UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8931

October 29, 2008

Mr. J. R. Morris
Site Vice President
Duke Power Company, LLC
d/b/a Duke Energy Carolinas, LLC
Catawba Nuclear Station
4800 Concord Road
York, SC 29745-9635

SUBJECT: CATAWBA NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT 05000413/2008004 AND 05000414/2008004

Dear Mr. Morris:

On September 30, 2008, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Catawba Nuclear Station Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on October 14, 2008, with you and other members of your staff.

The inspection examined activities conducted under your licenses as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your licenses. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. Based on the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Steven D. Rose, Acting Chief
Reactor Projects Branch 1
Division of Reactor Projects

Docket Nos.: 50-413, 50-414
License Nos.: NPF-35, NPF-52

Enclosure: Integrated Inspection Report 05000413/2008004 and 05000414/2008004
w/Attachment: Supplemental Information

cc w/encl: (See page 2)

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Letter to J. R. Morris from Steven D. Rose dated October 29, 2008

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.:	50-413, 50-414
License Nos.:	NPF-35, NPF-52
Report No.:	05000413/2008004 and 05000414/2008004
Licensee:	Duke Energy Carolinas, LLC
Facility:	Catawba Nuclear Station, Units 1 and 2
Location:	York, SC 29745
Dates:	July 1 through September 30, 2008
Inspectors:	A. Sabisch, Senior Resident Inspector R. Cureton, Resident Inspector J. Paige, General Engineer E. Stamm, Project Engineer R. Aiello, Senior Operations Engineer (Sections 1R11, 4OA2.2(1)) P. Capehart, Operations Engineer (Sections 1R11, 4OA2.2(1))
Approved by:	Steven D. Rose, Acting Branch Chief Reactor Projects Branch 1 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000413/2008004, 05000414/2008004; 7/1/2008 – 9/30/2008; Catawba Nuclear Station, Units 1 and 2; Quarterly Integrated Inspection Report

The report covered a three month period of inspection by two resident inspectors, one general engineer and three region based inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, Reactor Oversight Process (ROP), Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealing Findings

None

B. Licensee-Identified Violations

None

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period operating at approximately 100 percent Rated Thermal Power (RTP). The unit was reduced to 88 percent RTP on September 19, 2008, for routine turbine control valve testing and returned to 100 percent RTP on September 20, 2008. The unit remained at 100 percent RTP for the remainder of the inspection period.

Unit 2 began the inspection period operating at approximately 100 percent RTP. The unit was reduced to 86 percent RTP on August 17, 2008, for routine turbine control valve testing and returned to 100 percent RTP later that day. The unit remained at 100 percent RTP for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness

1R01 Adverse Weather Protection - Actual

a. Inspection Scope

The inspectors reviewed the licensee's actions taken in response to the two adverse weather conditions listed below. The documents reviewed during this inspection are listed in the Attachment to this report.

- Tornado watches were issued for York County and included the plant site on August 26 and 27, 2008. During this period, the site experienced extremely heavy rain. The inspectors walked down the area immediately adjacent to the plant to identify any loose material that could become airborne due to high winds, cessation of a liquid radioactive waste release that was in-progress at the time the watch was implemented, and the preparations taken by station personnel once the announcement was made. Based on past water ingress events, the inspectors also walked down the interior below-grade portions of the Turbine Buildings and Auxiliary Building to determine if hydrostatic seals were functioning properly. The inspectors discussed specific measures taken, in-progress or planned if required with operations personnel. A review of work in-progress and planned for later in the day was performed in conjunction with Operations personnel to ensure the overall risk profile was maintained as low as possible.

- During the week of September 1, 2008, the inspectors reviewed the licensee's preparations taken in response to the projected arrival on-site of Hurricane Hannah. This included a review of planned maintenance activities and the implementation of severe weather response procedures by station departments. The inspectors discussed with Emergency Planning personnel those measures that were being taken and would be taken if wind speeds were projected to reach specific thresholds.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

1. Partial Walkdowns

a. Inspection Scope

The inspectors performed partial system walkdowns during the four activities listed below to assess the operability of redundant or diverse trains and components when safety equipment was inoperable. The inspectors attempted to identify any discrepancies that could impact the function of the system and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures and walked down control systems components, selected breakers, valves, and support equipment to determine if they were in the correct position to support system operation. The inspectors reviewed protected equipment sheets, maintenance plans and system drawings to determine if the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program. The documents reviewed during this inspection are listed in the Attachment to this report.

- Protection of “B” train equipment during the period repair activities were underway to restore blackout switchgear 2FTA, which resulted in the loss of the 2A pressurizer heaters.
- Protection of “A” train equipment during the period the 1B Nuclear Service Water (RN) pump was being repaired, which placed Unit 1 in a 72-hour Technical Specification (TS) Limiting Condition for Operation (LCO).
- Protection of the 2B diesel generator and electrical switchyard during the period the 2A diesel generator was inoperable due to a failed valve in the jacket cooling water system.
- Protection of “A” train equipment during cleaning and inspection of the 2B Component Cooling Water (KC) Heat Exchanger, which placed Unit 2 in a 72-hour TS LCO.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

Fire Protection Tours

a. Inspection Scope

The inspectors walked down accessible portions of the eight plant areas listed below to assess the licensee's control of transient combustible material and ignition sources, fire detection and suppression capabilities, fire barriers, and any related compensatory measures. The inspectors observed the fire protection suppression and detection equipment to determine whether any conditions or deficiencies existed which could impair the operability of that equipment. The inspectors selected the areas based on a review of the licensee's safe shutdown analysis probabilistic risk assessment and sensitivity studies for fire-related core damage accident sequences. The documents reviewed during this inspection are listed in the Attachment to this report.

- Auxiliary Building 522 foot elevation, pipe chase area
- Unit 1 "A" diesel generator room and sequencer hallway
- Unit 2 "A" diesel generator room and sequencer hallway
- Unit 2 Turbine Building, 619' elevation
- Unit 1 Charging Pump Rooms, A and B
- Unit 1 Mechanical Penetration Room, 560 foot elevation
- Unit 1 Main Transformer Area
- Unit 2 Essential Switchgear Room

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measure – Internal Areas

a. Inspection Scope

The inspectors reviewed the Updated Final Safety Analysis Report (UFSAR), Individual Plant Examination, and flood analysis documentation associated with internal plant areas to determine the effect of flooding. The inspectors reviewed the licensee's internal flood protection features for the following area as part of the annual sample:

- The flood walls constructed in the 568 foot elevation in the Unit 1 and Unit 2 Turbine Buildings to protect electrical switchgear and transformers against flooding caused by the rupture of piping or components associated with the Circulating Water System.

The internal areas were selected and walked down based on the flood analysis calculations. Through observation and design review, the inspectors reviewed sealing of doors, holes in penetrations, potential flooding sources, and water intrusion detection

instrumentation. The inspectors reviewed corrective action program documents to verify that the licensee was identifying issues and resolving them.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance – Annual Resident Inspection

a. Inspection Scope

The inspectors observed the performance of Periodic Test PT/1/A/4400/006 B, Containment Spray (NS) Heat Exchanger 1B Heat Capacity Test, Rev. 43, and evaluated the test data for acceptable performance. The inspectors also conducted discussions with test personnel concerning system configuration and heat load requirements, the methodology used in calculating heat exchanger performance, and the method for tracking the status of tube plugging activities via the data logger and computer processing equipment. Documents reviewed during this inspection are listed in the Attachment to this report.

a. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

Biennial Review of Licensed Operator Program

a. Inspection Scope

During the week of August 25, 2008, the inspectors reviewed documentation, interviewed licensee personnel, and observed the administration of simulator operating tests associated with the licensee's operator requalification program. Each of the activities performed by the inspectors was done to assess the effectiveness of the licensee in implementing requalification requirements identified in 10 CFR 55, "Operators' Licenses." The evaluations were performed to determine if the licensee effectively implemented operator requalification guidelines established in NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," and Inspection Procedure 71111.11, "Licensed Operator Requalification Program." The inspectors reviewed and evaluated the licensee's simulation facility for adequacy for use in operator licensing examinations. The inspectors observed two crews during the performance of simulator operating tests. Documentation reviewed included written examinations, Job Performance Measures, simulator scenarios, licensee procedures, on-shift records, licensed operator qualification records, selected watchstanding and medical records, feedback forms, and remediation plans. The inspectors also reviewed a sample of simulator performance test records (transient tests, steady state test, and procedure tests), simulator modification request records, and the process for ensuring continued assurance of simulator fidelity to ensure compliance with 10 CFR 55.46, "Simulation

Facilities." The documents reviewed during the inspection are listed in the Attachment to this report.

b. Findings

No significant findings were identified

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the three samples listed below for items such as: (1) appropriate work practices; (2) identifying and addressing common cause failures; (3) scoping in accordance with 10 CFR 50.65(b) of the Maintenance Rule; (4) characterizing reliability issues for performance; (5) trending key parameters for condition monitoring; (6) charging unavailability for performance; (7) classification and reclassification in accordance with 10 CFR 50.65(a)(1) or (a)(2); and (8) appropriateness of performance criteria for Structures, Systems, and Components (SSCs)/functions classified as (a)(2) and/or appropriateness and adequacy of goals and corrective actions for SSCs/functions classified as (a)(1). For each item selected, the inspectors performed a detailed review of the problem history and surrounding circumstances, evaluated the extent of condition reviews as required, and reviewed the generic implications of the equipment and/or work practice problem. The documents reviewed during this inspection are listed in the Attachment to this report.

- Repair activities associated with excessive air found in the Unit 2 Standby Makeup Pump during routine surveillance testing
- Repair of the 1B RN pump following the failure of a shaft coupling
- Restoration of power to the 2A pressurizer heaters following the loss of switchgear 2LXI upon receipt of a ground condition

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the following seven activities to determine whether the appropriate risk assessments were performed prior to removing equipment for work. When emergent work was performed, the inspectors reviewed the risk assessment to determine that the plant risk was promptly reassessed and managed. The inspectors reviewed the appropriate use of the licensee's risk assessment tool and risk categories in accordance with Nuclear System Directive 415, Operational Risk Management (Modes 1-3), for appropriate guidance to comply with 10 CFR 50.65 (a)(4). The documents reviewed during this inspection are listed in the Attachment to this report.

- Plans controlling the excavation, inspection and coating of buried RN supply and return headers located between manholes #8 and #9
- Assessment of the impact the failure of the 1B RN pump had on planned and emergent work and the implementation of Risk Management Actions identified to manage the increased risk resulting from the inoperable plant equipment
- Assessment and management of the risk associated with the repair of the Unit 2 standby makeup pump following the discovery of excessive air in the pump casing during routine performance testing
- Review and sequencing of planned maintenance activities associated with the replacement of the 2ECC battery charger and flush of the RN to auxiliary feedwater (CA) connection to prevent entering into an Orange risk condition
- Assessment of the impact on planned maintenance and surveillance activities caused by the failure of the 2A diesel generator (DG) to pass its operability surveillance
- Assessment of the impact on planned maintenance and surveillance activities caused by the failure of the 2A Residual Heat Removal pump to start during the performance of a Section XI test
- Assessment of the impact on planned maintenance activities associated with the cleaning and inspection of the 2B KC Heat Exchanger which placed Unit 2 in an Orange risk condition

b. Findings

No findings of significance were identified

1R15 Operability Evaluations

a. Inspection Scope

For the ten operability evaluations listed below, the inspectors evaluated the technical adequacy of the evaluations to determine if TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors reviewed the operability determinations to verify that they were made as specified by Nuclear System Directive (NSD) 203, Operability. The inspectors reviewed the UFSAR to determine that the system or component remained available to perform its intended function. In addition, the inspectors reviewed compensatory measures implemented to determine if the compensatory measures worked as stated and the measures were adequately controlled. The inspectors also reviewed a sampling of Problem Investigation Process reports (PIPs) to determine that the licensee was identifying and correcting any deficiencies associated with operability evaluations. The documents reviewed during this inspection are listed in the Attachment to this report.

- PIP C-08-4398, Initial in-service testing performed on the 1B RN pump following repair activities resulted in data that was not within the acceptable range specified in the test procedure

- PIP C-08-4393, RN flow to Controlled Area Chilled Water chiller exceeded the Hi-Hi alarm setpoint of 2,000 gallons per minute for ~2 minutes while throttling flow to support the 1B RN head curve testing
- PIP C-08-4169, Containment Air Return fan 1B started and then failed to continue to run during the performance of the quarterly surveillance test
- PIP C-08-4157, Unit 2 experienced a loss of power to the blackout bus, (2FTA), resulting in a loss of the 2B pressurizer heaters
- PIP C-08-4848, During the 1B Diesel Generator run, the output increased to 6.1 MWe which exceeded the 5.75 MWe value allowed by the surveillance procedure
- PIP C-08-4967, Incorrect bolting material used on flanged connection in the Unit1 KC system
- PIP C-08-5005, The 2A Diesel Generator was declared inoperable due to failure of the jacket water thermostatically controlled three-way valve
- PIP C-08-5074, During the performance of the 2A Residual Heat Removal (ND) inservice test, the 2A ND pump failed to start
- PIP C-08-5010, 1B Chemical Volume and Control (NV) pump discharge valve was found in the throttled position
- PIP C-08-5524, 27XAS Special Relay was found to be inoperable in the diesel generator accelerated sequencer circuit

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the four post-maintenance tests listed below to determine if procedures and test activities ensured system operability and functional capability. The inspectors reviewed the licensee's test procedures to determine if the procedures adequately tested the safety function(s) that may have been affected by the maintenance activities, that the acceptance criteria in the procedures were consistent with information in the applicable licensing basis and/or design basis documents, and that the procedures had been properly reviewed and approved. The inspectors also witnessed the tests and/or reviewed the test data to determine if test results adequately demonstrated restoration of the affected safety function(s). The documents reviewed during this inspection are listed in the Attachment to this report.

- Post-maintenance testing on the 1D steam generator power operated relief valve following the replacement of a defective solenoid in the control circuit
- Post-maintenance testing of the Unit 1 Volume Control Tank level transmitter following replacement
- Post-maintenance testing on the 2A Diesel Generator following failure of the jacket water thermostatically controlled valve
- Post-maintenance testing of the 2A ND pump following the failure of the pump to start on demand due to a breaker problem

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

For the eight tests listed below, the inspectors witnessed testing and/or reviewed the test data, to determine if the SSCs involved in these tests satisfied the requirements described in the TS, the UFSAR, and applicable licensee procedures, and that the tests demonstrated that the SSCs were capable of performing their intended safety functions. The documents reviewed during this inspection are listed in the Attachment to this report.

Surveillance Tests

- PT/0/A/4200/017 A, Standby Shutdown Facility Diesel Test, Rev. 001
- PT/0/B/4700/039, Hot Weather Protection, Rev. 013
- PT/2/A/4550/004, Diesel Generator Fuel Oil Storage Tank Water Inspection, Rev. 21
- PT/1/A/4400/009; Cooling Water Flow Monitoring For Asiatic Clams and Mussels Test, Enclosure 13.2, NS Heat Exchanger 1B Flow Verification, Rev. 069
- IP/1/A/3200/001B; Solid State Protection System Train B Periodic Testing, Rev. 009
- PT/2/A/4250/003C; Turbine Auxiliary Feedwater Pump #2 Performance Test, Rev. 079
- PT/1/A/4350/002A; Diesel Generator 1A Operability Test, Rev. 233

In-Service Tests

- PT/1/A/4200/004 C, NS Pump 1B Performance Test, Rev. 63

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed and evaluated the licensee's simulated control room and emergency planning performance during a drill conducted on July 29, 2008. The inspectors observed licensee activities occurring in the simulator control room, Technical Support Center and Operations Support Center during a simulated event. The NRC's assessment focused on the timeliness and accuracy of the event classification, notification of offsite agencies, and the overall response of the personnel involved in the

drill from an operations and emergency planning perspective. The performance of the emergency response was evaluated against applicable licensee procedures and regulatory requirements. The inspectors attended the post-exercise critique for the drill to evaluate the licensee's self-assessment process for identifying potential deficiencies relating to failures in classification and notification. The inspectors reviewed the completed critique developed by the licensee documenting the overall performance of the Emergency Response Organization. The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors sampled licensee data to confirm the accuracy of reported performance indicator (PI) data for the eight indicators during periods listed below. To determine the accuracy of the report PI elements, the reviewed data was assessed against PI definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Indicator Guideline, Rev. 5. The documents reviewed during this inspection are listed in the Attachment to this report.

Mitigating Systems Cornerstone

The inspectors reviewed the licensee's procedures and methods for compiling and reporting the eight Performance Indicators (PIs) listed below, including the Reactor Oversight Program Mitigating Systems Performance Index (MSPI) Basis Document for Catawba. The inspectors reviewed the raw data for the PIs listed below for the third and fourth quarters of 2007 and the first and second quarters of 2008. The inspectors also independently screened Technical Specification Action Item Logs, selected control room logs, work orders and surveillance procedures, and maintenance rule failure determinations to determine if unavailability / unreliability hours were properly reported. The inspectors compared the licensee's raw data against the graphical representations and specific values contained on the NRC's public web page for the second quarter of 2008. The inspectors also reviewed the past history of PIPs for systems affecting the MSPI indicators listed below for any that might have affected the reported values. The inspectors reviewed NEI 99-02, Regulatory Assessment Performance Indicator Guideline, to verify that industry reporting guidelines were applied. Additional documents reviewed during this inspection are listed in the Attachment to this report

- Unit 1 MSPI - High Pressure Safety Injection.
- Unit 2 MSPI - High Pressure Safety Injection
- Unit 1 MSPI - Emergency AC Power

- Unit 2 MSPI - Emergency AC Power
- Unit 1 MSPI - Heat Removal
- Unit 2 MSPI - Heat Removal
- Unit 1 MSPI - Cooling Water Systems
- Unit 2 MSPI - Cooling Water Systems

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 Daily Review

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed screening of items entered into the licensee's corrective action program. This was accomplished by reviewing copies of PIPs, attending some daily screening meetings, and accessing the licensee's computerized database.

.2 Annual Sample Review

(1) Licensed Operator Medical Records Review

a. Inspection Scope

The inspectors selected PIP C-08-05189 for a detailed review. The inspectors checked to determine if this issue had been completely and accurately identified in the licensee's Corrective Action Program and that safety concerns were properly classified, prioritized for resolution, and apparent cause determinations were sufficiently thorough.

b. Findings

No findings of significance were identified. The review of PIP C-08-05189 was initiated because Catawba Nuclear Station did not meet the intent of 10 CFR 50.74, "Notification of Change in operator or senior operator status," as described in 10 CFR 55.25, "Incapacitation because of disability or illness" and as stated in the guidance of NUREG 1021, Revision 9, and Supplement 1. The facility has committed to conducting a full audit of all licensed operator medical records. The facility will request a medical license condition to be placed on all applicable licenses that do not meet the requirements of American Nuclear Standards Institute 3.4, "Medical Certification and Monitoring of Personnel Requiring Operator Licenses for Nuclear Power Plants." Appropriate corrective actions will be implemented in a manner consistent with the requirements of 10 CFR 55.25.

(2) Fire Brigade Performance During Drills

a. Inspection Scope

The inspectors reviewed PIPs, critique packages, and drill assessment reports associated with the performance of the fire brigade during on-shift drills conducted during the period of January 2007 through July 2008. The documents were reviewed to determine if all performance deficiencies were identified through the post-drill critique process and if corrective actions were developed and implemented to prevent recurrence of the issues. In addition to reviewing documents related to the fire brigade performance, the inspectors interviewed fire brigade members, Emergency Planning personnel, and Operations management to determine what long and short term corrective actions were being developed to address the performance issues. The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

Introduction: A non-compliance with Catawba Unit 1 and Unit 2 Operating License Condition 2.C.5, Fire Protection Program, was identified by the inspectors for the licensee's failure to identify, document and correct fire brigade performance deficiencies during multiple fire drills over an 18-month period. Enforcement discretion was exercised for this issue in accordance with the NRC Enforcement Policy "Interim Enforcement Policy Regarding Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48)."

Description: During the first quarter of 2007, NRC inspectors observed two fire brigade training drills and identified performance deficiencies in crew performance that were not captured in the licensee's post-drill critique. An assessment of these specific deficiencies determined that while they were violations of a procedure that implemented the requirements of Operating License Condition 2.C.5, Fire Protection Program, they did not rise above the "more than minor" level based on immediate actions taken by the licensee and the guidance contained in Manual Chapter 0609, Significance Determination Process, Appendix F, Fire Protection, which excludes issues associated with the performance of the on-site manual fire brigade or fire department. The licensee entered these NRC-identified deficiencies into the corrective action program as PIP C-07-1608 and initiated corrective actions to preclude recurrence. The PIP was closed approximately 3 months later once the corrective actions had been completed.

Starting in the fourth quarter of 2007, the Emergency Planning group drafted quarterly fire brigade drill summaries containing strengths and weaknesses noted in all drills conducted during the quarter. Performance deficiencies associated with individual fire brigade performance were documented in these summary reports; however, corrective actions were not developed in response to several of the cited weaknesses. The reports for the three quarters starting with the fourth quarter of 2007 contain similar issues that continue to manifest themselves in routine fire brigade drills.

During the first quarter 2008, the NRC inspectors observed two fire brigade drills involving different operating crew personnel. The post-drill critiques were more critical than previous critiques had been and one crew required remediation in order to fill the role of fire brigade. Several performance deficiencies were identified and entered into the corrective action program as PIPs C-08-1248 and C-08-1584. The corrective actions developed in response to the identified deficiencies were completed and the PIPs closed out. In both PIPs, the corrective actions were narrowly focused and only addressed the specific deficiency that occurred during the drill for the individual crew and did not look at potential generic implications for other scenarios involving the station fire brigade. The limited progress made in improving fire brigade performance was discussed with the station Emergency Planning and Operations management personnel at that time.

Subsequent to the two drills observed by the NRC in early 2008, continued performance deficiencies identified by the licensee were documented in drills involving other operating crews. In one case the drill was classified as a failure and the crew had to be remediated. In response to these continuing performance deficiencies, the station initiated PIP C-08-1450, which contained corrective actions intended to address issues on a generic basis rather than on a shift-specific basis as previous PIPs had done. The corrective actions contained in this PIP were completed by June 2008.

On July 29, 2008, the station conducted the annual graded Emergency Planning exercise, which included a simulated fire that required activation and response of the fire brigade. Performance deficiencies similar to those that had been observed over the preceding 18 months were noted and included the following:

- The crew failed to effectively implement the fire pre-plan, resulting in actions to respond to the fire being delayed or not implemented.
- Fire brigade team members were not proficient at responding to the simulated fire location, resulting in a delay in the time required to respond.
- The Fire Pre-Plan book was incomplete, but not identified as such by the control room personnel. Consequently this adversely impacted their ability to direct the fire brigade team responding to the fire location.

These deficiencies were entered into the corrective action program as PIP C-08-4633 and PIP C-08-4679, and while long-term corrective actions have been identified in the PIP, adequate interim actions have not been implemented to ensure fire brigades can effectively respond to fires at the station.

Analysis: This finding, associated with the Initiating Events and Mitigating Systems Cornerstones, was determined to be greater than minor because it involved the degradation of a plant fire protection feature and had 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 (Green) 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.

Enforcement: Facility Operating Licenses NPF-35 (Unit 1) and NPF-52 (Unit 2), Condition 2.C.5, requires that Duke Energy Corporation shall implement and maintain in effect all provisions of the approved fire protection program as described in Section 9.5.1 of the Updated Final Safety Analysis Report as amended and approved in the Safety Evaluation Report through Supplement 6.

Safety Evaluation Report 9.5.1.4, "Fire Brigade and Fire Brigade Training," states that Duke Energy Corporation will comply with Item C.3 of Branch Technical Position CMEB 9.5-1 in the establishment and training of the fire brigade.

NSD 112, "Fire Brigade Organization, Training & Responsibilities," implements those requirements related to the fire brigade manning, training and conduct of drills. Catawba Nuclear Station Fire Drill Evaluation Forms used to assess the fire brigades performance state that each fire brigade member's role in fighting the fire shall be assessed in terms of conformance with established plant fire fighting procedures and the use of fire fighting equipment. NSD 112, section 112.6, Drills, states that, "A post drill critique shall be held for personnel participating in the drill. Performance deficiencies of a shift fire brigade or individual fire brigade members will be noted and appropriate action taken."

Contrary to the above, during fire brigade drills conducted between January 2007 and July 2008, the licensee failed to implement the provisions of the approved fire protection program (Branch Technical Position CMEB 9.5-1) set forth in the UFSAR, regarding fire brigade training and drills when performance weaknesses were not fully documented nor effective corrective actions developed and implemented to ensure fire brigades could successfully combat on-site fires.

Pursuant to the Commission's Enforcement Policy and NRC Manual Chapter 0305, under certain conditions fire protection findings at nuclear power plants that transition their licensing bases to 10 CFR 50.48(c) are eligible for enforcement and Reactor Oversight Process discretion. The Enforcement Policy and Reactor Oversight Process also state that the finding must not be evaluated as Red. On February 28, 2005, the licensee submitted a letter to the NRC stating its intent to transition to 10 CFR 50.48(c), National Fire Protection Association Standard NFPA 805, at Catawba. In a subsequent letter to the NRC dated June 4, 2007, the licensee provided the NRC with the planned schedule for the Catawba Station to transition to NFPA 805, Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants. In a follow-up letter from the NRC to the licensee dated January 4, 2008, the NRC acknowledged that a three-year period of discretion will begin on July 2, 2007, and that the period of discretion will continue beyond the three-year expiration date of July 2, 2010, while NRC staff is reviewing the license amendment request.

Because the licensee committed, prior to December 31, 2005, to adopt NFPA 805 and change their fire protection licensing bases to comply with 10 CFR 50.48(c), the NRC is exercising enforcement discretion for this issue in accordance with the NRC Enforcement Policy, "Interim Enforcement Policy Regarding Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48)." Specifically, this issue would have been expected to be identified and addressed during the licensee's transition to NFPA 805, was entered into the licensee's corrective action program, was not willful, and was not

associated with a finding of high safety significance. The licensee entered this issue in their corrective action program under PIP C-08-5820.

4OA3 Event Followup

.1 Auxiliary Feedwater Pumps Declared Inoperable Due To Inadequate Configuration Control of Floor Drains

a. Inspection Scope

On January 28, 2008, workers were conducting a walkdown of a planned modification in the Unit 1 interior doghouse scheduled to be installed in the upcoming refueling outage. During this walkdown, they noticed that a floor drain in the area shown on the drawings as having a blank flange cover, in fact had a standard drain cover installed. Upon investigation by Engineering on January 30, 2008, it was determined that both Unit 1 and Unit 2 had floor drains in their interior doghouses that did not match the construction design drawings. Each doghouse was to only have one open floor drain and that was to have a flow restrictor installed to limit the amount of water that could enter the drain pipes and drain into the CA pump rooms approximately 40 feet below the level of the doghouse floor. All three CA pumps on both units were declared inoperable and the appropriate TS was entered. Repairs were made to install the required blind flanges and flow restrictor on both units. The inspectors reviewed the actions taken by the licensee following the identification of the improper configuration to restore the plant to its design basis. Documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

The licensee performed calculations to determine what the postulated flow rate through the doghouse drain system into the CA pump room would be in the as-found condition (i.e., three open drains on Unit 1 and six open drains on Unit 2). The initial calculation was done assuming no restriction from the drain cover that was installed and no friction losses in the pipe. A feedwater line break was determined to result in a water level in the doghouse of approximately 10 feet, which would increase the driving head of the water that would drain into the CA pump room.

This initial calculation revealed that the Unit 1 CA pump room would receive 2,533 gpm inflow and the Unit 2 CA pump room would receive 3,161 gpm inflow. Both of these values were considerably more than the 150 gpm combined capacity of the sump pumps in the respective CA pump rooms that are powered off vital power.

The licensee immediately implemented a modification to install the required blank flanges and flow restrictors. The Technical Specification action statement was subsequently exited. Licensee Event Report 05000413/2008-001, Auxiliary Feedwater Pumps Declared Inoperable due to Improper Installation and Inadequate Configuration Control, was submitted detailing the issue and actions that were taken.

This issue is unresolved pending further NRC review of the licensee's procedures, verification and assessment of operator actions, and determination of the risk significance associated with this event. This item is identified as URI 05000413,414/2008004-01, Potential Loss of Auxiliary Feedwater Following a Feedwater Line Break inside the Interior Doghouse. This issue has been entered into the licensee's corrective action program as PIP C-08-0513.

.2 Failure of the 1B RN Pump

a. Inspection Scope

On July 12, 2008, the control room received indications of a failure of the 1B RN pump, which occurred shortly after starting to the pump to support a system flush. The pump was secured and the applicable TS LCO entered. Following visual inspections of the pump and diver inspections of the pit, it was determined that one of the couplings internal to the pump had failed, requiring replacement. In order to complete the repairs, the licensee requested and received an emergency TS amendment, which extended the allowed LCO time from 72 hours to 216 hours. The repairs were completed by replacing the failed pump with the 1A pump that had been replaced during the spring 2008 refueling outage. Operability was verified through inservice testing and performance of a flow balance. The total repair time was approximately 163 hours. The licensee has committed to replace this pump with a rebuilt pump in the fall 2009 refueling outage. The inspectors reviewed the licensee's response to the event and observed maintenance activities associated with the pump removal and replacement, as well as the post maintenance testing conducted prior to declaring the 1B RN pump operable. The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified

.3 Elevated Leakoff from 2C Reactor Coolant Pump (NCP) #2 Seal

a. Inspection Scope

On September 8, 2008, the Control Room received annunciators for high standpipe level and elevated #1 seal leak off low flow on the "C" reactor coolant pump (NCP). The annunciators were indicative of a degraded #2 seal on the "C" NCP. The licensee entered the abnormal operating procedure for a possible malfunction of a reactor coolant pump and responded to the event. The inspectors reviewed the licensee's response to the event and the licensee's procedure use to determine if parameters for continued pump operation were exceeded. The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

.4 Failure of an Undervoltage Relay in the 1A Diesel Generator Accelerated Load Sequencer

a. Inspection Scope

On September 15, 2008, the licensee entered a 12 hour TS Action Statement after declaring the 1A diesel generator load sequencer inoperable due to a failed undervoltage relay discovered during the performance of a routine surveillance procedure. The 1A diesel generator load sequencer was declared inoperable because the failed relay could cause the accelerated sequencer to have an adverse effect on the committed sequencer in the event an under voltage condition existed on the 4.16kV essential bus. The licensee declared the 1A diesel generator operable on September 16, 2008, after bypassing the accelerated load sequencer in preparation for replacing the failed relay. The inspectors reviewed the licensee's response to the event, as well as the operability assessment that determined that the 1A Sequencer was operable even without the accelerated load sequencer being bypassed. The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours. These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status reviews and inspection activities.

b. Findings

No findings of significance were identified.

.2 (Open) Temporary Instruction (TI) 2515/176, Emergency Diesel Generator Technical Specification Surveillance Requirements Regarding Endurance and Margin Testing

a. Inspection Scope

The objective of this TI was to gather information to assess the adequacy of nuclear power plant emergency diesel generator (EDG) endurance and margin testing as prescribed by plant-specific TS. The inspector interfaced with the appropriate station

staff to obtain the information specified in Attachment 1 of the TI, Worksheet. The TI applies to all operating nuclear power reactor licensees that use EDGs as the onsite standby power supply. The inspector verified the accuracy of the information by review of TS, EDG Design Basis Event loading calculations, EDG endurance run test procedures, test data from the last three endurance tests performed on each EDG, EDG ratings, and EDG operating history. The information gathered will be forwarded to Nuclear Reactor Regulation/Division of Engineering/Electrical Engineering Branch (NRR/DE/EEEB) for further review to assess the adequacy and consistency of EDG testing at nuclear stations. Documents reviewed are listed in the Attachment to this report.

b. Findings and Observations

The TI is presently scheduled to be open until August 31, 2009, pending completion of the NRR/DE/EEEB review.

4OA6 Meetings, Including Exit

.1 Exit Meeting Summary

On October 14, 2008, the resident inspectors presented the inspection results to Mr. Jim Morris and other members of licensee management, who acknowledged the findings. The inspectors confirmed that any proprietary information provided or examined during the inspection period had been returned.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel
T. Arlow, Emergency Planning Manager
S. Beagles, Chemistry Manager
W. Byers, Security Manager
J. Caldwell, Modifications Engineering Manager
S. Coy, Operations Training Manager
J. Ferguson, Mechanical, Civil Engineering Manager
W. Brewer, Safety Assurance Manager
J. Foster, Radiation Protection Manager
P. Gillespie, Operations Superintendent
G. Hamrick, Engineering Manager
R. Hart, Regulatory Compliance Manager
T. Jenkins, Work Control Manager
J. McConnell, Shift Operations Manager
J. Morris, Catawba Site Vice President
J. Pitesa, Station Manager
T. Ray, Maintenance Manager
M. Sawicki, Regulatory Compliance Engineer
G. Spurlin, Licensed Operator Requalification Supervisor
C. Trezise, Reactor and Electrical Systems Manager
R. Weatherford, Training Manager

NRC personnel
J. Stang, Project Manager, NRR
R. Bernhard, RII, SRA

LIST OF ITEMS OPENED, CLOSED, AND REVIEWED

Opened

05000413,414/2008004-01	URI	Potential Loss of Auxiliary Feedwater Following a Feedwater Line Break inside the Interior Doghouse (Section 4OA3.1)

Discussed

2515/176	TI	Emergency Diesel Generator Technical Specification Surveillance Requirements Regarding Endurance and Margin Testing (Section 4OA5.2)

Closed

None

Attachment

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

RP/0/A/5000/007; Natural Disaster and Earthquake, Rev. 028, Enclosure 4.1, Tornado Watch issued for York County
RP/0/A/5000/030; Severe Weather Preparations, Rev. 007
OP/1/A/6350/001; Normal Power Checklist, Enclosure 4.27, Degraded Grid Response, Rev. 61
OP/2/A/6350/001; Normal Power Checklist, Enclosure 4.26, Degraded Grid Response, Rev. 60
NSD 417, Nuclear Facilities / Generation Status Communications, Rev. 9
Alarm Response Actions for Operator Aid Computer Points C1E1795 (230kV Yellow Bus Voltage) and C1E1797 (230kV Red Bus Voltage)
Alarm Response Actions for Operator Aid Computer Points C2E1795D1 (230kV Yellow Bus Voltage) and C2E1797D1 (230kV Red Bus Voltage)
PIP C-08-5128; Significant amount of water flowed into the Unit 1 Spent Fuel truck bay during rain storm
PIP C-08-5129; Several leaks were identified in the Turbine Buildings during stormy weather
PIP C-08-5134; Fan house located on the Unit 2 Turbine Building roof is leaking during heavy rains

Section 1R04: Equipment Alignment

SOMP 02-02; Attachment 13.1, Protected Train Posting for Unit 2 B Train KC heat exchanger cleaning

Section 1R05: Fire Protection

NSD 313, Control of Combustible and Flammable Material, Rev. 6
NSD 314, Hot Work Authorization, Rev. 7
Station Fire Impairment Log
Fire Strategy for Fire Area 43, Diesel Generator Building 2A Corridor
Fire Strategy for Fire Area 27, Diesel Generator Building Room 2A
Fire Strategy AY, Transformer Yard Unit 1
Fire Strategy for Fire Area 11, Auxiliary Building 560 level
Fire Strategy for Fire Area 4, Auxiliary Building 543 level
Fire Strategy for Fire Area 7, Auxiliary Building 560 level

Section 1R07: Heat Sink

PT/1/A/4400/006 B; NS Heat Exchanger 1B Heat Capacity Test, Rev. 43
PT/1/A/4400/009; Cooling Water Flow Monitoring For Asiatic Clams and Mussels Test, Rev. 069
CN-1574-2.0; Flow Diagram of Nuclear Service Water System (RN)

Section 1R11: Licensed Operator Requalification

RO and SRO Examination Comparison Reports
Annual Exam 1 Item Analyses Report
Examination Results Spread Sheet

CNS Operations Training Records Assessment, Dated 10/02/2006 - 01/12/2007
Feedback rollup reports
Licensed Operator Continuing Training Feedback Forms
NSD 509, Site Standards in Support of Operational Focus, Rev. 5
NSD 512, Appendix B.512, Certification for Return to Active Licensed Duties Following a Lapse in On-Shift Experience, Rev. 1
Operations Management Procedure 1-7, Emergency/Abnormal Procedure Implementation Guidance, Rev. 33
Operations Management Procedure 1-8, Authority and Responsibility of On-Shift Operations Personnel, Rev. 52
Operations Training Management Procedure 5.0, Program Evaluations, Rev. 9
NSD 512 - Maintenance of RO/SRO NRC Licenses, Rev. 3
2006 LOR Annual Exam Report
2007 LOR Annual Exam Report
2008 LOR Written Examination/Job Performance Measure Selection Matrix / Sample Plan
Return to Licensed Duties Certifications
Remediation Training Records
20 Licensed Operator Medical Records
Licensee Event Report 414/07-001, Failure to Comply with Action Statement in Technical Specifications (TS) 3.3.1 for a Loss of a Channel of the Solid State Protection System
Licensee Event Report 413/07-004, Control Room Area Chilled Water System Inoperable in Excess of TS Requirements due to Unanticipated Component Interactions

Written Examinations Reviewed
LOR "A" Shift SRO Exam
LOR "D" Shift SRO Exam

Job Performance Measures Reviewed
AD-013, Establish NCP Seal Injection from the Standby Shutdown Facility (Loss of All AC, U-1)
CA-019, Reset and Reopen the Turbine Driven CA Pump Trip and Throttle Valve following a Mechanical Overspeed Trip
EP3-001, Isolate a Faulted Steam Generator
EP-006, Restore Off-Site Power following a Unit Black-Out
MT-002, Respond to a Turbine Generator Runback
NV-121, Perform a Manual Makeup to the Volume Control Tank

Simulator Scenarios
Active Simulator Exams (ASE):
ASE-7, Revision 19
ASE-46, Revision 3

Simulator Testing Reviewed
Transient Tests:
Transient # 1, Steam Generator Tube Rupture
Transient # 4, Single Loss of Offsite Power
Transient # 9, Load Reject
Transient # 11, Reactor Trip

Normal Operation Tests
Steady State / Normal Operations Test
Simulator Real Time Test and Repeatability Test

Simulator work requests closed out
RMS-058
AFW-078
CVC-105
CWS-016
AFW-079

Simulator work requests still open
SYS-134
CVC-109
PCS-061
CCW-033
EQA-185

PIPs Reviewed
C-06-05459
C-06-05501
C-06-06049
C-06-06364
C-08-05189

Section 1R12: Maintenance Effectiveness

PIP C-08-4294; Engineering evaluation of the Unit 2 Standby Makeup Pump required due to excessive air found in the pump casing
OP/2/A/6200/001M, Fill and Vent of the NV System, Rev. 19
Work Order 01822255; Repair the casing leak on the Unit 2 Standby Makeup pump
PT/0/A/4400/0022B, Nuclear Service Water Pump Train B Performance Test, Rev. 076 (completed test for the post maintenance testing following the replacement of the 1B RN pump and the preceding three surveillances in order to compare performance between the two pumps)
PT/0/A/4400/0022A, Nuclear Service Water Pump Train A Performance Test, performed on the pump that was removed from the "A" pit during the Spring Unit 1 outage and subsequently placed in the "B" pit following the failure of the 1B pump)
PIP C-08-4773; 1B RN Pump replacement site critique

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

PIP C-08-4321; The RN dig was suspended and excavations covered with soil to minimize the risk associated with the Emergency Tech Spec change and extended LCO concerning the 1B RN pump failure.
"A" & "B" train RN supply piping excavation complex evolution plan
Project Plan for the RN pipe excavation between manholes 8 and 9

Engineering Calculation CNC-1535.00-00-0097, Risk Significance Determination for Catawba RN Piping Excavation / Inspections, Rev. 0

Section 1R15: Operability Assessments

PT/0/A/4400/0022B, Nuclear Service Water Pump Train B Performance Test
PT/2/A/4450/005B, Containment Air Return Fan / Hydrogen Skimmer Fan 2B Performance Test
PT/2/A/4350/002A, Diesel Generator 2A Operability Test

Section 1R19: Post-Maintenance Testing

OP/2/A/6350/002, Diesel Generator Operation

Section 1R22: Surveillance Testing

Operations Written Pre-Job Briefing for Solid State Protection System and Reactor Trip Breaker Testing conducted 9/3/08
PT/1/A/4200/009A; Auxiliary Safeguards Test Cabinet Periodic Test

Section 1EP6: Drill Evaluation

Catawba Nuclear Site Critique Summary Report for Drill 08-03
PIP C-08-4632; Emergency Planning Drill conducted on July 29, 2008 – Risk Significant Planning Standard corrective actions
PIP C-08-4633; Emergency Planning Drill conducted on July 29, 2008 – Non-Risk Significant Planning Standard corrective actions
Emergency Response Organization Drill 08-03 Scenario Guide

Section 4OA1: Performance Indicator Verification

NSD 225, NRC Performance Indicators, Rev. 3
NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Rev. 5

Section 4OA2: Identification and Resolution of Problems

NSD 112; Fire Brigade Organization, Training and Responsibilities, Rev. 08
Safety Evaluation Report 9.5.1.4, Fire Brigade and Fire Brigade Training
NFPA-0805, Section 3.4, Industrial Fire Brigade, Subsection 3.4.1, On-Site Fire Fighting Capability
PIP C-07-1608; During first quarter fire brigade drills the resident NRC witnessed two drills and noted that the control room staff and responding fire brigade leader did not use the Fire Fighting Strategies Manual to relay important information to fire brigade teams
PIP C-07-4783; PIP being written to document corrective actions needed as a result of fire brigade drill on 8/29/2007 B shift.
PIP C-07-4786; PIP being initiated to document fire brigade drill critique items for corrective actions A shift drill on 9/8/07.
PIP C-08-1248; CNS Fire Brigade Drill deficiencies
PIP C-08-1409; Self critique of OPS E Shift fire drill on 3/7/08

PIP C-08-1450; Fire Brigade drill on 03/07/2008 was unsuccessful in to meeting drill objectives
PIP C-08-1584; Deficiencies noted in CNS Fire brigade Drill on 3/14/08.
PIP C-08-4633; Catawba Nuclear Site Emergency Response Organization Graded Exercise critique items
PIP C-08-4679; Annual Graded Exercise crew performance critique
PIP C-08-5655; Documentation of the fire brigade drill critique on 9/19/08.
Quarterly CNS Fire Brigade Drill Reviews, 4th quarter 2007, 1st and 2nd quarters of 2008

Section 4OA3.1: CA Pumps Declared Inoperable

Technical Specifications, Unit 1, Tech Spec 3.7.5, Amendment 228
Technical Specifications, Unit 2, Tech Spec 3.7.5, Amendment 223
LER 413/2008-001; Auxiliary Feedwater Pumps declared inoperable due to configuration management discrepancy
PIP C-08-0513; Interior doghouse floor drains do not match the as-built drawings
CNC-1223.15-00-0022; Design calculation for liquid radwaste drainage
CNC-1221.15-00-0049, Analysis of the liquid radwaste C & D floor drain and auxiliary feedwater sump pump system
CNS-1465.00-00-0011; Design calculation for external flooding
UFSAR Section 3.4, External flooding
AP/0/A/5500/030, Plant Flooding, Rev. 007
OP/1/B/6100/010F; Annunciator Response for Panel 1AD-5, H-1 (CA Pump 1A Sump Level Hi Hi)
OP/1/B/6100/010F; Annunciator Response for Panel 1AD-5, H-2 (CA Pump 1B Sump Level Hi Hi)
OP/1/B/6100/010F; Annunciator Response for Panel 1AD-5, H-3 (CA Pump Turbine Sump Level Hi Hi)

Section 4OA3.2: Failure Of The 1B RN Pump

PT/0/A/4400/0022B, Nuclear Service Water Pump Train B Performance Test
PT/0/B/4400/008B, RN Flow Balance Train B
UFSAR Section 9.2.1
PIP C-08-4289; Unplanned entry into Tech Spec 3.7.8 for the loss of the 1B RN pump
PIP C-08-4325; Unaccountable foreign material in the B RN pump pit
PIP C-08-4316; Catawba submitted a request to the NRC to extend the allowed out of service time for CA and NS to a total of nine (9) days. This PIP tracks the regulatory commitments made in support of the NRC request
PIP C-08-4339; Deficiency identified in the emergency Tech Spec change package prior to the submission to the NRC for review and approval
Work Order 01822277; Replace the 1B RN pump

Section 4OA3.3: Elevated Leakoff From 2C NCP #2 Seal

PT/1/B/4150/001E, Identifying NC System Leakage, Rev. 013
PIP C-08-5407; Westinghouse Product Update not incorporated into RCP instruction manual
AP/2/A/5500/008, Malfunction of Reactor Coolant Pump, Rev. 007

PIP C-08-5402; AP/2/A/5500/008 (Malfunction of Reactor Coolant Pump) Case 1 (NC Pump Seal Malfunction) was entered on 9/8/08
PIP C-08-4376; Unit 2 NC System leakage calculation performed 07/16/08 indicated higher than normal identified leakage

Section 4OA3.4: Failure of an Undervoltage Relay in the 1A Diesel Generator Accelerated Load Sequencer

PIP C-08-5524; Found 27XAS (Special) Relay inoperable
IP/1/A/4971/006; Calibration Procedure for Brown Boveri ITE 27H Relay, Rev. 007

Section 4OA5.2: TI 2515/176

Licensing Documents
Technical Specifications, Unit 1, Amendment 228
Technical Specifications, Unit 2, Amendment 223
UFSAR Section 8.3-4

Procedures
AP/1/A/5500/007; Unit 1 Loss of Normal Power, Rev. 56
AP/2/A/5500/007; Unit 1 Loss of Normal Power, Rev. 53
PT/1/A/4350/002 A, Diesel Generator 1A Operability Test, Rev. 118
PT/1/A/4350/002 B, Diesel Generator 1B Operability Test, Rev. 115
PT/2/A/4350/002 A, Diesel Generator 2A Operability Test, Rev. 90
PT/2/A/4350/002 B, Diesel Generator 2B Operability Test, Rev. 90
PT/1/A/4350/015 A, Diesel Generator 1A Periodic Test, Rev. 41
PT/1/A/4350/015 B, Diesel Generator 1B Periodic Test, Rev. 40
PT/2/A/4350/015 A, Diesel Generator 2A Periodic Test, Rev. 32
PT/2/A/4350/015 B, Diesel Generator 2B Periodic Test, Rev. 31
OP/1/A/6350/002, Diesel Generator Operation, Rev. 141
OP/2/A/6350/002, Diesel Generator Operation, Rev. 122

Calculations
CNC-1381.05-00-0147; Appendix A, Effect on EDG Loading Utilizing Tech Spec Limits for Voltage and Frequency, Rev. 08
CNC-1381.05-00-0198; Unit 1 6.9kV, 4.16kV and 600V Auxiliary Power Systems Safety-Related Voltage Analysis, Rev. 08
CNC-1381.05-00-0199; Unit 2 6.9kV, 4.16kV and 600V Auxiliary Power Systems Safety-Related Voltage Analysis, Rev. 13

Other
IP C-07-0656; potentially missing information in the Emergency Diesel Generator Loading Calculation for LOCA/Blackout, CNC-1381.05-00-0147, Rev. 7
PIP C-00-2566, 1A DG unable to reach full load conditions
PIP C-05-1926; 1A DG failed Voltage Regulator Diode resulted in loss of excitation
PIP C-06-7946; Catastrophic bearing shell failure on the 1A DG
PIP C-07-1719; Failure of the exciter linear reactor in the 1A DG voltage regulator
PIP C-97-2796; Load swings on the 1B DG caused the output breaker to trip

PIP C-03-5855; Reverse Power Trip of the 1B DG
PIP C-05-5973; 2B DG Monthly Operability PT Failure of a fuel oil pump coupling after reached speed and voltage

LIST OF ACRONYMS USED

AC	-	Alternating Current
ASE	-	Active Simulator Exams
CA	-	Auxiliary Feedwater
CFR	-	Code of Federal Regulations
CNS	-	Catawba Nuclear Station
DG	-	Diesel Generator
EDG	-	Emergency Diesel Generator
KC	-	Component Cooling Water
LCO	-	Limiting Condition for Operation
LOR	-	Licensed Operator Requalification
MSPI	-	Mitigating Systems Performance Index
NCP	-	Reactor Coolant Pump
NCV	-	Non-Cited Violation
ND	-	Residual Heat Removal
NEI	-	Nuclear Energy Institute
NRC	-	Nuclear Regulatory Commission
NS	-	Containment Spray
NSD	-	Nuclear System Directive
NV	-	Chemical/Volume Control
PI	-	Performance Indicator
PIP	-	Problem Investigation Process report
RO	-	Reactor Operator
RN	-	Nuclear Service Water
RTP	-	Rated Thermal Power
SRO	-	Senior Reactor Operator
SSC	-	Structures, Systems, and Components
TI	-	Temporary Instruction
TS	-	Technical Specification
UFSAR	-	Updated Final Safety Analysis Report