Catawba 2
2Q/2005 Plant Inspection Findings

Initiating Events

Significance: G Mar 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Insufficient Fire Drill Oversight to Ensure Fire Brigade Performance Deficiencies are Identified
The inspectors identified a non-cited violation of Facility Operating Licenses NPF-35 (Unit 1) and NPF-52 (Unit 2), Condition 2.C.5, for the failure to implement the provisions of the approved fire protection program (Branch Technical Position CMEB 9.5-1) set forth in the Updated Final Safety Analysis Report (UFSAR) regarding fire brigade training and drills. Specifically, during the fire drill on February 10, 2005, the drill evaluator did not observe and assess the performance of the three teams attacking the simulated hydrogen fire on the Unit 2 main generator or operators in the main control room. As a result, some fire brigade member performance weaknesses were not noted during the drill, discussed during the post-drill critique or subsequently noted for development of appropriate corrective actions. The licensee recognized the drill team deficiency and implemented a change that required adequate team evaluators for future drills. This finding was determined to be greater than minor because it involved the degradation of a plant fire protection feature and has a credible impact on safety since fire brigade performance deficiencies may prevent a fire from being extinguished or allow a fire to propagate leading to a more significant event. The finding was determined to be of very low safety significance in accordance with Phase 1 of the Fire Protection Significance Determination Process because the fire brigade is only a single element of the defense-in-depth fire protection strategy and the noted deficiencies produced a minimal impact on the fire fighting capabilities of the fire brigade. This finding involved the cross-cutting aspect of Human Performance, since the single evaluator did not identify all of the drill deficiencies that occurred during the drill. (Section 1R05.2)
Inspection Report# : 2005002*(pdf)*

Significance: G Mar 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate RCS Leakage Detection Instrumentation Surveillance Procedures
The inspectors identified a non-cited violation of Technical Specification 5.4.1.a, Written Procedures, because the licensee failed to establish and maintain an adequate surveillance procedure for containment atmosphere radioactivity monitor surveillance requirement (SR) 3.4.15.2 and SR 3.4.15.4, in that the associated alarm function was not set or tested to alarm at a value equivalent to 1 gallon per minute in one hour for a realistic current reactor coolant activity level. The inspectors identified a non-cited violation of Technical Specification 5.4.1.a, Written Procedures, because the licensee failed to establish and maintain an adequate surveillance procedure for containment atmosphere radioactivity monitor surveillance requirement (SR) 3.4.15.2 and SR 3.4.15.4, in that the associated alarm function was not set or tested to alarm at a value equivalent to 1 gallon per minute in one hour for a realistic current reactor coolant activity level.

The finding was determined to be greater than minor because the containment gaseous and particulate channel radiation monitors were not capable of performing the design bases function for an extended period of time. Additionally, the operability of the reactor coolant system (RCS) leakage detection instrumentation alarming functions was not verified for an extended period of time. The inoperability resulted in potential impact on reactor safety and adversely affected the availability and reliability of the barrier integrity equipment performance attribute of the initiating events cornerstone. The finding was determined to be of very low safety significance because other methods of reactor coolant system leak detection were available to the licensee and no actual leakage above 1gpm was indicated through the RCS water balance surveillance. The unavailability of the gaseous and particulate channel leak detection functions and the RCS leakage detection instrumentation alarm indications did not contribute to an increase in core damage sequences when evaluated using the significance determination phase 1 worksheets. This finding involved the cross-cutting aspect of problem identification and resolution. The licensee had evaluated the operability of the radiation monitors via the corrective action program and incorrectly determined that the radiation monitors were operable. (Section 1R15b.(2))

The finding was determined to be greater than minor because the containment gaseous and particulate channel radiation monitors were not capable of performing the design bases function for an extended period of time. Additionally, the operability of the reactor coolant system (RCS) leakage detection instrumentation alarming functions was not verified for an extended period of time. The inoperability resulted in potential impact on reactor safety and adversely affected the availability and reliability of the barrier integrity equipment performance attribute of the initiating events cornerstone. The finding was determined to be of very low safety significance because other methods of reactor coolant system leak detection were available to the licensee and no actual leakage above 1gpm was indicated through the RCS water balance surveillance. The unavailability of the gaseous and particulate channel leak detection functions and the RCS leakage detection instrumentation alarm indications did not contribute to an increase in core damage sequences when evaluated using the significance determination phase 1 worksheets. This finding involved the cross-cutting aspect of problem identification and resolution. The licensee had evaluated the operability of the radiation monitors via the corrective action program and incorrectly determined that the radiation monitors were operable. (Section

1R15b.(2))
Inspection Report# : 2005002*(pdf)*

Mitigating Systems

Significance: G Jun 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Adequately Evaluate Potential RHR System Differential Pressure During Postulated Accident Conditions In Generic Letter 89-10 MOV Testing Program
A non-cited violation was identified for inadequate design control as required by 10 CFR 50, Appendix B, Criterion III, in that, the licensee found that they had incorrectly assumed that the Unit 1 and Unit 2 containment sump suction valves needed to function under a maximum 20 pound per square inch pressure differential (psid) and then implemented periodic testing under their Generic Letter 89-10 Motor Operated Valve (MOV) testing program to ensure the valves would open against this psid. Subsequent licensee analysis determined that the valves could experience up to 364 psid during specific accident conditions. Because this violation appeared to be of greater significance than the licensee's initial characterization of the issue, this finding is being treated as an NRC-identified violation in accordance with NRC Enforcement Guidance. This finding involved the cross-cutting aspect of human performance since individuals did not determine the proper design parameters and conditions for all required accident scenarios.

This finding was greater than minor because it affected an objective and attribute of the Reactor Safety Mitigating Systems Cornerstone for availability and reliability, in that excessive psid across the containment sump suction valves could prevent the valves from opening and providing a required injection supply source to the emergency core cooling system pumps. The finding was assessed using the significance determination process for Reactor Inspection Findings for At-Power Situations. The evaluation determined that the finding exceeded the threshold that required evaluation under Phase 3 of the significance determination process. The Phase 3 analysis conducted by the Regional Senior Reactor Analyst, determined the finding to be of very low safety significance because the dominant factor in the analysis was that the need for sump recirculation would have to coincide with a degraded grid condition and such an initiating event frequency was sufficiently low enough to conclude the deficiency was Green. (Section 1R15b.2).

Inspection Report# : 2005003*(pdf)*

Significance: SL-IV Mar 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate 10 CFR 50.59 Documentation
The inspectors identified a non-cited violation for making a change to the facility (implemented as a change to the UFSAR in 1995) that involved an Unreviewed Safety Question (USQ), for which no written evaluation provided an adequate bases for the determination that the change did not require a license amendment pursuant to 10 CFR 50.90. Specifically, the UFSAR change reflected an increased length of time for incore instrumentation room sump instrumentation, as well as gaseous and particulate radiation monitors, to detect a 1 gpm leak. This increased the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety evaluation report for the reactor coolant system loss of coolant accident (LOCA) leak rate predictions, because the ability to detect a 1 gpm leak within one hour was relied on and credited in the leak-before-break design analysis. The significance of the violation was evaluated under the 10 CFR 50.59 Rule that was in effect at the time of the change, as well as the current 10 CFR 50.59 Rule. The current 10 CFR50.59 Rule requires, in part that "records must include a written evaluation which provides the bases for the determination that the change does not require a license amendment". This information (i.e., the ability to detect a 1gpm leak within one hour) was relied on in part, by NRC for approval of the leak-before-break analysis. Since, the NRC Enforcement Manual states that violations which existed under the old and new rule should be categorized using the current enforcement guidance, this finding was assessed as a SL IV violation. The significance of this violation was not formally evaluated under the Reactor Oversight Process per the Enforcement Policy, because the Agency views 10 CFR 50.59 issues as potentially impeding the regulatory process (i.e., it precluded NRC review of a change to the facility). The finding was not suitable for evaluation using the SDP. Given that the change to the incore instrumentation room sump instrumentation sensitivity capabilities and the gaseous and particulate radiation monitor sensitivities increased the length of time to detect a 1 gpm leak, and the fact that a diverse means of detecting a 1 gpm leak within one hour existed in accordance with Technical Specification (TS) requirements, the delta core damage frequency for the applicable core damage accident sequences stemming from LOCA initiating events were determined to be of very low safety significance. (Section 1R15b.(1))
Inspection Report# : 2005002*(pdf)*

Significance: G Dec 31, 2004
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform Adequate Inspections of the 2A Containment Sump Following Repairs
The inspectors identified a non-cited violation of 10 CFR 50 Appendix B, Criterion X, Inspection, because inadequate quality control (QC) inspections were performed in Unit 2 on the 2A containment sump. Specifically, containment sump screen gaps, which were intended to be

closed via repair activities, were not discovered by QC inspection following the repairs. The gap would allow a containment sump bypass flow path for debris to affect downstream emergency core cooling system (ECCS) components during containment recirculation. This finding was greater than minor because it affected an objective and attribute of the Reactor Safety Mitigating Systems Cornerstone, in that inadequate QC inspection failed to identify containment sump bypass flow paths for debris to affect the availability and reliability of ECCS components during containment recirculation. The finding was evaluated using the phase 1 SDP analysis and was determined to be of very low safety significance based on the small size of the gaps and the low probability that material could bypass the sump screen in that area. (Section 4OA5.1)
Inspection Report# : 2004006*(pdf)*

Barrier Integrity

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Significance: SL-IV Jan 24, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Update the FSAR Involving Dose Calculations
A violation of 10 CFR 50.71(e) was identified involving DEC's failure to update the FSAR to reflect correct design basis accident dose calculations. Because of its low safety significance and because the issue was entered into their corrective action program (Problem Investigation Process reports G-04-0334 and C-04-4116), the NRC is treating this Severity Level IV violation as a non-cited violation, consistent with Section VI.A of the NRC Enforcement Policy.

Inspection Report# : 2005006*(pdf)*

Significance: SL-III Jan 24, 2005
Identified By: NRC
Item Type: VIO Violation
Failure to Provide Complete and Accurate Information Involving MOX Amendment Fuel Assemblies and Related Dose Calculations
10 CFR 50.9(a) states, in part, that information provided to the Commission by an applicant for a license or by a licensee shall be complete and accurate in all material respects. Contrary to the above, on February 27, 2003, November 3, 2003, and March 16, 2004, the licensee submitted incomplete and inaccurate information regarding a proposed amendment to the facility operating license, to allow the irradiation of four mixed oxide (MOX) lead test assemblies (LTAs). Specifically:

(1) The proposed license amendment of February 27, 2003, failed to indicate that the reactor core would also include eight next generation fuel LTAs as part of the complete core loading of 193 fuel assemblies. This information was material to the NRC in that, as part of the license amendment review, substantial further inquiry by the NRC was necessary to review the thermal-hydraulic conditions and mechanical design arising from the proposed reactor core composition.

(2) The above submittals included radiation dose evaluations that were not based on the current plant design basis accident radiation doses. This information was material to the NRC, in that as part of the license amendment review, substantial further inquiry by the NRC was necessary to review the radiation doses arising from the proposed reactor core composition.

This is a Severity Level III Violation (Supplement VII) with no civil penalty assessed.

Inspection Report# : 2005006*(pdf)*

Significance: N/A Aug 27, 2004
Identified By: NRC
Item Type: FIN Finding
Catawba 2004 PI&R
The licensee was generally effective in identifying problems at a low threshold and entering them into the corrective action program. The licensee properly prioritized issues and routinely performed adequate evaluations that were technically accurate and of sufficient depth. However, the licensee was slow at times to initiate Problem Investigation Process reports (PIPs) for documenting conditions adverse to quality that met the initiation criteria established in the program procedures. In addition, examples were identified where problems where not accurately and throughly described in PIPs; thereby, adversely impacting the licensee's ability to properly code the problems for trending and develop proper corrective actions. This was especially true with respect to human performance deficiencies.

Several examples of recurring problems were noted after corrective actions had been completed. It was also noted that actions taken to correct equipment problems have sometimes been slow; but, licensee management applied increased attention to equipment problems and increasing equipment reliability through the Equipment Reliability Initiative started in early 2004. The licensee's self-assessments and audits were effective in identifying deficiencies in the corrective action program. The inspectors did not identify any reluctance by plant personnel to report safety concerns.

Inspection Report# : 2004009*(pdf)*

Last modified : August 24, 2005