Braidwood 2
2Q/2013 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Jun 30, 2013
Identified By: NRC
Item Type: FIN Finding
FAILURE TO IDENTIFY AND CORRECT DEGRADED DOST ROOM SUMP PUMP DISCHARGE CHECK VALVES
The inspectors identified a finding of very low safety significance when licensee personnel failed to identify degraded Diesel Oil Storage Tank (DOST) room sump discharge check valves in 2013 and after performing periodic testing in 2005. The licensee entered this issue into their Corrective Action Program (CAP) as Issue Report (IR) 1526652, "IR Not Generated as Required – 2005 OD Check Valve UT [Ultrasonic Testing] Results." Corrective actions included the repair of the degraded DOST room sump check valves. The inspectors determined that the failure to identify issues associated with degraded DOST room sump pump discharge check valves was a performance deficiency. The inspectors determined that the performance deficiency was 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). Since the finding resulted in the potential for a loss of the emergency power function during a turbine building flooding event, and based upon an actual DOST room sump check valve failure, a detailed risk evaluation was performed, which determined that the finding was of very low safety significance. This finding had a cross cutting aspect in the Corrective Action Program component of the Problem Identification and Resolution (PI&R) cross cutting area because the licensee failed to take appropriate corrective actions in a timely manner to address degraded DOST room sump check valves.

Inspection Report# : 2013003 *(pdf)*

Significance: G Jun 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO SCOPE NONSAFETY RELATED TURBINE BUILDING TO AUXILIARY BUILDING SUMP PUMP DISCHARGE CHECK VALVES INTO THE MAINTENANCE RULE
The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR 50.65(b)(2)(ii) when licensee personnel failed to scope four Unit 1 and Unit 2 Essential Service Water (SX) pump room sump pump discharge check valves and eight Unit 1 and Unit 2 DOST room sump pump discharge check valves into the Maintenance Rule as required. The licensee entered this issue into their CAP as IR 1498897, "Review 1/2WF040A/B Valves for Inclusion Into MRule [Maintenance Rule]," and planned to scope the components into the Maintenance Rule. The inspectors determined that the failure to scope the Unit 1 and Unit 2 SX pump room sump pump discharge check valves and Unit 1 and Unit 2 DOST room sump pump discharge check valves into the Maintenance Rule was a performance deficiency. The inspectors determined that the performance deficiency was

more than minor because, if left uncorrected, the performance deficiency would have the potential to lead to a more significant safety concern. Since a degraded SX or DOST sump check valve would degrade one or more trains of a system that supported a risk-significant system or function, a detailed risk evaluation was performed that determined the finding was of very low safety significance. This finding had a cross cutting aspect in the Decision-Making component of the Human Performance cross cutting area because the licensee failed to use conservative assumptions readily available in the applicable guidance document to demonstrate that not scoping the components into the Maintenance Rule was in accordance with Maintenance Rule requirements and therefore maintained safety.
Inspection Report# : 2013003 *(pdf)*

Significance: G Jun 30, 2013
Identified By: Self-Revealing
Item Type: FIN Finding
INADEQUATE FUNCTIONALITY EVALUATIONS FOR A DEGRADED UNIT 1 BORIC ACID STORAGE TANK BLADDER
A finding of very low safety significance was self revealed when licensee personnel performed inadequate functionality evaluations after previously identifying that the Unit 1 Boric Acid Storage Tank (BAST) bladder was degraded. The licensee entered this issue into their CAP as IR 1498696, "Secured Boric Acid Tank Transfer Earlier Than Expected." Corrective actions included the replacement of the Unit 1 and Unit 2 BAST bladders. The inspectors determined that the failure to adequately evaluate Unit 1 BAST system functionality after identifying that the Unit 1 BAST bladder had substantially degraded was a performance deficiency. The inspectors determined the performance deficiency was 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 screened the finding using IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors answered 'No' to all of the Mitigating System Screening questions for Reactivity Control Systems, therefore the finding screened as having very low safety significance. This finding had a cross cutting aspect in the Operating Experience component of the PI&R cross cutting area because the licensee failed to implement and institutionalize Operating Experience that specifically discussed the potential adverse consequences that a degraded tank bladder could have on plant safety.
Inspection Report# : 2013003 *(pdf)*

Significance: G Jun 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
INADVERTENT REMOVAL OF THE DESIGN BASIS REQUIREMENT TO COMMENCE A COOLDOWN WITHIN TWO HOURS FOLLOWING THE ESTABLISHMENT OF NATURAL CIRCULATION CONDITIONS AND LOSS OF AIR TO CONTAINMENT
The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," when licensee personnel failed to maintain the procedural requirement to commence a reactor coolant system (RCS) cooldown within 2 hours following a design basis seismic event that included a reactor trip, failure of all nonsafety related equipment, and limiting single active failure. The licensee entered this issue into their CAP as IR 1496506, "NRC Identified PZR [Pressurizer] PORV [Power-Operated Relief Valve] Natural Circulation Cooldown Analysis." Corrective actions included development of a revised instruction in the Emergency Operating Procedures (EOPs). The inspectors determined that the failure to adequately revise an EOP was a performance deficiency. Specifically, the licensee removed a procedural requirement to commence an RCS natural circulation cooldown if instrument air was lost to containment, which inadvertently could adversely affect a safety related PZR PORV function. The inspectors determined that the performance deficiency was more than minor because it was associated with the Procedural 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 evaluated this finding using IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," and determined that this finding was of very low safety significance because the issue was determined to not be a confirmed loss of operability or functionality. This finding had a cross cutting aspect in the Corrective Action Program component of the PI&R cross cutting area because licensee personnel failed to thoroughly evaluate a problem and ensure that the resolution adequately addressed the cause and extent of condition, as necessary. Specifically, the licensee failed to adequately evaluate a prior NRC finding such that the corrective actions adequately addressed the problem.

Inspection Report# : 2013003 *(pdf)*

Significance: G Jun 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ACCOUNT FOR PZR PORV ACCUMULATOR LEAKAGE DURING HOT STANDBY AND SUBSEQUENT COOLDOWN PERIOD FOLLOWING A POSTULATED EARTHQUAKE
The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," when licensee personnel failed to account for PZR PORV accumulator air system leakage during the assumed 2 hour time spent in hot standby following a limiting seismic event. The licensee entered this issue into their CAP as IR 1481590, "NRC Question Regarding Pressurizer PORV Accumulator Leakage." As part of their corrective actions, the licensee planned to revise procedures and seek clarification from the NRC concerning the licensing basis of the auxiliary spray system. The inspectors determined that the failure to ensure that the PZR PORVs could perform their credited safety function following a limiting seismic event 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 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 IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," and determined that the finding was of very low safety significance because the issue was determined to not be a confirmed loss of operability or functionality. This finding had a cross cutting aspect in the Corrective Action Program component of the PI&R cross cutting area because the licensee failed to thoroughly evaluate a problem such that the resolution addressed causes and extent of condition, as necessary. Specifically, the licensee failed to adequately evaluate not accounting for PZR PORV air accumulator leakage in the natural circulation cooldown current licensing basis (CLB) due to the reliance on another system to provide the credited safety function.
Inspection Report# : 2013003 *(pdf)*

Significance: G Mar 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM AN ADEQUATE 10 CFR 50.59 EVALUATION REMOVING THE POSITIVE DISPLACEMENT PUMP FROM THE CURRENT LICENSING BASIS
The inspectors identified a finding of very low safety significance (Green) and an associated Severity Level IV NCV of 10 CFR 50.59 when licensee personnel failed to perform an adequate 10 CFR 50.59 safety evaluation that revised the Updated Final Safety Analysis Report (UFSAR) to permit the Chemical Volume Control System (CVCS) positive displacement pump (PDP) to be isolated and removed from service for an extended, but undefined, period of time. The licensee entered this issue into their Corrective Action Program (CAP) as Issue Report (IR) 1477923. As part of their corrective actions, the licensee planned to re perform the 10 CFR 50.59 evaluation to include a review of the direct effects that this change had on the CVCS PDP functions that were important to safety. 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, in 1997, the licensee failed to evaluate whether there was an increase in the probability of a malfunction for the PDP functions important to safety prior to isolating and removing the PDPs from service. The finding was evaluated using IMC 0609, "Significance Determination Process." Using Appendix A, "The Significance Determination Process for Findings At Power," Exhibit 2, "Mitigating Systems Screening Questions," the inspectors answered 'No' to Questions 1, 2, 3 and 4 and, as a result, determined the finding was of very low safety significance (Green). The finding was also determined to be a Severity Level IV NCV in accordance with Section 6.1.d.2 of the NRC Enforcement Policy because the resulting changes were evaluated by the SDP as having very low safety significance (Green). There was no cross cutting aspect associated with the finding because it was not indicative of current licensee performance.
Inspection Report# : 2013002 *(pdf)*

Significance: G Mar 31, 2013
Identified By: NRC
Item Type: FIN Finding
POSITIVE DISPLACEMENT PUMPS NOT AVAILABLE TO PERFORM THEIR MITIGATING FUNCTIONS ASSOCIATED WITH BOTH NORMAL AND ABNORMAL OPERATIONS
The inspectors identified a finding of very low safety significance (Green) and an associated Severity Level IV NCV of 10 CFR 50.59 when licensee personnel failed to perform an adequate 10 CFR 50.59 safety evaluation that revised the Updated Final Safety Analysis Report (UFSAR) to permit the Chemical Volume Control System (CVCS) positive displacement pump (PDP) to be isolated and removed from service for an extended, but undefined, period of time. The licensee entered this issue into their Corrective Action Program (CAP) as Issue Report (IR) 1477923. As part of their corrective actions, the licensee planned to re perform the 10 CFR 50.59 evaluation to include a review of the direct effects that this change had on the CVCS PDP functions that were important to safety. 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, in 1997, the licensee failed to evaluate whether there was an increase in the probability of a malfunction for the PDP functions important to safety prior to isolating and removing the PDPs from service. The finding was evaluated using IMC 0609, "Significance Determination Process." Using Appendix A, "The Significance Determination Process for Findings At Power," Exhibit 2, "Mitigating Systems Screening Questions," the inspectors answered 'No' to Questions 1, 2, 3 and 4 and, as a result, determined the finding was of very low safety significance (Green). The finding was also determined to be a Severity Level IV NCV in accordance with Section 6.1.d.2 of the NRC Enforcement Policy because the resulting changes were evaluated by the SDP as having very low safety significance (Green). There was no cross cutting aspect associated with the finding because it was not indicative of current licensee performance.
Inspection Report# : 2013002 *(pdf)*

Significance: G Mar 31, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO ESTABLISH AN ADEQUATE QUALITY INSTRUCTION FOR DETERMINING PRESSURIZER POWER OPERATED RELIEF VALVE OPERABILITY
The inspectors identified a finding of very low safety significance (Green) and an associated NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," when licensee personnel failed to account for pressurizer (PZR) power operated relief valve (PORV) accumulator system leakage when establishing a design operability limit. Specifically, procedures BwAR 1 12 D7 (Unit 1) and BwAR 2 12 D7 (Unit 2), "PZR PORV Supply Pressure High/Low," established a minimum PZR PORV air accumulator operability pressure limit of 85 pounds per square inch gauge

(psig). However, this pressure limit did not account for allowable accumulator system leakage, which could be as high as 15 psig per hour, during a postulated Steam Generator Tube Rupture (SGTR) event with a loss of the nonsafety-related air supply to the valves. The licensee entered this issue into their CAP as IR 1493170. Corrective actions to address this issue included a revision to Unit 1 BwAR 1 12 D7 and Unit 2 BwAR 2 12 D7 to require Operations to declare the PZR PORVs inoperable at a higher minimum accumulator pressure limit of 94 psig. 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 operability limit of 85 psig failed to account for the licensing basis conditions of a postulated Chapter 15 SGTR event, loss of nonsafety related instrument air to the containment and PZR PORVs, and acceptable loss of air from the safety related accumulators through normal leakage and valve strokes. The finding was evaluated using IMC 0609, “Significance Determination Process.” Using Appendix A, “The Significance Determination Process for Findings At Power,” Exhibit 2, “Mitigating Systems Screening Questions,” the inspectors answered ‘No’ to Questions 1, 2, 3 and 4 and, as a result, determined the finding was of very low safety significance (Green). There was no cross cutting aspect associated with the finding because it was not indicative of current licensee performance.

Inspection Report# : 2013002 *(pdf)*

Significance: G 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: G 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: G 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 Dec 31, 2012
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
INADEQUATE WORK INSTRUCTIONS FOR ENSURING 2A EDG JACKET WATER HEAT EXCHANGER GASKET COMPRESSION
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," was self revealed when on October 23, 2012, the 2A EDG lower jacket water cooler developed a leak due to inadequate work instructions that resulted in insufficient stationary head to cooler shell gasket compression. The licensee entered this issue into their CAP as IR1430575. Corrective actions included a replacement of the 2A jacket water cooler gasket utilizing proper torque values. In addition, the licensee's planned and implemented corrective actions included development of new work instructions that included joint torque values, lubrication of fasteners, and use of hardened washers when reinstalling safety-related EDG lube oil and jacket water heads.
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). In particular, although Unit 2 was defueled at the time of the event, Unit 1 was in Mode 1 and the ability to cross tie the 2A EDG to Unit 1 safety-related 4 kilovolt (kV) Bus 141, which was credited in the licensee's Updated Final Safety Analysis Report (UFSAR), was unavailable for greater than 5 days. 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. The inspectors answered 'No' to the Mitigating Systems cornerstone questions in IMC 0609, Appendix A, Exhibit 2.A, and, as a result, the finding screened as having very low safety significance (Green). This finding had a cross cutting aspect in the Operating Experience component of the Problem Identification and Resolution cross cutting area since licensee personnel failed to adequately evaluate and translate into work instructions available applicable operating experience regarding installation of EDG jacket water or lube oil cooler stationary heads (P.2(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: FIN Finding
FAILURE TO ADEQUATELY EVALUATE THE SPECIFIED TS CST FUNCTION AFTER THE IDENTIFICATION OF A NON-CONFORMING CONDITION ADVERSELY EFFECTING SG PORV FLOW RATES
The inspectors identified a finding of very low safety significance (Green) when licensee personnel failed to adhere to Corrective Action and Operability Determination Program standards after identifying a non conforming condition associated with reduced steam generator (SG) power-operated relief valve (PORV) flow capacities. Specifically, in April 2012, the licensee identified that the station SG PORV relief capacities were lower than what was assumed in the CLB. This condition was identified during laboratory testing to support a power uprate application. Throughout the licensee's operability assessment spanning from April to September 2012, the inspectors identified that the licensee did not adequately and effectively utilize station standards to evaluate Unit 2 CST operability after initially identifying the issue in April 2012; when processing a formal Operability Evaluation; after receiving new information from a sensitivity study performed by a contractor; and after the inspectors directly identified an issue of concern to the licensee that was addressed through the CAP. Specifically, the licensee did not ensure that the Unit 2 CST was capable of performing its TS function after identifying a non conservative condition that ultimately resulted in requiring nearly double the CST volume from what was assumed in the CLB. The inspectors determined that such a significant decrease in available margin provided a cause for reasonable doubt of Unit 2 CST operability. Corrective actions include a revision to the Operability Evaluation that addressed the deficiency and re-confirmed CST operability.
The inspectors determined the failure to evaluate the effect the reduced Unit 2 SG PORV flow rate capacities would have on the Unit 2 CST's ability to perform its specified TS function 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 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, Attachment 4, "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 CST maintained its operability and functionality within the CLB that this 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 failed to use conservative decision-making and verify the validity of underlying assumptions when evaluating the effect of reduced Unit 2 SG PORV flow capacities on CST operability (H.1(b)).

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)*
Inspection Report# : 2013003 *(pdf)*

Significance: G 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)*

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)).

Inspection Report# : 2012004 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Significance: G Jun 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE CONTROL OF A SPECIAL LIFTING DEVICE
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 adhere to design requirements specified for a special lifting device used to handle a transfer cask containing spent nuclear fuel in the vicinity of the spent fuel pool. The licensee entered this issue into their CAP as IR 1509204, "Required NDE [Nondestructive Examination] Not Performed on Lift Yoke," and IR 1509602, "Lift Yoke Stud Nuts Not Lock Wired." As part of their corrective actions, the licensee performed required tests and installed lock wire in accordance with design drawings prior to conducting additional lifts with the special lifting device. The inspectors determined that the failure to adhere to design drawings and American National Standards Institute (ANSI) requirements for annual testing of a special lifting device 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 impacted the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radioactive releases caused by accidents or events. The inspectors evaluated the finding using IMC 0609, Appendix A, Exhibit 3, "Barrier Integrity Screening Questions." The inspectors answered 'No' to all the screening questions in Appendix A, Exhibit 3, and therefore 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 since the licensee failed to have complete, accurate, and up to date design documentation and procedures that ensured personnel, equipment, procedures, and other resources were available and adequate to assure nuclear safety. Specifically the licensee's procedures for annual testing of a special lifting device lacked specific guidance, and design changes were made that conflicted with design drawings.
Inspection Report# : 2013003 *(pdf)*

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.

Inspection Report# : 2012004 *(pdf)*

Last modified : September 03, 2013