Braidwood 2
2Q/2012 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2011
Identified By: NRC
Item Type: FIN Finding
FAILURE TO ADHERE TO STANDARDS OF OUTDOOR SECURED MATERIAL ZONES
The inspectors identified a finding of very low safety significance when licensee personnel failed to adhere to station housekeeping procedures to ensure materials that could become missile hazards during high winds or tornado conditions were not stored in the vicinity of the station's offsite power transformers. Specifically, the licensee failed to remove or secure three boards and a tarp within the secured material zone that were intended for work scheduled the next day. No violation of regulatory requirements was identified. The licensee entered this issue into their corrective action program as Issue Report (IR) 1243186 and IR 1246870. Corrective actions included plans to brief licensee staff and supervisors on the procedural requirements to ensure materials that could become missile hazards during high winds or tornado conditions were not stored in the vicinity of the station's offsite power transformers, a daily walkdown of outdoor areas to identify inappropriately stored material, reduction in the size of the secured material zone to credit buildings as a barrier, and painting to identify the boundaries of the secured material zone. The performance deficiency was determined to be more than minor because it was associated with the Human 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 operations. Specifically, controls prescribed by station procedures to limit the likelihood of losing offsite power during adverse weather conditions were not adhered to by station personnel. 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. Specifically, the inspectors answered 'No' to all of the Transient Initiator questions in IMC 0609.04, Table 4a, and therefore the finding screened as having very low safety significance (Green). This finding had a cross cutting aspect in the Work Practices component of the Human Performance cross cutting area [H.4(c)] since the licensee failed to provide supervisory and management oversight of work activities to ensure that nuclear safety was supported.

Inspection Report# : 2011004 *(pdf)*

Mitigating Systems

Significance: G 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: G 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)*

Significance: G Dec 31, 2011
Identified By: NRC
Item Type: FIN Finding
OPERAILITY EVALUATION NOT PERFORMED IN ACCORDANCE WITH STATION STANDARDS
The inspectors identified a finding of very low safety significance when licensee personnel failed to adhere to Operability Determination Process standards after identifying a non-conservative assumption related to closure times

for hazard barrier dampers separating the Turbine Building from various safety-related rooms within the Auxiliary Building. In particular, the issues raised by the inspectors during their review of Operability Evaluation 11-006, Revision 1, resulted in the station re-evaluating the non-conservative assumptions against aspects of the Current Licensing Basis (CLB) not previously considered, and substantially revising Operability Evaluation 11-006, Revision 1. The licensee entered these issues into their CAP as IR 1185016, IR 1199223, IR 1237395, IR 1237140, IR 1242942, IR 1246918, IR 1276888, IR 1277627, and IR 1279543. In addition to revising Operability Evaluation 2011-006, Revision 1, corrective actions included an assignment to reconstitute design basis calculation records and plans to re-design the hazard barrier dampers. This finding did not involve enforcement action because no regulatory requirement was violated. 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). 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 0609.04, and, as a result, the finding 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 [P.1(c)] because the licensee failed to thoroughly evaluate the impact on operability of a non-conforming condition associated with hazard barrier damper closure times.

Inspection Report# : 2011005 *(pdf)*

Significance: G Dec 31, 2011
Identified By: NRC
Item Type: FIN Finding
FAILURE TO ADHERE TO MAINTENANCE RULE IMPLEMENTATION PROCEDURES
The inspectors identified a finding of very low safety significance when licensee personnel failed to adhere to licensee procedure ER AA 310, “Implementation of the Maintenance Rule.” Specifically, procedural requirements for the use of operator restoration actions to credit availability of auxiliary feedwater, main steam dump valves, or emergency diesel generator ventilation during certain surveillances were not met. The licensee entered this issue into their CAP as IR 1249723, IR 1251652, IR 1291692, IR 1293440, and IR 1293998. Immediate corrective actions included a review of all risk management actions and implementation of new Operations Standing Order requirements to enhance discussions of risk management actions and to formally log dedicated operator assignments. The licensee was also improving the method of documenting and using restoration actions such that the actions would be more formally documented and referenced in controlled procedures. This finding did not involve enforcement action because no regulatory requirement was violated.
The finding was determined to be more than minor because it was associated with the Procedure Quality 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 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 0609.04 and, as a result, the finding screened as having very low safety significance. This finding had a cross cutting aspect in the Resources component of the Human Performance cross cutting area [H.2(c)] because the documented restoration actions for several surveillances were not in accordance with licensee procedures or industry generic guidance.

Inspection Report# : 2011005 *(pdf)*

Significance: G Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW AND ESTABLISH ADEQUATE HAZARD BARRIER IMPAIRMENT PROCEDURES

The inspectors identified a finding of very low safety significance (Green) and an associated NCV of 10 CFR 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," when the licensee's process for the control of hazard barriers failed to manage the risk of temporarily impairing barriers under certain circumstances. Specifically, the licensee's Risk Management and Plant Barrier Impairment (PBI) Processes provided generic approval for the impairment of a hazard barrier door function to permit movement of heavy equipment through the door provided the duration was less than 30 minutes and the door was not blocked open. The inspector's were concerned that this would not restrict activities in which the equipment being moved would prevent the door from closing and providing its hazard barrier function during the 30 minute time frame. The licensee communicated to the inspector's that the 30 minutes had no regulatory basis, but was used, in part, because it was reasonable. In addition to this example, the inspectors identified two examples in which licensee personnel failed to adhere to the station's PBI Program, which adversely affected the station's ability to manage risk. The licensee entered this issue into their CAP as IR 1282782 and IR 1307401. As a result of the inspectors' observations, the licensee revised procedure BwAP 1110 03, "Plant Barrier Impairment Program," to include additional guidance on the control of hazard barriers. The licensee was also considering whether additional training of personnel on the control of hazard barriers was warranted.
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). 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 and, as a result, the finding screened as having very low safety significance. This finding had a cross cutting aspect in the Corrective Action Program component of the Problem Identification and Resolution cross cutting area [P.2(b)] since licensee personnel failed to adequately utilize operating experience (i.e., Regulatory Information Summary 2001 009, "Control of Hazard Barriers") to ensure that station procedures provided adequate controls for effectively managing risk when hazard barrier doors could be impaired during activities to facilitate maintenance.
Inspection Report# : 2011005 *(pdf)*

Significance: G Sep 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO CONTROL HIGH ENERGY LINE BREAK BARRIER DOORS
The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," when licensee personnel failed to ensure that Unit 1 and Unit 2 boundary doors credited as shut in design basis High Energy Line Break (HELB) room heat-up calculations were effectively controlled in station procedures. Specifically, doors separating divisions for the Unit 1 and Unit 2 Engineered Safety Feature (ESF) Switchgear Rooms and Miscellaneous Electrical Equipment Rooms (MEERs) were not considered HELB boundaries in the station's Plant Barrier Impairment (PBI) procedure as required. Therefore, these doors could have been impaired for various reasons (e.g., maintenance) without the licensee ensuring that regulatory requirements were maintained, including those contained in the Technical Specifications (TSs) and 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." The licensee entered this issue into their corrective action program as IR 1242942. Corrective actions included a revision to the station's PBI procedure to ensure that these barrier doors were considered HELB boundaries. The performance deficiency was determined to be more than minor because it was associated with the Protection Against External Events 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, if these doors had been impaired during a design basis turbine building HELB event with an active single failure of a HELB isolation damper, both electrical divisions in the ESF Switchgear Rooms or MEERs could have been adversely affected by the harsh steam environment. 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. Specifically, the inspectors answered 'No' to all of the Mitigating Systems Cornerstone questions in Table 4a of IMC 0609.04 and, as a result, the finding screened as having very low safety significance (Green). Due to the age of this issue, it was not reflective of current licensee performance and therefore the inspectors did not assign a cross-cutting aspect to this

finding.

Inspection Report# : 2011004 *(pdf)*

Significance: G Sep 30, 2011
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
ASIATIC CLAMS IDENTIFIED IN THE ESSENTIAL SERVICE WATER SYSTEM SUPPLY TO THE AUXILIARY FEEDWATER SYSTEM
A finding of very low safety significance and an associated NCV of TS 3.7.5, "Auxiliary Feedwater (AF) System," was self-revealed when, on various occasions between March and July 2011, asiatic clam shells were identified in the 2A AF essential service water (SX) suction piping. Specifically, the asiatic clam shells in the 2A AF pump SX suction piping were of sufficient size to interfere with flow through the downstream steam generator flow control valves, which rendered the 2A AF pump inoperable for greater than the 72 hour Allowed Outage Time (AOT) prescribed in TS 3.7.5. This condition was determined to likely have existed since the late 1990's. The licensee entered this issue into their corrective action program as IR 1213669. Corrective actions included the removal of the clam shells from the 2A AF pump SX suction piping and completion of both an apparent cause and root cause evaluation. The performance deficiency 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 0609.04, "Phase 1 Initial Screening and Characterization of Findings," Table 4a, for the Mitigating Systems Cornerstone. The inspectors answered 'Yes' to the screening question, "Does the finding represent [an] actual loss of safety function of a single Train for > [greater than] its TS Allowed Outage Time?" since the inoperability of the 2A AF pump due to clam shells in the SX suction piping could have been present for at least one year. Therefore, a Phase 2 SDP evaluation was required using IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At Power Situations." Since the dominant risk was associated with external events, a Phase 3 analysis was required in order to estimate the risk significance of the issue. Therefore, a Region III Senior Reactor Analyst (SRA) performed a Phase 3 SDP evaluation of the finding. Based on the Phase 3 analysis, the finding was determined to be 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 [P.1(c)] since the licensee failed to thoroughly evaluate the identification of asiatic clam shells in the 2A AF SX suction piping in March 2011 and May 2011 and, as a result, implemented corrective actions that were inadequate.

Inspection Report# : 2011004 *(pdf)*

Significance: SL-IV Sep 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
MODIFICATION OF THE AUXILIARY FEEDWATER SYSTEM WITHOUT PRIOR NRC APPROVAL
The inspectors identified a Severity Level IV NCV of 10 CFR 50.59, "Changes, Tests, and Experiments," when licensee personnel failed to obtain a license amendment prior to implementing a proposed change to the plant that resulted in a more than minimal increase in the likelihood of occurrence of a malfunction of a structure, system or component important to safety previously evaluated in the Updated Final Safety Analysis Report (UFSAR). Specifically, the licensee performed a modification to the facility that permitted the Unit 1 and Unit 2 "A" AF trains to be shared between units and the 10 CFR 50.59 evaluation that was performed reached the erroneous conclusion that prior NRC approval was not required. The licensee entered this issue into the corrective action program as IR 1258017 and planned to submit a License Amendment Request (LAR) to the NRC for this design change. The violation was determined to be more than minor because the inspectors determined that the change required prior NRC approval. Violations of 10 CFR 50.59 are dispositioned using the traditional enforcement process 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, this violation is categorized as Severity Level IV because the resulting changes were evaluated by the SDP as having very low safety significance.

The associated Performance Deficiency is tracked as item 2011-004-07.
Inspection Report# : 2011004 *(pdf)*

Significance: G Sep 30, 2011
Identified By: NRC
Item Type: FIN Finding
MODIFICATION OF THE AUXILIARY FEEDWATER SYSTEM WITHOUT PRIOR NRC APPROVAL
The inspectors identified a finding of very low safety significance when licensee personnel failed to obtain a license amendment prior to implementing a proposed change to the plant that resulted in a more than minimal increase in the likelihood of occurrence of a malfunction of a structure, system or component important to safety previously evaluated in the Updated Final Safety Analysis Report (UFSAR). Specifically, the licensee performed a modification to the facility that permitted the Unit 1 and Unit 2 "A" AF trains to be shared between units and the 10 CFR 50.59 evaluation that was performed reached the erroneous conclusion that prior NRC approval was not required. The licensee entered this issue into the corrective action program as IR 1258017 and planned to submit a License Amendment Request (LAR) to the NRC for this design change. The violation was determined to be more than minor because the inspectors determined that the change required prior NRC approval. The underlying technical issue was evaluated through the SDP to determine the severity of the violation. In this case, 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. Specifically, the inspectors answered "Yes" to Question 1 of the Mitigating Systems Cornerstone column of the Phase 1 worksheet because the inspectors concluded that this was a change confirmed not to result in the loss of operability. Based upon this Phase 1 screening, the inspectors concluded that the issue was of very low safety significance (Green). This finding had a cross-cutting aspect in the Operating Experience component of the Problem Identification and Resolution (PI&R) cross-cutting area [P.2.(b)] because the licensee failed to make adequate use of known industry operating experience in the screening of a modification prior to installation.

The associated Traditional Enforcement Item is tracked as item 2011-004-06.
Inspection Report# : 2011004 *(pdf)*

Significance: G Sep 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW MAINTENANCE RULE PROCEDURE
The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," when licensee personnel failed to adhere to licensee procedure ER AA 310, "Implementation of the Maintenance Rule." Specifically, the licensee failed to adhere to the requirements of procedure ER AA 310 when crediting availability of the Unit 1 and Unit 2 'B' train AF pumps by not having documented restoration actions (i.e. Risk Management Actions (RMAs)) during quarterly in service testing surveillances that involved the manual cycling of cooling water valves. The licensee entered the issue into the corrective action program as IR 1251652 and took immediate corrective actions to revise the applicable portion of the Excel spreadsheet that documented restoration actions. The licensee was also considering a more robust process for the documentation of restoration actions to credit equipment availability. The performance deficiency was determined to be more than minor because it was associated with the Procedure Quality attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of system that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, procedural requirements to credit the availability of the 'B' train AF pumps were not met. 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 'No' to all of the Mitigating Systems Cornerstone questions in Table 4a of IMC 0609.04 and, as a result, 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 [H.2(c)] since during performance of the 1B and 2B AF pump surveillances that involved the manual cycling of cooling water valves, the licensee did not have complete and accurate documentation related to the implementation of RMAs for these surveillances.

Inspection Report# : 2011004 *(pdf)*

Significance: G Sep 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
DESIGN OF AUXILIARY FEEDWATER SYSTEM INCLUDED VOIDS IN SAFETY-RELATED ALTERNATE SUCTION FLOWPATHS
The inspectors identified a finding of very low safety significance (Green) and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” when licensee personnel failed to properly analyze the configuration of the SX connections to the AF pumps. Specifically, a section of the piping was intentionally maintained empty (voided), but was not previously analyzed. This condition existed since initial plant construction. The issue was entered into the licensee’s corrective action program as IR 1173517. Additionally, the licensee filled the voided sections of pipe, restoring compliance with the licensed design basis. 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 (i.e., core damage). Specifically, the unverified configuration might have rendered each of the AF pumps inoperable. 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. Specifically, the inspectors answered ‘Yes’ to Question 1 of the Mitigating Systems Cornerstone column of the Phase 1 worksheet because the inspectors concluded that this finding was confirmed not to result in a loss of operability. This conclusion was reached after reviewing tests performed by the licensee. The tests demonstrated there was reasonable assurance that the AF system would perform its safety function in the installed configuration. Based on this Phase 1 screening, the inspectors concluded that the issue was of very low safety significance (Green). Due to the age of this issue, the inspectors did not identify a cross cutting aspect associated with this finding because it was not indicative of current licensee performance.

Inspection Report# : 2011004 *(pdf)*

Significance: G Sep 30, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Embedment Plate Design Deficiencies
The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” for the failure to properly evaluate the structural steel embedment plate which supports Safety Injection (SI) pipe supports 1SI06025V and 1SI06030S. Specifically, the licensee failed to demonstrate compliance with the American Institute of Steel Construction (AISC) and Seismic Category I linear elastic requirements. The licensee entered this issue into their corrective action program and planned calculation revisions and modifications as needed to restore design margins.

The finding was determined to be more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of design control and affected the cornerstone objective of the availability, reliability, and capability of the SI piping and pipe supports. Specifically, the licensee used the actual material yield stress to ensure the structural steel embedment plate would maintain structural integrity when subjected to design loads. This is contrary to the AISC and Seismic Category I linear elastic requirements to use the specified minimum yield stress of the material. The inspectors determined that the finding was of very low safety significance because the finding did not result in loss of operability or functionality. The inspectors did not identify a cross-cutting aspect associated with this finding because it was associated with a calculation from the 1980s and was not reflective of current performance. (Section 1R17.2.b.(1))
Inspection Report# : 2011008 *(pdf)*

Significance: G Sep 30, 2011

Identified By: NRC
Item Type: NCV NonCited Violation
Permanent Lead Shielding Added to Safety Injection and Chemical Volume and Control System Piping.
The inspectors identified a finding of very low safety significance (Green) and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” for the failure to properly evaluate the Unit 1 SI subsystem 1SI06 and the Unit 1 Chemical Volume and Control System (CVCS) subsystem 1CV18 piping and pipe supports. Specifically, the licensee failed to demonstrate compliance with the AISC and the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code for the 1SI06 and 1CV18 piping and pipe supports. The licensee entered this
issue into their corrective action program and planned calculation revisions and modifications as needed to restore design margins.

The finding was determined to be more than minor because the finding was associated with the Mitigating Systems cornerstone attribute of design control and affected the cornerstone objective of the availability, reliability, and capability of SI piping and pipe supports and CVCS piping and pipe supports. Specifically, the licensee did not perform an analysis to ensure compliance with AISC and ASME Section III requirements with the addition of permanent lead shielding to ensure the 1SI06 and 1CV18 piping and pipe supports would maintain structural integrity when subjected to design basis loads. The inspectors determined that the underlying finding was of very low safety significance because the finding did not result in loss of operability or functionality. The inspectors did not identify a cross-cutting aspect associated with this finding because this was a calculational deficiency that did not occur within the past three years and was not reflective of current performance. (Section 1R17.2.b.(2))
Inspection Report# : 2011008 *(pdf)*

Barrier Integrity

Emergency Preparedness

Significance: G Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO EVALUATE EMERGENCY COMMUNICATION SYSTEM PERFORMANCE AGAINST MAINTENANCE RULE CRITERIA
The inspectors identified a finding of very low safety significance and an associated NCV of 10 CFR 50.65(a)(1) when licensee personnel failed to adequately monitor the performance of nonsafety related systems and components that exceeded performance criteria against pre established goals. Specifically, inadequate tracking of failures in the Emergency Communication (CQ) system resulted in the failure to evaluate corrective actions by the Maintenance Rule Expert Panel when 10 CFR 50.65(a)(1) performance criteria were unknowingly exceeded. In addition, once the system was placed in an (a)(1) status for an unrelated reason, the Action Plan did not address all of the performance criteria that had been unknowingly exceeded. The licensee entered this issue into their CAP as IR 1251652. Immediate corrective actions included revising the (a)(1) Action Plan to address the additional failures and to determine why the previously unknown failures were not included in the maintenance rule database. The finding was determined to be more than minor because it was associated with the Facilities and Equipment attribute of the Emergency Preparedness Cornerstone and 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. The inspectors determined that the finding could be evaluated using the SDP in accordance with IMC 0609, Attachment 4, “Phase 1 Initial Screening and Characterization of Findings.” Because this finding was associated with the Emergency Preparedness area, further evaluation was completed using IMC 0609, Appendix B, “Emergency Preparedness Significance Determination Process.” Using the examples of findings associated with Planning Standard 10 CFR 50.47(b)(6) and Planning Standard 10 CFR 50.47(b)(8), the inspectors concluded that the finding was of very low safety significance. The inspectors determined that there was no cross cutting aspect associated with this finding

since none of the cross-cutting aspects in IMC 0310 were determined to be appropriate for this issue.

Inspection Report# : 2011005 *(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Significance: G Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO MAINTAIN ADEQUATE CIRCULATING WATER BLOWDOWN PROCEDURE DURING LIQUID RADIOLOGICAL RELEASES
The inspectors identified a finding of very low safety significance and an associated NCV of Technical Specification 5.4.1, “Procedures,” when licensee personnel failed to adequately maintain procedure BwOP CW-12, “Circulating Water Blowdown System Fill, Startup, Operations, and Shutdown.” The Circulating Water Blowdown system was used during certain liquid radiological releases. Specifically, the licensee’s procedure did not provide sufficient guidance to prevent the system from being operated outside analyzed limits. The potential consequence of not operating this system within the design assumptions was an unplanned and unmonitored release of radioactive material to the environment. This issue was entered into the licensee’s CAP as IR 1299273. Corrective actions included the implementation of an Operations Standing Order to prohibit the operation of the Circulating Water Blowdown lineup and an assignment to formally revise the procedure.
The finding was determined to be more than minor because it was associated with the Programs and Processes attribute of the Public Radiation Safety cornerstone and adversely affected the cornerstone objective of ensuring the adequate protection of public health and safety from exposure of radioactive materials released into the public domain as a result of routine civilian nuclear reactor operations. The inspectors determined that the finding could be evaluated in accordance with IMC 0609, Appendix D, “Public Radiation Safety Significance Determination Process,” since the finding was associated with the licensee’s Radioactive Effluent Release program. This finding was determined to be of very low safety significance since it was not a failure to implement the effluent program and no unplanned or unmonitored release actually occurred. This finding had a cross cutting aspect in the Decision Making component of the Human Performance cross cutting area [H.1(a)] since licensee personnel failed to demonstrate that nuclear safety was an overriding priority. Specifically, licensee personnel failed to make risk significant decisions when faced with uncertain or unexpected plant conditions to ensure safety was maintained.

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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: SL-IV Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO SUBMIT LICENSEE EVENT REPORT PER 10 CFR 50.73(a)(2(vii)
The inspectors identified a Severity Level IV NCV of 10 CFR 50.73(a)(2)(vii) when licensee personnel failed to report events where a single cause or condition could have caused two safety related instrument channels to become inoperable in a single system designed to shutdown the reactor and maintain it in a safe shutdown condition. Specifically, on March 8, 2011, the licensee had identified errors in the station's High Energy Line Break (HELB) calculations of record. On March 14, 2011, the licensee completed an Operability Evaluation and concluded that the equipment rollup doors for the Division 11 and Division 21 Miscellaneous Electric Equipment Rooms (MEERs) could not be opened in Modes 1 4 without declaring the safety related instrument inverters within the rooms inoperable. The licensee implemented administrative compensatory actions to prevent these doors from being opened in Modes 1 4. On April 7, 2011, the inspectors identified that the licensee did not have plans to review this issue for 10 CFR 50.73 reporting requirements. The inspectors notified the licensee that they were aware of previous instances when these doors had been opened in Modes 1 4. Following the inspectors' discussion with the licensee, the licensee initiated a CAP assignment to conduct a formal License Event Report (LER) review. The due date for this assignment was revised numerous times. The inspectors challenged the timeliness of this review based on the previous conclusions in the Operability Evaluation and the historic practice of not restricting access to these doors in any operational mode. On December 22, 2011, the licensee submitted an LER to report multiple historic events. The inspectors concluded that the licensee failed to submit the LER within 60 days of the discovery of the event on March 14, 2011, based upon a review of 10 CFR 50.73 and NUREG-1022, Revision 2. This issue was entered into the licensee's CAP as IR 1299906. Corrective actions included submitting an LER to the NRC on December 22, 2011. The inspectors determined that the failure to submit an LER in accordance with NRC regulations was a performance deficiency. Since this issue impacted the regulatory process, it was dispositioned through the TE process. The inspectors determined that this issue was a Severity Level IV violation based on a similar example referenced in Supplement I, Example D.4 of the NRC Enforcement Policy. The inspectors reviewed the technical issue related to the HELB calculation errors using the Reactor Oversight Process and documented a licensee-identified NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," which was of very low safety significance. Reactor Oversight Process cross cutting aspects do not apply to traditional enforcement issues, or licensee identified ROP findings of very low safety significance, therefore, none was identified.

Inspection Report# : 2011005 *(pdf)*

Significance: SL-IV Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM ADEQUATE EVALUATIONS TO FACILITATE INDEPENDENT SPENT FUEL STORAGE INSTALLATION ACTIVITIES
The inspectors identified a Severity Level IV NCV of Title 10 of the Code of Federal Regulations (CFR) 72.146, "Design Control," when licensee personnel failed to perform adequate evaluations of the Independent Spent Fuel Storage Installation (ISFSI) pad, ISFSI components, and the effects of ISFSI loading operations on the operating plant. Specifically, the inspectors identified three examples in which licensee personnel failed to perform adequate evaluations to ensure compliance with 10 CFR 72.212(b)(5)(ii); 10 CFR 72.212(b)(8); and the Safety Analysis Report (SAR) referenced in the Holtec Certificate of Compliance (CoC). The licensee entered these issues into their Corrective Action Program (CAP) as Issue Report (IR) 1280650, IR 1278520, and IR 1245756. Corrective actions included revisions to calculations. Because this violation was related to an ISFSI license, it was dispositioned using the Traditional Enforcement (TE) process in accordance with Section 2.2 of the Enforcement Policy. The inspectors determined that the deficiency was of more than minor significance because the licensee's evaluation did not assure structural integrity of the affected components under the design basis loads, and required extensive revisions to the calculations. The inspectors determined that the issue represented a Severity Level IV violation. Reactor Oversight Process (ROP) cross cutting aspects do not apply to TE issues or licensee identified ROP findings of very low safety significance, therefore, none was identified.

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Significance: SL-IV Dec 31, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO FOLLOW PROCEDURES TO ENSURE MULTI PURPOSE CANISTER DESIGN BASIS PRESSURE IS NOT EXCEEDED
The inspectors identified a Severity Level IV NCV of 10 CFR 72.150, "Instructions, Procedures, and Drawings," when licensee personnel failed to adhere to procedures to ensure that the design pressure limit for the multi-purpose canister (MPC) would not be exceeded during loading operations. The licensee entered this issue into their CAP as IR 01279837, IR 01286670, and IR 01285354. The licensee imposed an ISFSI stand-down to reinforce and correct procedure use and adherence as a corrective action to restore compliance. The issue was determined to be of more than minor significance using IMC 0612, “Power Reactor Inspection Reports,” Appendix E, “Examples of Minor Issues,” Example 2h, in that multiple examples of a failure to follow procedures were identified. Although the violation contributed to the likelihood of the canister design pressure being exceeded, it was verified that the canister was within its design pressure. Therefore, the inspectors determined that the issue represented a Severity Level IV violation. Reactor Oversight Process cross cutting aspects do not apply to TE issues or licensee identified ROP findings of very low safety significance, therefore, none was identified.

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