Braidwood 1
4Q/2007 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Aug 24, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate test control for safety-related heat exchangers
The inspectors identified a finding having very low significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, “Test Control,” related to the failure to establish a formal heat exchanger testing program capable of identifying an unacceptable condition of the safety related cubicle coolers. Specifically, prior to 2003, the licensee’s program lacked formalized acceptance criteria. The current program did not provide guidance on how to translate design information into acceptance criteria or guidance on quantifying the results of the examinations.
Inspection Report# : 2007009 *(pdf)*

Significance: G Aug 24, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate safety-related heat exchanger examination procedure
The inspectors identified a finding of very low safety significance involving a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," with regard to the licensee’s heat exchanger examination procedure. Specifically, the procedure was inappropriate to ensure that the safety-related heat exchangers were satisfactorily inspected and evaluated. Upon discovery, the licensee initiated an evaluation to determine the operability of the affected heat exchangers.
Inspection Report# : 2007009 *(pdf)*

Significance: G Aug 24, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to take corrective action
The inspectors identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” having very low safety significance. Specifically, the inspectors determined that the licensee failed to identify that operability of the AFW pump room coolers would not be supported above 100°F and subsequently correct the condition when the allowable heat sink temperature was raised. The licensee performed a preliminary calculation and determined the coolers remained operable.
Inspection Report# : 2007009 *(pdf)*

Significance: G Jun 12, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
THE LICENSEE'S FAILURE TO MAINTAIN A PROCEDURE ADEQUATE COULD HAVE RESULTED IN SECURING THE ONLY REMAINING RESIDUAL HEAT REMOVAL PUMP
The inspectors identified a violation of Technical Specification 5.4.1, "Procedures," for the licensee’s failure to provide an adequate procedure to ensure the continued operation of the "A" residual heat removal pump, during cold leg recirculation mode of operation, during conditions when the "B" residual heat removal pump was not available.

The licensee initiated an issue report to track the resolution of this finding. Subsequently, the licensee revised the affected procedure on May 21, 2007 to ensure one residual heat removal pump remained operable. The licensee's failure to maintain an adequate procedure to ensure the continued operation of the "A" residual heat removal pump was more than minor because the finding affected the mitigating systems cornerstone objective of ensuring the availability and reliability of the emergency core cooling system to respond to initiating events to prevent undesirable consequences. Specifically, the finding was associated with the mitigating systems attribute of procedure quality. The finding is of very low safety significance because the finding screened as Green during the Phase 1 Significance Determination Process.
Inspection Report# : 2007007 *(pdf)*

Significance:  Jun 12, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
INADEQUATE EXTENT OF CONDITION REVIEW WHICH FAILED TO IDENTIFY THAT IST TESTING WAS NOT PERFORMED FOR COMPONENT COOLING WATER SYSTEMS VALVES
The inspectors identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," because the licensee failed to include several manual component cooling water system valves, that were required to perform a safety function, in the inservice testing (IST) program and subsequently test the valves in accordance with IST program requirements. The finding was related to the cross-cutting area of Problem Identification and Resolution. A cross-cutting aspect in the corrective action program was identified because the licensee did not conduct an adequate extent of condition review, for a previously missed IST surveillance on several essential service water system valves. As a result, the licensee failed to identify that the component cooling water systems valves required inclusion in and testing by the IST program. The licensee initiated an issue report to track the corrective actions for this finding. Subsequently, the licensee placed the valves on the Plan-Of-The-Day Meeting Agenda to ensure testing, which was scheduled for June 30, 2007. The failure to account for these valves in the IST program was more than minor because the finding affected the mitigating systems cornerstone objective of ensuring the availability and reliability of the component cooling water and residual heat removal systems when required to respond to initiating events to prevent undesirable consequences. Specifically, the finding was associated with the mitigating systems attribute of equipment performance. The finding is of very low safety significance because the finding screened as Green during the Phase 1 Significance Determination Process.
Inspection Report# : 2007007 *(pdf)*

Significance:  Mar 31, 2007
Identified By: NRC
Item Type: FIN Finding
DEGRADED QUALIFICATION OF ELECTRICAL PANELS DUE TO FAILURE TO SECURE DOORS
The inspectors identified a finding of very low safety-significance for failing to maintain the control panels for the control room ventilation system chillers and the auxiliary feedwater system, as well as numerous others, fully latched closed. As a result, the systems were in a degraded condition such that operability might have been impacted during a seismic or flooding event. The finding had a cross-cutting aspect in the area of Problem Identification and Resolution because supervisors and managers had failed to identify that standards for control of the qualification of electrical panels had degraded to the point that it had become the standard practice not to fully latch panels closed. The licensee failed to implement a low threshold for identifying issues in this aspect of its corrective action program. Corrective actions taken by the licensee included sending operators to walkdown the plant to secure all panel doors and write corrective action documents for all missing or degraded fastening hardware. Tailgate sessions were also held with all operations and maintenance personnel to communicate the expectations for fastening panel doors. The finding was more than minor because it affected the reliability objective of the Mitigating Systems cornerstone for the external factors attribute. The finding was of very low safety significance because it was a qualification deficiency that did not result in loss of operability.
Inspection Report# : 2007003 *(pdf)*

Significance:  Jan 26, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Lack of 50.59 Evaluation for Substitution of Manual Actions for Automatic Start Signals on the A Motor

Driven AFW Pump
Green. The inspectors identified a Severity Level IV NCV of 10 CFR 50.59(d)(1) for the licensee's failure to document an evaluation which provides a basis for the determination that the change, test, or experiment did not require a license amendment. Specifically, for Revision 4 and Revision 101 of procedure 1/2BwOA ELEC-4 "Loss of Off-site Power" the licensee failed to provide an evaluation as to why replacing an automatic pump start function with a manual action (e.g., placing the A motor driven auxiliary feed pump in "pull out") did not present more than a minimal increase in the likelihood of occurrence of a malfunction of a structure system or component important to safety previously evaluated in the Updated Final Safety Analysis Report. The licensee entered this issue into the corrective action program, and initiated actions to complete a 10 CFR 50.59 evaluation to determine if these procedure changes were acceptable without a license amendment. Because the licensee's procedure changes implemented the appropriate Technical Specification requirements, this issue did not affect the operability of the auxiliary feedwater system.

Because the issue potentially impacted the NRC's ability to perform its regulatory function, this finding was evaluated using the traditional enforcement process. The finding was determined to be more than minor because the inspectors could not reasonably determine that the procedural change, that affected the Updated Final Safety Analysis Report described design function of equipment important to safety, would not have ultimately required NRC prior approval. Based upon this Phase 1 screening, the inspectors concluded that the issue was of very low safety significance. (Section 1R02.1.b.2)

Inspection Report# : 2007002 *(pdf)*

Barrier Integrity

Significance: G Sep 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Meet TRM Requirements for Spent Fuel Building Crane Interlocks and Physical Stops (1R20)
A finding of very low safety significance and associated Non-Cited Violation of Technical Specification 5.4.1 was identified by the inspectors for failure to have and follow procedures, which met the surveillance requirements of Technical Requirements Manual (TRM), Section 3.9.d.1. Specifically to verify that both the spent fuel pool crane electrical interlocks and physical stops were operable, with the purpose to prevent crane travel with loads greater than 2000 pounds over fuel assemblies. This was required to be completed within seven days prior to crane use. The inspectors identified that loads greater than 2000 pounds were regularly moved with the crane with the electrical interlocks bypassed and the physical stops removed.

The finding was greater than minor because, if left uncorrected, it could have become more significant as additional heavy loads were moved with no interlocks in place. The finding affected the attribute of maintaining functionality of spent fuel cladding in the Barrier Integrity cornerstone. Using the SDP Phase 1 Screening Worksheet of IMC 0609, the inspectors determined that the finding screened as Green because it only affected the fuel barrier. The licensee entered the issue into its corrective action program, temporarily suspended crane operation, and modified its procedures and practices to meet the TRM. The finding had a cross-cutting aspect in the area of Human Performance in the work practices component. Personnel failed to follow the TRM because implementing procedures did not require both the electrical interlocks and physical stops to be in place within seven days prior to crane use (H.4(b)).
Inspection Report# : 2007005 *(pdf)*

Significance: G Jan 26, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Basis in 10 CFR 50.59 Evaluation for Installation of Sulfuric Acid System
Green. The inspectors identified a Severity Level IV NCV of 10 CFR 50.59 "Changes, Tests, and Experiments," having very low safety significance (Green) for the licensee's failure to perform an adequate safety evaluation review for changes made to the facility per modification EC 357102. In safety evaluation BWR-E-2006-196 (for EC 357102),

the licensee failed to provide an adequate basis as to why the installation of two 15,000 gallon sulfuric acid tanks sharing a common drain system with a sodium hypochlorite tank did not create conditions for an accident of a different type than any previously evaluated in the Updated Final Safety Analysis Report. When these chemicals mix, they would produce an on-site release of chlorine gas, which could potentially overcome the control room operators. The licensee entered this issue into the corrective action program and considered the control room heating, ventilation and air conditioning system operable because of the time of year (mid-winter) such that weather conditions favoring formation of a tornado does not occur. Also, the licensee stated that the sulfuric acid tanks would be drained to approximately 2000 gallons each during the times of year when tornadoes are more likely to minimize the magnitude of any chlorine release.

Because the issue potentially impacted the NRC's ability to perform its regulatory function, this finding was evaluated using the traditional enforcement process. The finding was determined to be more than minor because the inspectors could not reasonably determine that the activity to install the new sulfuric acid tanks without detection and alarm circuits to notify the control room would not have ultimately required NRC prior approval. This finding has a cross-cutting aspect in the area of human performance because the licensee did not make appropriate or conservative decisions with respect to reviewing the plant design and license basis. Specifically, the licensee staff chose a narrow interpretation of Regulatory Guide 1.78 "Assumptions for Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release," such that a control room habitability evaluation for an on-site chlorine gas release was not completed. The finding was not suitable for a significance determination process evaluation, but has been reviewed by NRC Management in accordance with qualitative criteria of Appendix M of IMC 0609 and is determined to be a finding of very low safety significance. (Section 1R02.1.b.1)

Inspection Report# : 2007002 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance:  Jun 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT A RADIATION PROTECTION PROGRAM COMMENSURATE WITH THE EXTENT OF PLANT RADIOLOGICAL HAZARDS
A finding of very low safety significance and an associated NCV of 10 CFR 20.1101(a) was identified by the inspectors for the licensee's failure to implement a radiation protection program commensurate with licensed activities and the ongoing radiological issues at the plant. Specifically, radiological controls were not effectively applied to secondary systems, which contained contaminated (tritium) fluids, to ensure that worker exposures and radiological effluents were fully monitored and controlled. The finding is greater than minor because it was associated with the process and procedures attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective to ensure the adequate protection of worker health and safety from exposure to radiation from radioactive material during nuclear reactor operation. Specifically, the inspectors determined that the finding did not involve unintended collective dose resulting from a deficiency in As-Low-As-Reasonably-Achievable (ALARA) planning, work control, or exposure control. The inspectors also determined that the finding did not involve an overexposure, the substantial potential for an overexposure, and did not compromise the licensee's ability to assess dose. Consequently, the inspectors concluded that the finding was of very low safety significance. Corrective actions taken by the licensee included characterizing secondary systems to determine tritium concentration and prescribing radiological coverage and contamination control requirements for each system based upon this characterization. The cause of the finding was related to a cross-cutting aspect in the area of Problem Identification and Resolution because the licensee did not address radiological safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity (P.1(d)).
Inspection Report# : 2007004 *(pdf)*

Significance: G Jun 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO POST AREAS THAT CONTAIN RADIOACTIVE MATERIAL
A finding of very low safety significance and an associated NCV of 10 CFR 20.1902(e) was identified by the inspectors for the failure to post areas in which licensed material is used or stored. Specifically, two waste water lagoons, located within the Protected Area, and the Turbine Building each contained greater than 10,000 uCi of tritium and were not posted in accordance with 10 CFR 20.1902(e). The finding is greater than minor because it was associated with the process and procedures attribute of the Occupational Radiation Safety cornerstone and affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation from radioactive material during nuclear reactor operation. Specifically, the inspectors determined that the finding did not concern unintended collective dose resulting from a deficiency in ALARA planning, work control or exposure control. The inspectors also determined that the finding did not involve an overexposure, the substantial potential for an overexposure, and did not compromise the licensee's ability to assess dose. Consequently, the inspectors concluded that the Significance Determination Process (SDP) assessment for this finding was of very low safety significance. Corrective actions taken by the licensee included posting the lagoons and areas of the turbine building appropriately as "CAUTION, RADIOACTIVE MATERIAL(S)." The cause of the finding was related to a cross-cutting aspect in the area of Human Performance because the licensee did not use conservative assumptions in decision making (H.1 (b)).
Inspection Report# : 2007004 *(pdf)*

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

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