional enforcement item is tracked as item 2011-502-01.

Inspection Report# : [2010502](#) (*pdf*)

Occupational Radiation Safety

Public Radiation Safety

Significance:  Mar 31, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Ensure the Effectiveness of Packages as required by Department of Transportation (DOT)

Regulations

A finding of very low safety significance was self-revealed following the licensee's failure to appropriately package and transport radioactive material. This finding also resulted in two associated NCVs of 10 CFR 61.56(a)(3) and 10 CFR 71.5(a). The licensee's corrective actions included revising procedures and completing a detailed review through an apparent cause evaluation of the event. Additionally, the licensee suspended all radioactive material shipments using similar general packagings as a part of their corrective actions.

This finding was assessed using IMC 0609, Attachment D, "Public Radiation Safety Significance Determination Process," and determined to be of very low safety significance (Green). The inspectors determined that the finding did not involve the radioactive effluent release program or the radiological environmental monitoring program. The finding did involve the transportation of radioactive material. However, no external radiation levels or surface contamination levels were exceeded, the finding did not involve the certificate of compliance, and there was no failure to make notifications or provide emergency information. The finding did involve a breach of the package during transit and low-level burial ground non-conformance. However, the finding did not involve the loss of package contents or waste classification issues. The inspectors determined that the primary cause of this finding was related to a cross-cutting aspect in the area of Problem Identification and Resolution.

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

Significance:  Mar 31, 2012

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Ensure Packages Containing Solid Waste Contain as Little Free Standing and Noncorrosive Liquid as Reasonably Achievable

A finding of very low safety significance was self-revealed following the licensee's failure to appropriately package and transport radioactive material. This finding also resulted in two associated Non-Cited Violations (NCVs) of 10 CFR Part 61.56(a)(3) and Title 10 CFR Part 71.5(a). The licensee's corrective actions included revising procedures and completing a detailed review through an apparent cause evaluation of the event. Additionally, the licensee suspended all radioactive material shipments using similar general packagings as a part of their corrective actions.

This finding was assessed using IMC 0609, Attachment D, "Public Radiation Safety Significance Determination Process," and determined to be of very low safety significance (Green). The inspectors determined that the finding did not involve the radioactive effluent release program or the radiological environmental monitoring program. The finding did involve the transportation of radioactive material. However, no external radiation levels or surface contamination levels were exceeded, the finding did not involve the certificate of compliance, and there was no failure to make notifications or provide emergency information. The finding did involve a breach of the package during transit and low-level burial ground non-conformance. However, the finding did not involve the loss of package contents or waste classification issues.

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

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

Significance: N/A Mar 31, 2012

Identified By: NRC

Item Type: FIN Finding

APRMs 4, 5, and 6, Not Within The TS limits Prescribed In TS 3.3.1.1 Table 3.3.3.3-1, 2.b and c

The inspectors identified a Severity Level IV NCV and associated finding of very low safety significance of 10 CFR 50.72(b)(3)(v)(D), "Immediate Notification Requirements for Operating Nuclear Power Reactors," for the failure to report an event to the NRC within 8 hours, where an event or condition that at the time of discovery could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident. The licensee had not prepared any corrective actions by the end of the inspection period.

The inspectors determined that a failure to report was an example of a violation that could impact the regulatory process and was subject to Traditional Enforcement. The inspectors determined that the underlying technical issue involved the inability to scram Unit 3 on flow biased neutron flux-high or fixed neutron flux-high functions within the TS limits prescribed in TS 3.3.1.1, Table 3.3.3.3-1, 2.b and c. The inspectors determined that the issue was more than minor, because if left uncorrected it would have had the potential to lead to a more significant safety concern. Using IMC 0609, Table 4a, "Characterization Worksheet for IE, MS, and BI Cornerstones," the inspectors determined that the finding had very low safety significance because they answered 'No' to all five questions contained in Column 2 of the Table 4a worksheet. The inspectors also determined that the contributing cause that provided the most insight into the performance deficiency affected the cross-cutting area of Problem Identification and Resolution, including properly classifying, prioritizing, and evaluating for operability and reportability conditions adverse to quality.

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

Last modified : May 29, 2012