

Braidwood 1

4Q/2012 Plant Inspection Findings

Initiating Events

Significance:  Jun 30, 2012

Identified By: NRC

Item Type: FIN Finding

FAILURE TO IMPLEMENT ABNORMAL OPERATING PROCEDURES WHEN ENTRY CONDITIONS WERE PRESENT

The inspectors identified a finding of very low safety significance (Green) when licensee personnel failed to implement adverse weather Abnormal Operating Procedures (AOPs) when entry conditions were present. Specifically, the site was not aware of a severe thunderstorm warning that had been issued for the area on May 6, 2012, and did not implement site procedures that directed actions to be taken upon adverse weather conditions. In addition to entering the issue in the Corrective Action Program (CAP) as Issue Report (IR) 1364132, corrective actions included ensuring access to the National Weather Service website for Operations personnel, and implementation of additional weather alert notification tools. The performance deficiency was determined to be more than minor because it could be reasonably viewed as a precursor to a significant event in that the failure to implement the adverse weather AOPs could result in the failure to take actions intended to minimize the potential for a Loss of Offsite Power (LOOP) when the likelihood is elevated by adverse weather conditions. The performance deficiency was also determined to be more than minor because it was associated with the Protection Against External Factors attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. In accordance with IMC 0609, Attachment 4, Table 2, the finding was determined to affect the Transient Initiator Contributor (e.g. loss of offsite power) function of the Initiating Events Cornerstone. The inspectors answered 'No' to the Transient Initiator questions in IMC 0609, Attachment 4, Table 4a. As a result, the issue screened as having very low safety significance (Green). This finding had a cross cutting aspect in the Resources component of the Human Performance cross cutting area because the licensee's facilities were not adequate to ensure main control room personnel were aware of the severe thunderstorm warning (H.2(d)).

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

Significance:  Jun 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

STEAM GENERATOR PRIMARY MANWAY BOLTS EXAMINED WITH UNQUALIFIED PROCEDURE

A finding of very low safety significance (Green) and an associated NCV of 10 CFR 50.55a(g)4 was identified by the inspectors when licensee personnel failed to establish an ultrasonic test (UT) examination procedure for steam generator primary manway bolts qualified in accordance with the American Society of Mechanical Engineers (ASME) Code, Section XI. Specifically, the licensee failed to determine a limit for maximum scan speed and incorporate this limit into the ultrasonic examination procedure applied to the steam generator primary side manway bolting. The licensee entered this issue into the CAP as IR 1359195 and performed a procedure performance demonstration to qualify the maximum scan speed allowed for the UT examination of manway bolts. The performance deficiency was determined to be more than minor because the issue, if left uncorrected, would become a more significant safety concern. Absent NRC identification, the absence of a scan speed could have allowed service induced cracks to go undetected. Undetected cracks would place the steam generator primary manway closure bolting at increased risk for failure, which would affect the pressure retaining integrity of the Reactor Coolant System (RCS) and pose an increased risk for through wall leakage and/or failure. Because the licensee promptly corrected this issue before unacceptable flaws were returned to service, the inspectors answered 'No' to the Significance Determination Process Phase I screening question "Assuming worst case degradation, would the finding result in exceeding the Tech Spec [Technical Specification] limit for any RCS leakage or could the finding have likely affected other mitigation systems

resulting in a total loss of their safety function assuming the worst case degradation?” Therefore, this finding screened as having very low safety significance (Green). This finding had a cross cutting aspect in the Decision-Making component of the Human Performance cross-cutting area because the licensee did not implement conservative assumptions regarding a UT essential variable when creating the UT procedure and demonstrating that procedure. Specifically, the licensee staff failed to understand the significance of establishing a scanning speed into the UT procedure and recording the scanning speed during the procedure demonstration (H.1(b)).

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

Significance:  Jun 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO ACCOMPLISH CORRECTIVE ACTIONS FOLLOWING IDENTIFIED BORIC ACID LEAKAGE ON REACTOR HEAD PENETRATION NO. 77

A finding of very low safety significance (Green) and an associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” was identified by the inspectors when licensee personnel failed to accomplish corrective actions following identified boric acid leakage on a reactor head penetration. Specifically, the licensee did not adequately implement corrective actions involving cleaning and removal of boric acid deposits following identified boric acid leakage on Reactor Head Penetration No. 77. The licensee entered this issue into the CAP as IR 1359227 and performed a UT examination of the penetration to confirm that no leakage path existed and a post cleaning visual examination to confirm no signs of gross degradation.

The performance deficiency was determined to be more than minor because the issue was associated with the Equipment Performance attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown, as well as power operation. Specifically, the reactor head was returned to service without accomplishing corrective actions to remove all boric acid deposits from the Penetration No. 77 leakage. This resulted in boric acid deposits being left on the reactor head for one operating cycle and masking of potential surface indications from Penetration No. 77 leakage during the subsequent Bare Metal Visual (BMV) examination. Because no gross visual degradation was observed during the BMV examination after cleaning of boric acid deposits and no leakage path was detected during the UT examination of Penetration No. 77 in the A1R16 outage, the inspectors answered ‘No’ to the SDP Phase I screening question “Assuming worst case degradation, would the finding result in exceeding the Tech Spec limit for any RCS leakage or could the finding have likely affected other mitigation systems resulting in a total loss of their safety function assuming the worst case degradation?” Therefore, the finding screened as having very low safety significance (Green). This finding had a cross cutting aspect in the Work Control component of the Human Performance cross-cutting area because the licensee did not appropriately plan the reactor work activity to repair and clean the mechanical connection on Penetration No. 77 by incorporating job site conditions including risk insights associated with potentially washing down boric acid deposits below the reactor head insulation onto the reactor head (H.3(a)).

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

Mitigating Systems

Significance:  Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MAINTAIN WATERTIGHT DOOR SAFETY FUNCTION AFTER ROUTINE PASSAGE

The inspectors identified a finding of very low safety significance (Green) and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” when the licensee’s Plant Barrier Impairment (PBI) control program permitted the Unit 1 and Unit 2 Emergency Diesel Generator (EDG) Diesel Oil Storage Tank (DOST) room watertight doors to be left open and unattended following normal ingress into the Unit 1 and Unit 2 DOST rooms. The licensee entered this issue into their corrective action program (CAP) as IR 1449644. Corrective actions included the creation and implementation of Operations Department Standing Order (SO) 12 004 on

December 18, 2012, until BwAP 1110-3 was formally revised on December 21, 2012 to suspend the practice of permitting the Unit 1 and Unit 2 DOST watertight doors to be left open and unattended to perform tours, inspections, walkdowns, sampling, or other routine tasks in the DOST rooms.

The finding was determined to be more than minor because it was associated with the Protection Against External Factors attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, from August 1986 until December 7, 2012, the licensee permitted the practice of removing safety related flood barriers from service for individually short periods of time, multiple times of day, without ensuring that the described barrier would be both available and capable of performing its safety function during an internal turbine building flooding event. The finding was determined to be of very low safety significance following a detailed risk evaluation by an NRC senior reactor analyst (SRA). This finding had a cross cutting aspect in the Resources component of the Human Performance cross-cutting area since the licensee failed to ensure that an adequate procedure was maintained following a recent October 2011 revision to BwAP1110 3 that added specific requirements and expectations for normal passage through barrier doors. Specifically, the licensee specified new requirements for using safety-related doors in Section D.2.e of BwAP 1110 3, but failed to adequately apply these requirements to Section D.2.b of the same procedure (H.2(c)).

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

Significance:  Dec 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

INADEQUATE PBI ALLOWANCE FOR ONE EDG DOST WATERTIGHT DOOR INOPERABLE

The inspectors identified a finding of very low safety significance (Green) and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," when licensee personnel failed to recognize that when one of the two Unit 1 or Unit 2 DOST room watertight doors was impaired, the safety function of both associated safety-related EDGs was adversely impacted since the access door between the two DOST rooms was not designed to be watertight. The licensee entered this issue into their CAP as IR 1451835. Corrective actions included the creation and implementation SO 12 004 on December 18, 2012, until BwAP 1110-3 was formally revised on December 21, 2012. Both the interim SO and revision to BwAP 1110-3 required that both EDGs be considered inoperable if a flood watch was not implemented prior to the impairment of a DOST room watertight door.

The finding was determined to be more than minor because it was associated with the Protection Against External Factors attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, on at least one occurrence in the past three years, the licensee had unknowingly lost the EDG safety function when performing maintenance on DOST watertight doors. The finding was determined to be of very low safety significance following a detailed risk evaluation by an NRC SRA. There was no cross cutting aspect associated with the finding because it was not indicative of current performance. Specifically, an Engineering Change Request (ECR) that identified and evaluated this issue was completed in 1999.

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

Significance:  Dec 31, 2012

Identified By: NRC

Item Type: FIN Finding

INADEQUATE FUNCTIONALITY EVALUATION OF BLOCK WALLS FOR HIGH ENERGY LINE BREAK LOADS

The inspectors identified a finding of very low safety significance (Green) when licensee personnel failed to perform an adequate technical review to determine the operability of auxiliary building safety-related block walls affected by High Energy Line Break (HELB) pressure loading. The licensee entered this issue in their CAP as IR 1454143. Corrective actions included a significant revision to the Operability Evaluation to address each of the inspector's concerns.

The finding was determined to be more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the reliability, availability, and capability of systems that respond to initiating events to prevent undesirable consequences

(i.e. core damage). Additionally, More than Minor Example 3.j of IMC 0612, Appendix E, “Examples of Minor Issues,” was used to inform the answer to this more than minor screening question. Specifically, the licensee used non conservative allowable stress values for masonry and steel support columns that, at the time of discovery, resulted in reasonable doubt of the operability of the affected walls. In accordance with IMC 0609, “Significance Determination Process,” Attachment 4, “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 SDP for Findings At Power,” Exhibit 2, for the Mitigating Systems Cornerstone. Because the finding did not ultimately affect the operability or functionality of any equipment, the inspectors answered ‘Yes’ to Screening Question 1 and determined the finding was of very low safety significance (Green). This finding had a cross cutting aspect in the Decision-Making component of the Human Performance cross cutting area because the licensee used non conservative assumptions in an operability evaluation of auxiliary building block walls. Specifically, the licensee used non conservative assumptions for masonry and steel allowable stresses in the evaluation of safety related walls, which could not be justified (H.1(b)).

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

Significance: G Sep 30, 2012

Identified By: NRC

Item Type: FIN Finding

FAILURE TO ADEQUATELY EVALUATE OPERATION CREW PERFORMANCE FOR A REACTOR TRIP AND FAILURE TO ADEQUATELY EVALUATE EMERGENCY OPERATING PROCEDURE STANDARDS

The inspectors identified a finding of very low safety significance (Green) when licensee personnel failed to implement a Caution Note in Emergency Operating Procedure (EOP) 2BwEP ES-0.1, “Reactor Trip Response,” during a July 30, 2009, Unit 2 reactor trip; failed to identify that deficiency during a “4.0 Crew Critique” to evaluate Operation’s response to that event; and failed to adequately evaluate a concern identified during this inspection period that was entered into the Corrective Action Program (CAP) related to the requirement to follow the EOP guidance. In particular, licensee personnel incorrectly concluded that a reactor trip involving reactor coolant system (RCS) natural circulation would not require the initiation of an RCS cooldown within 2 hours following the shutdown despite the licensee’s Analysis of Record (AOR) and Technical Specification (TS) bases documents that required a cooldown be initiated within 2 hours to ensure that an adequate volume of water was available in the Condensate Storage Tank (CST) to cool down the RCS without utilizing the Ultimate Heat Sink (UHS). Corrective actions included revising 1/2BwEP ES-0.1 to relocate the Caution Note in the procedure and alleviate any future confusion with the cooldown requirement. Additionally, the Caution Note was modified to be consistent with the Current Licensing Basis (CLB) analysis of the CST and Operations management discussed the issue with the Operations crew staff and supervision to ensure that the Caution Note would be performed as required by 1/2BwEP ES-0.1.

The inspectors determined that the failure to follow the EOP Caution Note during the July 30, 2009 Unit 2 reactor trip; the failure to identify this deficiency during the 4.0 Crew Critique assessment associated with this reactor trip, and the failure to adequately evaluate an issue entered into the CAP regarding this requirement was a performance deficiency. The inspectors determined that the performance deficiency was more than minor because it was associated with the Human Performance and Design Control attributes of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e. core damage). The inspectors evaluated this finding using the SDP in accordance with IMC 0609, “Significance Determination Process,” Attachment 0609.04, “Initial Characterization of Findings,” which directed the finding to be screened using IMC 0609, Appendix A, “The Significance Determination Process (SDP) for Findings at Power.” The inspectors determined that because the station operated and nominally maintained CST level significantly above the minimum CST TS level prior to the June 30, 2009 Unit 2 reactor trip, the CST maintained its operability and functionality, and therefore this finding was of very low safety significance (Green). This finding had a cross cutting aspect in the CAP component of the Problem Identification and Resolution cross cutting area because the licensee failed to adequately evaluate Operations’ response to the July 30, 2009, reactor trip and subsequently failed to adequately evaluate an issue identified within the CAP (P.1(c)).

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

Significance: G Sep 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO TRAIN FIRE BRIGADE MEMBERS ON THE USE OF ELEVATORS

The inspectors identified a finding of very low safety significance (Green) and an associated NCV of Braidwood Operating License Condition 2.E, "Fire Protection Program," when licensee personnel failed to ensure that fire brigade members retained knowledge provided in fire brigade initial training. Specifically, station Fire Chiefs and fire brigade members did not have an adequate knowledge or continuing training on the proper methods and implementation for the use and control of elevators during a fire as demonstrated during a fire drill on June 14, 2012. Corrective actions included ensuring all elevator keys were adequately stored, informing the Fire Chiefs and fire brigade members of the key locations, and initiating a training request to provide the Fire Chiefs and fire brigade members with adequate training covering elevator key usage and elevator control during a fire response. The inspectors determined that the failure to ensure Fire Chiefs and fire brigade members had the knowledge to perform their duties was a performance deficiency. The inspectors determined that the performance deficiency was more than minor because it was associated with the External Factors (Fire) attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the turbine building and auxiliary building elevators could be utilized in the licensee's Fire Protection Program to transport fire brigade members and their equipment in response to a fire. Safety-related equipment was in (or adjacent to) these fire zones. Therefore, if elevators were not controlled in the correct manner, the elevator may not be available for fire brigade use or may place personnel in danger by stopping at an undesirable elevation. The inspectors screened the finding in accordance with IMC 0609, Attachment 4, "Initial Characterization of Findings." Based on Table 2, the inspectors concluded the issue represented a weakness in the External Event Mitigation Systems (Seismic/Fire/Flood/Severe Weather Protection Degraded) function of the Mitigating Systems Cornerstone. The inspectors reviewed the questions in Table 3 of IMC 0609, Attachment 4, and answered 'No' to Questions A-D and 'Yes' to Question E.1, "Does the finding involve discrepancies with the fire brigade?" As a result, the inspectors transitioned to IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at Power." The inspectors reviewed IMC 0612, Appendix A, Exhibit 2, and answered 'No' to Question B - External Event Mitigation Systems (Seismic/Fire/Flood/Severe Weather Protection Degraded), "Does the finding involve the loss or degradation of equipment or function specifically designed to mitigate a seismic, flooding, or severe weather initiating event (e.g., seismic snubbers, flooding barriers, tornado doors)?" As a result, the finding screened as having very low safety significance (Green). This finding had a cross-cutting aspect in the Resources component of the Human Performance cross-cutting area because the licensee failed to ensure Fire Chiefs and fire brigade members had an adequate knowledge or continuing training on the proper methods and implementation for the use and control of elevators during a fire as demonstrated during a fire drill on June 14, 2012 (H.2(b)).

Inspection Report# : [2012004](#) (pdf)**Significance:** G Aug 24, 2012

Identified By: NRC

Item Type: VIO Violation

Failure to Install Foam-Water Sprinklers In Accordance With Sprinkler Standard

The inspectors identified a finding of very low safety significance associated with cited violation of License Condition 2.E for the licensee's failure to implement the approved Fire Protection Program by failing to install foam-water sprinklers in accordance with the standard for installing sprinklers. Specifically, the licensee failed to correct significant obstructions to foam-water sprinklers in the Unit 2 2B diesel oil storage tank room that were previously identified by the NRC in a Non-Cited Violation in May 2010. The licensee entered this issue into their corrective action program and planned to survey each of the four diesel oil storage tank rooms for obstructions to determine the scope of physical changes needed to bring each room into compliance with the standard for installing sprinklers. The licensee will address corrective actions as part of their response to the Notice of Violation.

The inspectors determined that the finding was more than minor because the significant obstructions to foam-water sprinklers in the 2B diesel oil storage tank room could adversely affect the application of foam or water suppressant in the event of a fire. The finding was of very low safety significance because a fire in the 2B diesel oil storage tank room would only affect the associated emergency diesel generator and no other equipment would be affected. This

finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program because the issue had been previously identified by the NRC and the resolution did not address the cause of the issue, (i.e., the physical installation).

Inspection Report# : [2012008](#) (*pdf*)

Significance:  Aug 24, 2012

Identified By: NRC

Item Type: FIN Finding

Failure to Properly Address Fire Brigade Performance Deficiencies

The inspectors identified a finding of very low safety significance for the licensee's failure to properly address fire brigade drill performance deficiencies identified after completion of an unannounced fire drill. Specifically, the licensee failed to address the need to wait for the fire brigade leader's determination that it was safe to use elevators. The licensee entered this issue into their corrective action program and generated training requests to reinforce the proper use of elevators by the fire brigade.

The inspectors determined that the finding was more than minor because the finding, if left uncorrected, would become a more significant safety concern. Specifically, the improper use of elevators by the fire brigade during a fire could impact the ability of the brigade to fight a fire as smoke, heat, or flames could affect fire brigade members upon opening of elevator doors on the fire floor. The finding was of very low safety significance because the simulated fire was successfully suppressed by individuals who did not use the elevator. This finding had a cross-cutting aspect in the area of Human Performance, Work Practices because the licensee did not enforce expectations on not proceeding in the face of uncertainty or unexpected conditions.

Inspection Report# : [2012008](#) (*pdf*)

Significance:  Jun 30, 2012

Identified By: NRC

Item Type: FIN Finding

OPERABILITY DETERMINATION STANDARDS NOT FOLLOWED FOR HELB RELATED STRUCTURAL ISSUES IDENTIFIED BY THE NRC

The inspectors identified a finding of very low safety significance (Green) when licensee personnel failed to follow the Operability Determination process after identifying potential safety related structural loading issues created by a postulated turbine building High Energy Line Break (HELB). Specifically, the licensee identified and addressed a very specific issue related to safety related divisional separation wall loading concerns, but failed to adequately evaluate the extent to which a postulated current licensing basis (CLB) HELB condition could affect other Technical Specification (TS) and/or safety related structures, systems, and components (SSCs) within the areas of concern. The licensee entered these issues into the CAP as IR 1382574 and IR 1389889. Corrective actions included performing a prompt operability determination associated with the issues raised by the inspectors. The licensee also planned to complete a formal revision to Operability Evaluation 2012-004 by July 24, 2012. The performance deficiency was determined to be more than minor because it was similar to the "not minor if" aspect of Example 3.j in IMC 0612, Appendix E, "Examples of Minor Issues," since the issues identified by the inspectors resulted in a condition in which there was a reasonable doubt on the operability of the structures protecting TS components and systems that perform a TS function. The issues were dissimilar from the "minor because" aspect of the example since the impact of the issues were not minimal. In addition, the performance deficiency was determined to be more than minor because it was associated with the Design Control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The inspectors determined that 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 'No' to all of the Mitigating Systems Cornerstone questions in Table 4a of IMC 609 and, as a result, the finding screened as having very low safety significance (Green). This finding had a cross cutting aspect in the Decision Making component of the Human Performance cross cutting area because licensee personnel failed to use the Operability Determination process to evaluate the issues identified by the inspectors and therefore did not

obtain interdisciplinary input to make an operability decision (H.1(a)).

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

Significance:  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO MAINTAIN APPROVED FIRE PROTECTION PROGRAM REGARDING SAFE SHUTDOWN FIRE DAMPER QUALIFICATION

The inspectors identified a finding of very low safety significance and an associated NCV of License Condition 2.E when licensee personnel failed to adequately maintain the approved fire protection program after receiving information that adversely affected the qualification of fire dampers credited in the safe shutdown analysis. Specifically, the licensee inadvertently removed an action to secure ventilation upon the confirmation of a fire following a revision to the station's Pre-Fire Plans in 2010. This action was established after the licensee received NRC Information Notice (IN) 89 52, "Potential Fire Damper Operational Problems," which notified the licensee that these dampers were not qualified to shut with air flow through them. A significant contributor to this error was a failure of the licensee to adequately incorporate this action into the appropriate procedures and clearly document this requirement and basis for this requirement into the approved fire protection program. The licensee entered this issue into their corrective action program (CAP) as IR 1309949. Corrective actions included the implementation of Operations Standing Order 11 027 requiring manual operator action until a procedure change to the Fire Hazardous Materials Spill and/or Injury procedure (BwAP 1100 16), and Fire Response Guidelines (BwOP FP 100) was performed. Additionally, the licensee created an assignment to provide training to the fire brigade leaders for these planned procedure revisions. The finding was determined to be more than minor because it was associated with the Design Control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the failure to ensure that ventilation systems were secured upon the confirmation of a fire could affect the ability of fire dampers to shut and perform their safety function. The inspectors evaluated this finding using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase I Initial Screening and Characterization of Findings," Table 3b for the Mitigating Systems Cornerstone, which directed this finding be reviewed using IMC 0609, Appendix F, "Fire Protection Significance Determination Process," since the finding affected fire barriers. The inspectors assigned this issue a "low degradation" rating based upon the high likelihood that ventilation would be secured upon the onset of a fire due to numerous ionization detectors that automatically trip ventilation systems upon the detection of smoke. Based on this assigned rating, the inspectors determined that this finding was of very low safety significance (Green). The inspectors determined that the most significant causal factor related to this finding was a failure to adequately incorporate the requirement into the current licensing basis (CLB) in 1989, and therefore this finding was not indicative of current performance and a cross-cutting aspect was not assigned.

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

Significance:  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO PROMPTLY CORRECT CONDITIONS ADVERSE TO QUALITY

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," when licensee personnel failed to promptly correct conditions adverse to quality. Specifically, from 2006 to 2011, licensee personnel failed to correct a poor material condition in the auxiliary building ventilation (VA) intake plenums that resulted in clogging of floor drains and water leakage into electrical penetration and cable spreading room areas; and from 2010 to 2012, the licensee failed to correct a degraded floor drain in the Unit 2 miscellaneous electrical equipment room (MEER) that was next to a safety shower adjacent to a safety related direct current (DC) bus. The licensee entered this issue into their CAP as IRs 1291696 and 1332289. Corrective actions included cleaning and re coating the VA intake plenums and routing out the floor drains in the MEERs. The finding was determined to be more than minor because it was associated with the Design Control and Protection Against External Events attributes of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events

to prevent undesirable consequences (i.e., core damage.). Specifically, the licensee failed to promptly correct degraded and clogged auxiliary building floor drains or the poor material condition in the VA intake plenum. The inspectors evaluated this finding using the SDP in accordance with IMC 0609, “Significance Determination Process,” Attachment 0609.04, “Phase I Initial Screening and Characterization of Findings,” and determined that the finding affected the Flood Protection Degraded Function of the Mitigating Systems Cornerstone, per Table 2. The inspectors answered ‘Yes’ to Question 5 in Table 4a, which directed the inspectors to Table 4b since the issue was related to flood protection. The inspectors answered ‘No’ to Question 2 of Table 4b because the floor drains were degraded, but the pooling water in the VA plenums or MEERs would not have likely resulted in a plant trip or transient. As a result, the issue screened as having very low safety significance (Green). This finding had a cross cutting aspect in the Corrective Action Program component of the Problem Identification and Resolution cross cutting area because the licensee failed to properly classify, prioritize, or evaluate conditions adverse to quality associated with auxiliary building floor drains and VA intake plenum such that the conditions were promptly corrected [P.1(c)].

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

Significance:  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO SCOPE SAFETY-RELATED HELB BARRIERS INTO THE MAINTENANCE RULE

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 50.65(a)(1), 10 CFR 50.65(a)(2), and 10 CFR 50.65(b) when licensee personnel failed to scope numerous high energy line break (HELB) hazard barrier dampers into the maintenance rule, as required. The function of these barriers was to protect safety-related equipment such as the emergency diesel generators (EDGs) and safety-related alternating current (AC) and DC buses and cables from credited HELB sources in the turbine building. The licensee entered this issue into their CAP as IR 1310448. Corrective actions included scoping the dampers into the maintenance rule and assigning preventative maintenance performance monitoring criteria.

The finding was determined to be more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the failure to monitor damper performance and establish performance goals could adversely affect the availability, reliability, and capability of safety-related structures, systems and components protected by the hazard barrier. The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, “Significance Determination Process,” Attachment 4, “Phase I Initial Screening and Characterization of Findings,” Table 4a for the Mitigating Systems Cornerstone. The finding screened as having very low safety significance since it was not a design or qualification deficiency confirmed not to result in a loss of operability or functionality. This finding was not indicative of current performance since the scoping aspects were determined prior to the rule’s effective date of July 10, 1996. As a result, a cross-cutting aspect was not assigned to this finding.

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

Significance:  Mar 31, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

INCORRECT CLASSIFICATION OF ENVIRONMENTAL QUALIFICATION ZONES

The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 50.49(e) when licensee personnel failed to correctly classify the EDGs, essential switchgear (ESG), and MEERs containing electrical equipment important to safety. Specifically, the licensee’s environmental qualification (EQ) program did not take into consideration the temperature and humidity changes expected for these rooms following a turbine building HELB and improperly classified these rooms as mild environments subjected to abnormal conditions instead of harsh environments. The licensee entered this issue into their CAP as IR 1288474. Corrective actions included an assignment for Corporate Engineering to provide a recommended environmental classification for the rooms where the abnormal conditions, due to a turbine building HELB event, were expected to occur. The finding was determined to be more than minor because it was associated with the Equipment Performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of

systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 4, "Phase I Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone. The finding screened as having very low safety significance since it was not a design or qualification deficiency confirmed not to result in a loss of operability or functionality. This finding was not indicative of current performance and therefore was not assigned a cross-cutting aspect because the EQ classification of the rooms was completed in 1992.

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

Barrier Integrity

Significance: G Sep 30, 2012

Identified By: NRC

Item Type: VIO Violation

FAILURE TO ANALYZE RECYCLE HOLDUP TANK INLET PIPING LOADS

The inspectors identified a finding of very low safety significance (Green) and an associated cited violation (VIO) of 10 CFR 50, Appendix B, Criterion III, "Design Control," when licensee personnel failed to evaluate the effect of dynamic loads on inlet piping from Unit 1 and Unit 2 Residual Heat Removal (RHR) suction relief valves that discharge to the Recycle Holdup Tank (RHUT); and, as a result, failed to verify the adequacy of the RHUT design to withstand design loads that resulted from a discharge from RHR system suction relief valves into the RHUT. As of September 30, 2012, IR 649581, Assignment 8 to resolve the potential over-pressurization of the RHUT had not been completed. At the end of the inspection period, licensee efforts to complete and refine a model to determine whether physical modifications were necessary were still in progress. It remained unclear whether a physical modification would be necessary; when that determination would be made; and if a physical modification was necessary, when that modification would be completed.

The inspectors determined that the licensee's failure to evaluate the effect of dynamic water hammer loads on inlet piping from Unit 1 and Unit 2 RHR suction relief valves that discharge to the RHUT was a performance deficiency. The inspectors determined that the performance deficiency was more than minor because it was associated with the Design Control attribute of the Barrier Integrity Cornerstone and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, the licensee's existing design and piping configuration had not addressed water hammer effects when the Unit 1 and Unit 2 RHR suction relief valves were aligned to discharge to the RHUT, which could rupture the inlet piping and potentially affect offsite dose consequences. The NRC Senior Reactor Analysts (SRAs) concluded that the risk significance associated with the finding was of very low safety significance (Green). This finding had a cross-cutting aspect in the Corrective Action Program component of the Problem Identification and Resolution cross-cutting area because the licensee failed to take timely corrective actions to address a previously issued NCV (P.1(d)).

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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

Significance: N/A Sep 30, 2012

Identified By: NRC

Item Type: NCV NonCited Violation

FAILURE TO SUBMIT A 10 CFR 50.72(b)(3)(v) AND A 10 CFR 50.73(a)(2)(v) REPORT; INOPERABLE ULTIMATE HEAT SINK

The inspectors identified a Severity Level IV NCV of 10 CFR 50.72(b)(3)(v) and 10 CFR 50.73(a)(2)(v) when licensee personnel failed to report a condition that resulted in a loss of safety function after the UHS was declared inoperable after exceeding the TS limit of 100 degrees Fahrenheit (°F). Specifically, on July 7, 2012, the licensee had identified and entered TS 3.7.9, "Ultimate Heat Sink," Condition (A), "Ultimate Heat Sink Inoperable," after the UHS lake temperature exceeded the TS 3.7.9.2 Surveillance Requirement value of less than or equal to 100°F. The inspectors determined that although this condition represented a loss of safety function in accordance with the 10 CFR 50.72 and 10 CFR 50.73 reporting requirements and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 10 CFR 50.73," Revision 2, the condition was not reported as required. This issue was entered into the licensee's CAP as IR 1422296. Corrective actions included an action to report this event in accordance with NRC requirements.

The inspectors determined that the failure to submit a report required by 10 CFR 50.72 and a Licensee Event Report (LER) required by 10 CFR 50.73 for a loss of safety function after the UHS was declared inoperable on July 7, 2012, was a performance deficiency. This violation had the potential to impact the regulatory process based, in part, on the generic communications that 10 CFR 50.72 and 10 CFR 50.73 reports serve, the required ROP inspection reviews that the NRC performs on all LERs, and the potential impact on licensee performance assessment. The inspectors determined that this issue was a Severity Level IV violation based on similar examples referenced in Section 6.9 of the NRC Enforcement Policy. Specifically, Example 9, "The licensee fails to make a report required by 10 CFR 50.72 or 10 CFR 50.73," and Example 10, "A failure to identify all applicable reporting codes on a Licensee Event Report that may impact the completeness or accuracy of other information (e.g., performance indicator data) submitted to the NRC." Because cross cutting aspects do not apply to traditional enforcement issues, no cross-cutting aspect was assigned.

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Last modified : February 28, 2013