Catawba 1

Initiating Events

Mitigating Systems

Significance: G Jun 24, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Scope an Accident Mitigating Function Associated with ECCS Leak Detection in the Maintenance Rule
The licensee failed to include in its maintenance rule scope an accident mitigating function for a control room alarm associated with emergency core cooling system post-accident leak detection capability. The alarm was tied to residual heat removal and containment spray pump room sump levels and was identified in 1998 as a mitigating function, as described in the Catawba Updated Final Safety Analysis Report. As a result, two functional failures were not properly classified in February 2000. This issue was characterized as a non-cited violation of 10 CFR 50.65 (b)(2) and was determined to have very low safety significance because the licensee's scoping and functional failure determination errors did not directly result in additional unavailability of the alarm function (Section 1R12.2).
Inspection Report# : 2000003*(pdf)*

Significance: G Jun 24, 2000
Identified By: Licensee
Item Type: NCV NonCited Violation
Failure to Provide Adequate Procedures for Performing Maintenance on Safety-Related Sump Pump Level Switches
Residual heat removal and containment spray pump room sump level alarm function was lost for several months up to February 2000 due to inadequate maintenance procedures associated with sump level switch calibrations. This issue was characterized as a non-cited violation of Technical Specification 5.4.1 and was determined to be of very low safety significance due to the availability of other emergency core cooling system leak detection methods (Section 4OA3.2).
Inspection Report# : 2000003*(pdf)*

Significance: G Sep 22, 2001
Identified By: Licensee
Item Type: NCV NonCited Violation
Failure to Identify A Condition Adverse to Quality that Rendered the "A" Chiller Inoperable
Operations personnel failed to identify a condition adverse to quality which contributed to not recognizing that the "A" Train of the Control Room Area Chilled Water System (CRACWS) was inoperable. The successful start of the "A" chiller was the basis for calling "A" Train CRACWS operable. However, the fact that maintenance personnel assisted in the chiller start and unreliable operation of the chiller pressure switch was exhibited in earlier testing was not factored into the operability decision. This was dispositioned as a non-cited violation. The failure was determined to be of very low safety significance because the "A" Train CRACWS functioned properly while "B" Train CRACWS was being restored to service. Also during subsequent tests, the "A" chiller operated satisfactorily. Additional information on this finding is provided in NRC letter to Duke Energy Corporation dated January 9, 2002. (Section 4OA3)
Inspection Report# : 2001005*(pdf)*

Significance: G Sep 22, 2001
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify Failed 1A ND Discharge Piping Support
The inspectors identified a failure to identify a condition adverse to quality and establish effective corrective actions following the failure of 1A Residual Heat Removal (ND) pump discharge piping support 1-R-ND-0226. The licensee failed to properly evaluate data from the 1A ND pump start on November 5, 2000, which had indications that a failure of the support had occurred. This was dispositioned as a non-cited violation. The failure was determined to be of very low safety significance because the licensee subsequently determined that the support failure did not render the ND system unavailable to perform its function. (Section 1R15)

Inspection Report# : 2001005*(pdf)*

Significance: G Mar 30, 2001
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Adequately Perform TS SR 3.4.9.3 for Pressurizer Heaters
A non-cited violation was identified regarding the licensees failure to properly perform Technical Specification Surveillance Requirement 3.4.9.3, which verifies that pressurizer heaters can be automatically transferred from their normal power supplies to their emergency power supplies. Once identified, the portion of the automatic circuit that had been omitted from the test was properly tested on February 5, 2001, and was verified to be functional. This finding had a credible impact on safety because the licensee had never demonstrated the full automatic capability of the power supply transfer circuitry for the pressurizer heaters, which are important for maintaining pressurizer pressure control during a loss of offsite power event. The finding was also the latest in a number of missed surveillance requirements identified at Catawba over the last two to three years. This finding was of very low safety significance because the circuit was functional when tested and because of provisions in the licensee's emergency procedures for manually aligning the heaters to their emergency power source had the automatic transfer failed during a loss of normal power event (Section 1R22).
Inspection Report# : 2000006*(pdf)*

Significance: G Mar 30, 2001
Identified By: NRC
Item Type: FIN Finding
Failed to Demonstrate Performance of the Station Drinking Water System as Backup Cooling Water to the Unit 1 and 2 A Train Charging Pumps
The licensee failed to demonstrate that the performance or condition of the station drinking water system, a risk-important system that provides backup cooling water to the Unit 1 and 2 A train charging pump motors and bearing oil coolers, was being effectively controlled through the performance of appropriate preventive maintenance (including surveillance activities). This resulted in a failure to recognize and correct a degraded system pressure condition, until it was identified by the inspectors. The degraded pressure condition was determined to be of very low safety significance because an analysis performed by the licensee demonstrated that the backup function to cool the charging pumps and motors would have been provided at the degraded pressure (Section 1R12.2).
Inspection Report# : 2000006*(pdf)*

Significance: G Feb 16, 2001
Identified By: Licensee
Item Type: NCV NonCited Violation
Failure to Meet 10 CFR 50, Appendix B, Criterion III and XI for Unit 1 RIVLIS
10 CFR 50, Appendix B, Criterion III, requires in part that the design bases is correctly translated into drawings. 10 CFR 50, Appendix B, Criterion XI, requires in part that all testing required to demonstrate that components will perform satisfactorily in service is identified and performed. To the contrary, an error in the electrical drawings for the Unit 1 reactor vessel level indication system (RVLIS) circuitry was introduced during a previous drawing revision on July 1, 1985, which led to the improper wiring of the RVLIS instrumentation in a June 1999 modification. Following the modification activities, the licensee did not develop an adequate post modification testing plan for the RVLIS electrical circuitry, resulting in one channel of RVLIS being inoperable for 18 months. This finding was determined to have very low safety significnace and is captured in the licensee's corrective action program under PIP C-00-05558 (Section 4OA7).
Inspection Report# : 2001003*(pdf)*

Significance: G Feb 16, 2001
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify Conditions Adverse to Quality - two examples
The first example of a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI was identified for a failure to identify a condition adverse to quality which contributed to a Unit 1 reactor vessel level instrument system (RVLIS) channel being inoperable. A quality control inspector did not initiate a Problem Investigation Process report after identifying that a RVLIS system terminal board was not reconnected (wired) in accordance with electrical drawings. Because of an electrical drawing error, the terminal board was then wired incorrectly and resulted in a failure to meet Technical Specification 3.3.3. Function 4 requirements for an inoperable RVLIS channel from June 1999 to November 4, 2000. Because other indications would have been available to the operators to mitigate the consequences of an accident, and based on the probability that the operators would have used the conservative indication of decreasing reactor vessel level from the operable RVLIS channel, the inspectors determined that this issue was of very low safety significance. (Section 40A2.a.(2).2) The second example of a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI was identified for a failure to identify a condition adverse to quality which contributed to not recognizing that four post accident monitoring control room recorders in Unit 1 were inoperable from September 24 through September 29, 2000, and degraded from September 29 through

October 19, 2000. Specifically, operators did not review applicable electrical drawings in order to identify which components were supplied from a failed electrical breaker. Consequently, they did not recognize that post accident monitoring control room recorders, which are used in the emergency operating procedures to determine mitigation strategies, were no longer operable. Because other indications would have been available to the operators to use in lieu of these accident monitoring recorders and because the Technical Specification Limiting Condition for Operation requirements were not exceeded, the inspectors determined that this issue was of very low safety significance. (Section 40A2.a.(2).3)
Inspection Report# : 2001003*(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Significance: G Sep 23, 2000
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Control Access to High Radiation Areas as Required by 10 CFR Part 20.1601 and TS 5.7.2
A single event, resulting in two non-cited violations, involved: (1) a failure to implement radiation control procedures for posting an extra high radiation area as required by TS 5.4.1.a.; and (2) failure to lock or control entrance to an extra high radiation area as required by Technical Specification 5.7.2 and Title 10 CFR Part 20.1601. This event was determined to be of very low safety significance because minimal radiation exposure was received by the workers and inadvertent entry into the area of concern (i.e., containment building in the area near the personnel air lock) would not immediately result in workers being in radiation fields greater than 1000 milliroentgen equivalent man per hour (Section 2OS1).
Inspection Report# : 2000004*(pdf)*

Significance: G Sep 23, 2000
Identified By: Licensee
Item Type: NCV NonCited Violation
Failure to Implement Radiation Control Procedures for Posting Extra High Radiation Areas as Required by TS 5.4.1.a
A single event, resulting in two non-cited violations, involved: (1) a failure to implement radiation control procedures for posting an extra high radiation area as required by TS 5.4.1.a.; and (2) failure to lock or control entrance to an extra high radiation area as required by Technical Specification 5.7.2 and Title 10 CFR Part 20.1601. This event was determined to be of very low safety significance because minimal radiation exposure was received by the workers and inadvertent entry into the area of concern (i.e., containment building in the area near the personnel air lock) would not immediately result in workers being in radiation fields greater than 1000 milliroentgen equivalent man per hour (Section 2OS1).
Inspection Report# : 2000004*(pdf)*

Significance: G Jun 24, 2000
Identified By: Licensee
Item Type: NCV NonCited Violation
Failure to Prevent the Release of Radioactive Byproduct Material from the Radiological Control Area and Plant Site
A non-cited violation was identified for the failure to comply with the requirements of 10 CFR 20.1802. Specifically, on April 7, 2000, the licensee failed to prevent the release of radioactive byproduct material (e.g., a radioactive particle on a contract employee's lanyard) from the radiological control area and plant site. Based on the activity of the particle and the resulting occupational dose assessment for the affected contract employee, this finding was determined to be of very low significance (Sections OS2, 2PS3).
Inspection Report# : 2000003*(pdf)*

Public Radiation Safety

Physical Protection

Significance: G Jun 24, 2000
Identified By: Licensee
Item Type: NCV NonCited Violation
Failure to Secure Two Vital Area Openings Exceeding 96 Square Inches in February 1999
A non-cited violation of the Physical Security Plan was identified for the licensee's failure to secure two vital area openings exceeding 96 square inches in February 1999. This issue was determined to have very little significance, given the non-predictable basis of the failures and the fact that there was no evidence that the vulnerabilities had been exploited (Section 3PP2).
Inspection Report# : 2000003*(pdf)*

Miscellaneous

Significance: N/A Dec 23, 2000
Identified By: Licensee
Item Type: NCV NonCited Violation
Technical Specification 5.4.1 and Regulatory Guide 1.33, Section 7, for failing to have adequate procedures to control the release of radioactive material during a pressurizer gas space venting evolut
Technical Specification 5.4.1 and Regulatory Guide 1.33, Section 7, for failing to have adequate procedures to control the release of radioactive material during a pressurizer gas space venting evolution on October 14, 2000, as described in the licensee's corrective action program. Reference PIPs C-00-04914 and 05241.
Inspection Report# : 2000005*(pdf)*

Significance: G Jun 23, 2001
Identified By: Licensee
Item Type: NCV NonCited Violation
Failed to Perform Adequate Testing Following Replacement of the Evaporator Differential Pressure Switch for the A train YC Chiller as Described in PIP C-01-01333
10 CFR Part 50, Appendix B, Criteria XI, Test Control, requires that a test program be established to assure that all testing required to demonstrate that SSCs will perform satisfactorily in service is identified and performed in accordance with written test procedures. Contrary to this, on March 13, 2001, the licensee failed to perform adequate testing following replacement of the evaporator differential pressure switch for the A train YC chiller as described in PIP C-01-01333.
Inspection Report# : 2001004*(pdf)*

Significance: G Jun 23, 2001
Identified By: Licensee
Item Type: NCV NonCited Violation
Failure to Develop Appropriate Written Procedures or Documented Instructions for Maintenance Activities Performed on the A train YC Chiller as Described in PIP C-01-01994
Technical Specification 5.4.1.a, and Regulatory Guide 1.33, Section 9, Procedures for Performing Maintenance, required that maintenance that can affect the performance of safety related equipment should be properly planned and performed in accordance with written procedures and documented instructions. Contrary to this, on May 3, 2001, the licensee failed to develop appropriate written procedures or documented instructions for maintenance activities performed on the A train YC chiller as described in PIP C-01-01994.
Inspection Report# : 2001004*(pdf)*

Significance: N/A Feb 16, 2001
Identified By: NRC
Item Type: FIN Finding
Identification and Resolution of Problems
Overall, the licensee's corrective action program was effective at identifying, evaluating, and correcting problems. The threshold for entering problems into the corrective action program was sufficiently low. Reviews of operating experience information were comprehensive. In general, the licensee properly prioritized items (by Action Category) in its corrective action program database, which ensured that timely resolution and appropriate causal factor analyses were employed commensurate with safety significance. Some exceptions were noted in the area of problem

identification, where all relevant issues of problems were not identified and equipment performance was adversely affected. The inspection identified three exceptions in the area of prioritization and evaluation of issues, where more comprehensive root cause determinations would have provided more effective evaluations and corrective actions. In the area of effectiveness of corrective actions, it was noted that the corrective action program was not timely in resolving various documentation deficiencies with Technical Specification (TS) surveillances, Updated Final Safety Analysis Report changes and TS bases changes. Previous non-compliance issues documented as non-cited violations were properly tracked and resolved via the corrective action program. The results of the last comprehensive corrective action program audit conducted by the licensee (September 1999) were properly entered and dispositioned in the corrective action program. Based on discussions with plant personnel and the apparently low threshold for items entered in the corrective action program database, the inspectors concluded that workers at the site generally felt free to raise safety concerns to their management.
Inspection Report# : 2001003*(pdf)*

Last modified : March 28, 2002