Catawba 2
2Q/2008 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Mar 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify an Inoperable CRACWS Chiller Prior to Removing the Remaining Chiller from Service Placed Both Units in TS 3.0.3 for Approximately 110 minutes (Section 4OA2.2(2))
The inspectors identified a Green non-cited violation of Technical Specification 5.4.1.a, for the failure to adequately establish and implement procedures required by Regulatory Guide 1.33, Appendix A, Section 1.b, Administrative Procedures. Specifically, the licensed operators in the main control room and work control center failed to identify that the "A" Control Room Area Chilled Water System (CRACWS) was inoperable prior to removing the remaining chiller from service for testing. This placed both Catawba units in Technical Specification 3.0.3 for approximately 110 minutes without any of the required actions being taken.

The finding was more than minor because it was associated with the Configuration Control attribute of the Barrier Integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers provide protection from radionuclide releases caused by accidents or events. While the Control Room Area Ventilation System (CRAVS) would have remained operable in terms of filtering air in the areas it services, without chilled water providing cooling, operators would have had to bypass the filtered air paths using Abnormal Operating Procedure (AP) guidance in order to maintain area temperatures at values needed to ensure equipment in the areas remained operable over time. The inspectors determined the finding to be of very low safety significance using the Phase 1 Screening Worksheet of Inspection Manual 0609, "Maintenance Risk Assessment and Risk Significance Determination Process". The issue would only become evident if the 2A diesel generator failed to re-energize the 2A 4.16kV vital bus following a loss of offsite power (LOOP) event with the "A" chiller control power aligned to the 2A bus and the length of time available before the AP would have had to be entered and the filtered air flow paths bypassed.

The finding directly involved the cross-cutting area of Human Performance under the "Procedural Compliance" aspect of the "Work Practices" component, in that the licensee failed to effectively follow multiple station procedures to ensure redundant CRACWS chillers were not removed from service, resulting in a potential loss of chilled water cooling for areas supplied by the CRAVS [H.4.b]. This issue has been entered into the licensee's Corrective Action Program as Problem Investigation Process report (PIP) C-07-7073. (Section 4OA2.2(2))

Inspection Report# : 2008002 *(pdf)*

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Required ASME Code Section XI Leakage Testing
The inspectors identified a Green non-cited violation (NCV) of 10 CFR 50.55a(g)(4) for the failure to perform periodic leakage testing of buried piping portions of the service water system as required by Section XI of the ASME Code for the second 10-year Inservice Inspection interval for Units 1 and 2. The licensee entered this issue into their corrective action program for resolution.

This finding is more than minor because it affects the Equipment Performance attribute of the Mitigating Systems

cornerstone objective of ensuring availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding is of very low safety significance because it did not represent an actual loss of a system's safety function. (Section 1R08.1)

Inspection Report# : 2007005 *(pdf)*

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Develop a Lift Plan and Risk Management Actions for the Replacement of Piping Over a Safety-Related SSC
The inspectors identified a Green NCV of 10CR50.65(a)(4) for the failure to manage and minimize the risk associated with the replacement of portions of the nuclear service water (RN) system. More specifically, the licensee failed to develop a Complex Lift Plan as required by Corporate procedures and develop appropriate risk management actions as part of the Critical Activity Plan.

The finding was more than minor because it was associated with the "Protection Against External Factors" attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability and capability of systems designed to prevent undesirable consequences was maintained. An unexpected loss of the 2A train of spent fuel pool cooling (from an inadequately controlled RN piping lift above it) could have resulted in undesirable consequences with the recently off-loaded reactor core being in the spent fuel pool. The inspectors completed a Phase 1 screening of the finding using Appendix K of the Inspection Manual Chapter 0609, "Maintenance Risk Assessment and Risk Significance Determination Process," and determined that the performance deficiency represented a finding of very low safety significance on the basis that the actual RN piping replacement had not begun at the time the deficiencies were identified and the lifts were deferred until the appropriate actions were developed and implemented. The finding directly involved the cross-cutting area of Human Performance under the "Safety Significant/Risk Significant Decisions" aspect of the "Decision Making" component (H.1.a), in that the licensee failed to develop a lift plan and applicable risk management actions in accordance with station and corporate requirements to ensure the risk associated with moving RN piping over in-service spent fuel pool cooling piping was controlled and minimized. This finding was entered into the licensee's corrective action program. (Section 1R13)

Inspection Report# : 2007005 *(pdf)*

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inspections of the Unit 2 ECCS Containment Sump Installation Failed to Identify Deficiencies Prior to Declaring the Safety-Related Structure Operable
The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion X, Inspections, for the licensee's failure to adequately implement inspections of the new Unit 2 emergency core cooling system (ECCS) containment sump to ensure it was installed in accordance with design specifications so as to support operability when required by Technical Specifications (TSs).

The finding was more than minor because it was associated with the Design Control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences was maintained. Following final inspections of the ECCS containment sump modification, inspectors identified deficiencies that required resolution prior to declaring the sump operable as required by TSs to support unit restart. The inspectors determined that the finding was of very low safety significance using the Phase 1 Screening Worksheet of Inspection Manual 0609, Maintenance Risk Assessment and Risk Significance Determination Process, based on the fact that Unit 2 had not yet entered an operational mode in which the ECCS containment sump was required to be operable at the time the construction deficiencies were identified. The finding directly involved the cross-cutting area of Human Performance under the "Human Performance and Error Prevention" aspect of the "Work Practices" component, in that the licensee failed to implement the required inspections of the ECCS sump to ensure the permanent modification was installed in accordance with design specifications and would remain operable under all postulated accident conditions (H.4.a). This finding was entered into the licensee's corrective action program. (Section 1R17)
Inspection Report# : 2007005 *(pdf)*

Significance: G Aug 03, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
ELU Replacement Batteries Not Tested After Installation
Inspectors identified a non-cited violation (NCV) of Units 1 and 2 Operating License Condition 2.C.(5) for failure to follow the emergency battery lighting maintenance and testing procedure IP/0/B/3540/002, Emergency Battery Lighting Periodic Maintenance and Testing, Revision 33, during replacement of failed batteries. The licensee stated that the batteries were routinely tested prior to installation while in the maintenance shop; however, this bench test was neither required by the periodic maintenance and testing procedure nor documented in any test record. This NCV was entered into the licensee's corrective action program as Problem Investigation Process report C-07-2025.

This finding was more than minor because it was associated with the external factors attribute (i.e., fire) of the Mitigating Systems cornerstone and it affected the cornerstone objective. The finding involved systems or components (i.e., emergency lights) required for post-fire safe shutdown of the reactor. The inspectors completed a Phase 1 screening of the finding in accordance with Inspection Manual Chapter 0609, Appendix F, Fire Protection Significance Determination Process Phase 1 Qualitative Screening Approach, Step 1.3, and concluded that the finding, given its low degradation rating, had very low safety significance (Green) and no further analysis was required. The finding directly involved the cross-cutting area of Human Performance under the "procedural compliance" aspect of the "Work Practices" component, in that the licensee failed to effectively communicate expectations regarding procedure compliance for testing of replacement emergency lighting batteries (H.4.b). (Section 1R05.09.b)

Inspection Report# : 2007007 *(pdf)*

Barrier Integrity

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Promptly Identify and Correct a Significant Condition Adverse to Quality Affecting the Ability of Both CRAVS Chillers to Operate as Designed Following a SBO due to Inadequate Troubleshootin
The inspectors identified a Green NCV of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, for the licensee's failure to promptly identify and correct a significant condition adverse to quality affecting the ability of both control room area ventilation system (CRAVS) chillers to operate as designed following a station blackout (SBO).

The finding was more than minor because it was associated with the Configuration Control attribute of the Barrier Integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers provide protection from radio-nuclide releases caused by accidents or events. While the CRAVS would have remained operable in terms of filtering air in the areas it services, without chilled water providing cooling, operators would have had to bypass the filtered air paths using abnormal operating procedure (AP) guidance in order to maintain area temperatures at values needed to ensure equipment in the areas remained operable. The inspectors determined the finding to be of very low safety significance using the Phase 1 Screening Worksheet of Inspection Manual 0609, Maintenance Risk Assessment and Risk Significance Determination Process, based on the fact that the issue would only become evident if one CRAVS chiller was out-of-service at the time of a SBO event and the time available to restore at least one chiller before the AP would have had to be entered and the filtered air flow paths bypassed. Based on a review of station Probabilistic Risk Assessment data, the likelihood of a SBO event in conjunction with one chiller being inoperable was determined to be extremely low. The finding directly involved the cross-cutting area of Problem Identification and Resolution under the "Thorough Evaluation of Identified Problems" aspect of the "Corrective Action Program" component, in that the licensee failed to take the necessary actions to identify and correct the cause (i.e., high resistance fuse installed in temperature reset circuit) of the "A" CRAVS chiller failing to restart during engineered safety features (ESF) testing to ensure both chillers would function as designed under all postulated transients (P.1.c). This finding was entered into the licensee's corrective action program. (Section 1R19)
Inspection Report# : 2007005 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

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

Last modified : August 29, 2008