Braidwood 1
3Q/2013 Plant Inspection Findings

Initiating Events

Significance: G Sep 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO PERFORM A REQUIRED 10 CFR 50.59 EVALUATION
The inspectors identified a finding of very low safety significance and an associated Severity Level IV NCV of 10 CFR 50.59, "Changes, Tests, and Experiments," when licensee personnel failed to perform and maintain a written evaluation to demonstrate that a procedure change did not require a license amendment. Specifically, the licensee implemented a change to procedures 1/2BwOA SEC-4, "Loss of Instrument Air," Revision 3, that revised the actions to address a loss of component cooling water (CC) to the reactor coolant pump (RCP) thermal barrier heat exchange such that a complete loss of seal cooling could occur, which would result in damage to the RCP seals and a subsequent loss of coolant accident (LOCA). As part of the licensee corrective actions, procedures 1/2 BwOA SEC-4 were revised to address the issue. A revised 10 CFR 50.59 evaluation was also developed and approved. The performance deficiency was determined to be more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," because it could be reasonably viewed as a precursor to a significant event. The inspectors determined the finding could be evaluated using the Significance Determination Process (SDP) in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 2, for the Initiating Events cornerstone. The inspectors then answered 'No' to all of the screening questions in Table 3. The finding was further evaluated using IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 1. The inspectors answered 'No' to all of the questions contained therein. Therefore, the inspectors concluded the finding was of very low safety significance (Green). Because the associated finding was determined to be of very low safety significance in accordance with the SDP, the traditional enforcement aspect of this issue was determined to be at the Severity Level IV level. The inspectors did not identify a cross-cutting aspect associated with this finding since it was not indicative of current performance.

Inspection Report# : 2013004 *(pdf)*

Significance: G Sep 30, 2013
Identified By: NRC
Item Type: FIN Finding
FAILURE TO PERFORM A REQUIRED 10 CFR 50.59 EVALUATION
The inspectors identified a finding of very low safety significance and an associated Severity Level IV NCV of 10 CFR 50.59, "Changes, Tests, and Experiments," when licensee personnel failed to perform and maintain a written evaluation to demonstrate that a procedure change did not require a license amendment. Specifically, the licensee implemented a change to procedures 1/2BwOA SEC-4, "Loss of Instrument Air," Revision 3, that revised the actions to address a loss of component cooling water (CC) to the reactor coolant pump (RCP) thermal barrier heat exchange such that a complete loss of seal cooling could occur, which would result in damage to the RCP seals and a subsequent loss of coolant accident (LOCA). As part of the licensee corrective actions, procedures 1/2 BwOA SEC-4 were revised to address the issue. A revised 10 CFR 50.59 evaluation was also developed and approved. The performance deficiency was determined to be more than minor in accordance with IMC 0612, "Power Reactor

Inspection Reports," Appendix B, "Issue Screening," because it could be reasonably viewed as a precursor to a significant event. The inspectors determined the finding could be evaluated using the Significance Determination Process (SDP) in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 2, for the Initiating Events cornerstone. The inspectors then answered 'No' to all of the screening questions in Table 3. The finding was further evaluated using IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 1. The inspectors answered 'No' to all of the questions contained therein. Therefore, the inspectors concluded the finding was of very low safety significance (Green). Because the associated finding was determined to be of very low safety significance in accordance with the SDP, the traditional enforcement aspect of this issue was determined to be at the Severity Level IV level. The inspectors did not identify a cross-cutting aspect associated with this finding since it was not indicative of current performance.

Inspection Report# : 2013004 *(pdf)*

Significance: G Aug 30, 2013
Identified By: NRC
Item Type: FIN Finding
Failure to Adequately Evaluate SAT Overcurrent Relay Settings in Design Calculations.
The inspectors identified a finding of very low safety significance for the licensee's failure to ensure the system auxiliary transformer (SAT) 242-1 overcurrent relay provided protection coordination with upstream and downstream protective devices as required by Institute of Electrical and Electronics Engineers (IEEE)-242 and Design Document RPS-TG-3. Specifically, the licensee failed to demonstrate the relays would have provided upstream directional discrimination to allow the offsite power to clear a system fault before disconnecting the plant from the grid. The licensee entered this issue into their corrective action program and after further evaluation concluded the SAT overcurrent relay settings were still acceptable.

The inspectors determined the performance deficiency was more than minor because if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern. Specifically, it would have increased the likelihood of events that upset plant stability and affected the availability and reliability of the preferred alternating current (AC) power supply. The inspectors determined the finding was of very low safety significance (Green) because it did not cause a reactor trip and the loss of mitigation equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was not representative of current performance.
Inspection Report# : 2013007 *(pdf)*

Mitigating Systems

Significance: G Aug 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Ensure Six Component Cooling (CC) System Manual Valves Were in the Correct Position as Required by Technical Specification (TS) Surveillance Requirement (SR) 3.7.7.1.
The inspectors identified a finding of very low safety significance (Green) and an associated NCV of Technical Specification Surveillance Requirement 3.7.7.1, for the licensee's failure to ensure six component cooling (CC) system manual valves in the flow path servicing safety-related equipment, that were not locked, sealed, or otherwise secured in position, were verified in the correct position every 31 days. The licensee entered this finding into their

Correction Action Program, verified the correct position of the six CC system manual valves, and revised surveillance procedures to include the requirement to periodically verify the correct position of these valves.

The performance deficiency was determined to be more than minor because it was similar to IMC 0612, Appendix E, Example 3.c, since more than one valve was in the required position, but not locked, sealed, or otherwise secured in the correct position, and it impacted the Mitigating Systems cornerstone's objective of ensuring the availability, reliability, and capability of systems to respond to initiating events to prevent undesirable consequences, (i.e., core damage). Since the finding did not represent an actual loss of safety function, the inspectors screened the finding as having very low safety significance (Green). The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was not representative of current performance.

Inspection Report# : 2013007 *(pdf)*

Significance: G Aug 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Incorporate Accident Flows in Component Cooling Water Pump Net Positive Suction Head Calculations.
The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to incorporate accident flows in component cooling water (CCW) pump net positive suction head (NPSH) available calculations. Specifically, the licensee failed to calculate the NPSH for the CCW pumps using the run-out flows, which would have resulted in much lower available NPSH. The licensee entered this issue into their Corrective Action Program and recalculated the CCW pump available NPSH and determined that margin remained.

The inspectors determined that the performance deficiency was more than minor because it was associated with the Mitigating Systems cornerstone attribute of design control and affected the cornerstone objective of ensuring the capability of the CCW system to respond to an initiating event to prevent undesirable consequences. Specifically, by failing to consider the accident loads in the CCW pumps NPSH calculations there was reasonable doubt as to whether the CCW pumps would have been operable during accident conditions. The inspectors determined that the finding was of very low safety significance (Green) because it did not result in the loss of operability or an actual loss of the CCW system. The inspectors did not identify a cross cutting aspect associated with this finding because the finding was not representative of current performance.
Inspection Report# : 2013007 *(pdf)*

Significance: G Aug 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Consider Adequate Tornado Missile Protection in SX Discharge Pipe.
The inspectors identified a finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to consider design control measures commensurate with those applied to the original essential service water (SX) design related to tornado missile protection. Specifically, the licensee processed a physical modification to the SX discharge pipe and failed to protect or evaluate the exposed portion from potential tornado missiles. The licensee entered this issue into their Corrective Action Program and showed by calculation that the modified SX pipe would shear off upon impact from the design basis tornado missile and the safety-related portion would be unharmed and capable of performing its intended function.

The inspectors determined that the performance deficiency was more than minor because it was associated with the Mitigating Systems cornerstone attribute of design control and affected the cornerstone objective of ensuring the

capability of the SX system to respond to an initiating event to prevent undesirable consequences. Specifically, by failing to consider tornado missile protection in the SX design, there was reasonable doubt as to whether the SX pumps would have been operable during accident conditions. Since the finding would degrade two or more trains of a multi-train system or function, the inspectors determined a Detailed Risk-Evaluation was required. Based on the Detailed Risk-Evaluation, the Senior Reactor Analysts determined the delta core damage frequency for the finding was 6.66E-7/yr and was of very low safety significance (Green). The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was not representative of current performance.

Inspection Report# : 2013007 *(pdf)*

Significance: G Aug 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Consider Multiple Failures in the Emergency Operating Procedures (EOPs) 1(2)BwEP ES 1.3, "Transfer to Cold leg Recirculation" as Required by Technical Specification.
The inspectors identified a finding of very low safety significance (Green) and an associated NCV of Technical Specification, Section 5.4.1b for the licensee's failure to establish the necessary actions as required in Emergency Operating Procedures (EOPs) 1(2)BwEP ES 1.3, "Transfer to Cold Leg Recirculation," Revision 201. Specifically, the licensee failed to ensure EOPs 1(2)BwEP ES 1.3 contained the necessary actions for transition to 1(2)BwCA-1.1, "Loss of Emergency Coolant Recirculation" for a small loss of coolant accident (SLOCA) or medium loss of coolant accident (MLOCA) with a concurrent failure of residual heat removal (RHR) heat exchanger (HX) to safety injection (SI) and centrifugal charging pump (CCP) isolation valves. The licensee entered this finding into their Correction Action Program to revise the subject procedures.

The finding was determined to be more than minor because it was associated with the Mitigating Systems cornerstone attribute of procedure quality and affected the cornerstone's 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 ensure the procedure for establishing containment sump recirculation for a SLOCA or MLOCA contained the necessary actions for potential equipment failures. Since the finding resulted in the potential for a loss of the containment sump recirculation function during a SLOCA or MLOCA for certain equipment failures when transferring to containment sump recirculation, the inspectors determined a Detailed Risk-Evaluation was required. Based on the Detailed Risk-Evaluation, the Senior Reactor Analysts determined the delta core damage frequency for the finding was 1.0E-8/yr. and was of very low safety significance (Green). The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was not representative of current performance.

Inspection Report# : 2013007 *(pdf)*

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)*

Barrier Integrity

Significance: G Aug 30, 2013
Identified By: NRC
Item Type: NCV NonCited Violation
Procedures for Shutdown Loss of Coolant Accident (LOCA) Not Appropriate If RCS Leakage Is Isolated.
The inspectors identified a finding of very low safety significance (Green) and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to ensure abnormal operating Procedures (AOPs) 1(2)BwOA S/D-2, "Shutdown LOCA," Revision 104 (105 for Unit 2) contained the necessary actions to immediately terminate Safety Injection (SI) flow if reactor coolant system (RCS) leakage was isolated. Specifically, the licensee failed to update 1(2)BwOA S/D-2, "Shutdown LOCA" to Revision 2 of the Westinghouse Owners Group (WOG) Abnormal Response Guideline (ARG)-2, "Shutdown LOCA," that resulted in a CAUTION not added to terminate SI flow in a timely manner to prevent RCS over-pressurization, if RCS leakage was isolated. The licensee entered this finding into their Correction Action Program to add the CAUTION statement in the procedure.
The finding was determined to be more than minor because it was associated with the Barrier Integrity cornerstone attribute of procedure quality and affected the cornerstone's objective of providing reasonable assurance that physical design barriers protect the public from radioactive releases caused by accidents or events. Operations in accordance with the procedure may have challenged the RCS barrier during a shutdown LOCA event. Specifically, the licensee failed to update Procedure 1(2)BwOA S/D-2, "Shutdown LOCA" to Revision 2 of the WOG ARG-2, "Shutdown LOCA" guideline that resulted in a CAUTION that was not added to terminate SI flow in a timely manner to prevent RCS over-pressurization, if RCS leakage was isolated. The inspectors conducted an assessment of the risk

significance of the issue in accordance with IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process." The inspectors determined the finding did not require a Phase II assessment and was of very low safety significance (Green). The inspectors did not identify a cross-cutting aspect associated with this finding because the finding was not representative of current performance.
Inspection Report# : 2013007 *(pdf)*

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)*

Last modified : December 03, 2013