UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

April 27, 2007

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

SUBJECT: CATAWBA NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT 05000413/2007002 AND 05000414/2007002

Dear Mr. Morris:

On March 31, 2007, 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 April 4, 2007, with Mr. George Hamrick and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. 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, its enclosure, and your response (if any) 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/

James H. Moorman, III, 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 05000413/2007002 and 05000414/2007002
w/Attachment: Supplemental Information

cc w/encl: (See page 2)

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Letter to J. R. Morris from James H. Moorman, III dated April 27, 2007
SUBJECT: CATAWBA NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT 05000413/2007002 AND 05000414/2007002

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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.:	05000413/2007002 and 05000414/2007002
Licensee:	Duke Power Company, LLC
Facility:	Catawba Nuclear Station, Units 1 and 2
Location:	York, SC 29745
Dates:	January 1, 2007 through March 31, 2007
Inspectors:	A. Sabisch, Senior Resident Inspector G. Williams, Resident Inspector R. Eul, Project Engineer J. Fuller, Reactor Inspector L. Lake, Reactor Inspector (Section 1R12.2) B. Miller, Reactor Inspector (Section 1R12.2) M. Scott, Senior Reactor Inspector (Section 1R12.2)
Approved by:	James H. Moorman, III, Chief Reactor Projects Branch 1 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000413/2007002, 05000414/2007002; 01/01/2007 - 03/31/2007; Catawba Nuclear Station, Units 1 and 2; Quarterly Integrated Inspection Report.

The report covered a three-month period of inspection by two resident inspectors, a project engineer, and four reactor 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 conducting power ascension following completion of refueling outage end-of-cycle (EOC) 16. The unit reached 100 percent rated thermal power (RTP) on January 2, 2007. On January 5, 2007, power was reduced to repair a main feedwater isolation valve hydraulic actuator. At approximately 65 percent power, the main feedwater Pump 1B tripped unexpectedly on low suction flow. At approximately 22 percent turbine load, high vibration readings were received on the #5 turbine bearing and the main turbine was tripped at approximately 12 percent turbine load with the plant stabilized at 9 percent reactor power. Following repairs to the main feedwater isolation valve actuator, the main generator was placed back in-service on January 7, 2007, and the unit was returned to 100 percent RTP. On March 16, 2007, the #3 combined intermediate valve (CIV) failed to reopen during monthly turbine valve movement testing and the main generator was removed from service on March 18, 2007, for repairs. Following repairs, the generator was placed back on line later that day. During power ascension, steam was inadvertently admitted to the 1A and 1B moisture separator reheaters, which required power to be maintained at approximately 69 percent pending engineering evaluation of the transient. Following this assessment, power ascension was recommenced and the unit reached 100 percent RTP on March 20, 2007, where it remained for the rest of the inspection period.

Unit 2 operated at 100 percent RTP throughout the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

Severe Weather Condition (Actual)

a. Inspection Scope

The inspectors reviewed the effectiveness of the licensee's cold weather protection program pertaining to the cold weather conditions experienced during the period of January 31 - February 2, 2007. This included field walkdowns to assess the risk significant freeze protection equipment in the standby shutdown facility, refueling water storage tank, and nuclear service water system. The inspectors discussed specific measures with operations, maintenance, and emergency planning personnel to be taken when low ambient temperatures were experienced. A walkdown of control room equipment related to cold weather protection was performed. The inspectors attended the morning Site Direction Meeting where the station procedure for preparing for cold weather conditions was discussed and action items were assigned for completion prior to cold weather arriving on site. The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

.1 Partial Walkdowns

a. Inspection Scope

The inspectors determined if the critical portions of equipment alignments for selected trains that remained operable while the redundant trains were inoperable. The inspectors reviewed plant documents to determine the correct system and power alignments, and the required positions of select valves and breakers. The inspectors determined if the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact mitigating system availability. The inspectors walked down the four partial system alignments listed below. The documents reviewed during this inspection are listed in the Attachment of this report.

- 2A component cooling water (KC), 2A residual heat removal (ND) and both "A" train nuclear service water (RN) pumps while performing planned maintenance activities on the 2B KC, 2B ND and Unit 2 refueling water systems
- Protection of "A" and "B" train equipment that could be affected by the excavation of the 2A and 2B RN 10-inch supply/return headers associated with the diesel generators
- Protection of "A" and "B" train equipment that could be affected by the construction of the turning pad associated with the Unit 1 independent spend fuel storage installation (ISFSI) haul road adjacent to RN conduit manhole #5
- Protection of "A" and "B" train equipment that could be affected by the actual excavation activities or results of the external inspections conducted on the "A" and "B" RN supply headers between manholes #8 and #9

b. Findings

No findings of significance were identified.

1R05 Fire Protection

.1 Fire Protection Walkdowns

a. Inspection Scope

The inspectors walked down accessible portions of the plant 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 based on sensitivity studies for fire related core damage accident sequences, and summary statements related to the licensee's 1992 Initial Plant Examination for External Events Submittal to the NRC. The inspectors toured the eight areas important to reactor safety listed below. The documents reviewed during this inspection are listed in the Attachment to this report.

- Unit 1 Main Transformer Yard Area
- Standby Shutdown Facility (Elevations 594 and 611)
- Unit 1 Turbine Building (Elevation 619)
- Unit 1 "B" Diesel Generator (DG) room and sequencer hallway
- Unit 2 ND Pump Rooms (Elevation 522)
- Unit 2 "A" DG room and sequencer hallway
- Unit 2 "A" and "B" Train Auxiliary Shutdown Panels (Elevation 543)
- Unit 1 Refueling Water Storage Tank

b. Findings

No findings of significance were identified.

.2 Fire Drill Observations

a. Inspection Scope

On February 6, 2007, the inspectors observed a shift fire drill simulating a lube oil fire on the emergency diesel generator Train 1A located in the emergency diesel generator building. On February 20, 2007, the inspectors observed a shift fire drill simulating a fire in the hot machine shop located in the Auxiliary Building on the 594' elevation. The purpose of these inspections was to: monitor the fire brigade's use of protective gear and fire fighting equipment; verify that fire fighting pre-plan procedures and appropriate fire fighting techniques were used; ensure the directions of the fire brigade leader were thorough, clear and effective; and verify that control room personnel responded appropriately to the simulated fire event. The inspectors also attended the subsequent drill critiques to assess whether they were appropriately critical, included discussions of drill observations, and identified any areas requiring corrective actions. The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed OP-CN-ASE-34, Active Simulator Exam Scenario 34, Revision 07, to assess the performance of licensed operators. The exercise included the loss of an operating feedwater pump due to the spurious closure of the suction valve, a failure of automatic rod control, a steam leak in the exterior doghouse, the failure of both main feedwater and main steam isolations to occur following a reactor trip and a subsequent safety injection.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

.1 Resident Quarterly Inspections

a. Inspection Scope

The inspectors reviewed the licensee's effectiveness in performing the three routine maintenance activities listed below. This review included an assessment of the licensee's practices pertaining to the identification, scope, and handling of degraded equipment conditions, as well as common cause failure evaluations and the resolution of historical equipment problems. For those systems, structures, and components scoped in the maintenance rule per 10 CFR 50.65, the inspectors assessed whether reliability and unavailability were properly monitored, and that 10 CFR 50.65 (a)(1) and (a)(2) classifications were justified in light of the reviewed degraded equipment condition. The documents reviewed during this inspection are listed in the Attachment to this report.

- Replacement and subsequent functional testing of the hydraulic actuator on main feedwater isolation Valve 1CF-51 following the receipt of multiple hydraulic pump starts
- Replacement of a degraded 15 VDC PS5 power supply in the Unit 2 Non-Urgent Annunciator logic cabinet
- Repair of flaw indications identified on RN supply header Trains A and B following the excavation and inspection of the headers between manholes #8 and #9

b. Findings

No findings of significance were identified.

.2 Periodic Evaluation (Triennial)

a. Inspection Scope

From January 29 to February 2, 2007, the inspectors reviewed the licensee's Maintenance Rule (MR) periodic assessment, "Maintenance Rule Periodic Assessment for Maintenance Rule Implementation October 1, 2003 to April 1, 2005 - Catawba Nuclear Station," to assess the effectiveness of the assessment and verify that it was issued in accordance with the requirements of 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." The inspectors' review included the evaluation of: periodic assessment timeliness, balancing of reliability and unavailability, (a)(1) activities, (a)(2) activities, and use of industry operating experience for the 18-month period covered by the assessment. The inspectors reviewed selected MR activities covered by the assessment period for the following MR a(1)/a(2) status component and attendant systems: Motor Operated Valves, Essential Chilled Water System, Spent Fuel Pool Cooling Water System, Containment Penetration Seals, and 7300 Process Control System. Additionally, the inspectors conducted a plant walkdown to assess the condition of risk-significant plant structures within the scope of the MR to verify that condition monitoring was adequately performed.

During the inspection, to verify the application of MR requirements, the inspectors reviewed selected plant work order data, system health reports, reliability and unavailability monitoring status documents, significant adverse condition investigation reports, MR system scoping documents, and attendant MR expert panel meeting minutes. The inspectors also discussed and reviewed relevant Problem Investigation Process reports (PIPs), and discussed MR issues with system engineers and licensee management. The inspectors reviewed the most recent MR structures inspection report. The documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the licensee's assessments concerning the risk impact of removing from service those components associated with the ten work items listed below. This review primarily focused on activities determined to be risk-significant within the Maintenance Rule. The inspectors also assessed the adequacy of the licensee's identification and resolution of problems associated with maintenance risk assessments and emergent work activities. The inspectors reviewed Nuclear System Directive 415,

Operational Risk Management (Modes 1-3), and Nuclear System Directive 403, Shutdown Risk Management (Modes 4,5,6, and No Mode), 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.

- Review of planned and emergent work and grid conditions prior to reducing Unit 1 power to repair main feedwater isolation Valve 1CF-51 in accordance with the Critical Evolution Plan developed for the activity
- Review of planned work to support the excavation of the Unit 2 diesel generators RN supply and return headers scheduled for January 11, 2007
- Review of the planned excavation of the Unit 2 diesel generators RN supply and return headers and assessment of the change in plant risk that resulted from operational issues associated with the control room area chilled water system Train A
- Review of planned maintenance activities upon receiving notification of approaching severe winter weather conditions on February 1, 2007
- Review of planned and emergent work upon notification of a leak on the 'B' low pressure service water (RL) Train B supply header when RL Train C header was unavailable and the potential impact of reduced RL system flow on February 13, 2007
- Review of planned maintenance activities on the 2B train of ND and KC and the impact of these activities on other planned or emergent work
- Review of planned testing of Yellow bus relays and PCB-12 differential relay trip circuitry
- Review of planned activities and emergent work upon notification from the General Office and Transmission Control Center that three generating stations on the Duke grid were off-line
- Review of planned and emergent work for the period that RN supply header Trains A and B were exposed for excavation and inspection; scheduled for March 15 - 18, 2007
- Review of the station operational and maintenance schedules when the Unit 1 #3 CIV failed to reopen during the monthly turbine valve movement test requiring the main generator to be removed from service for repairs

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

For the nine operability evaluations listed below, the inspectors evaluated the technical adequacy of the evaluations to ensure that Technical Specification operability was properly justified and the subject component or system remained available such that no

unrecognized increase in risk occurred. The inspectors reviewed the Updated Final Safety Analysis Report to verify that the system or component remained available to perform its intended function. In addition, the inspectors reviewed compensatory measures implemented to verify that the compensatory measures worked as stated and the measures were adequately controlled. The inspectors also reviewed a sampling of PIPs to verify 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-07-0026; Vertical piping support 1-R-RN-0844 was found to be non-functional
- PIP C-07-0086; Quarterly surveillance on the 1A H2 mitigation system was performed with the incorrect circuit current values listed in the procedure's acceptance criteria
- PIP C-07-0105; Train A Controlled Area Chilled Water (YC) Chiller failure to start
- PIP C-07-0656; Emergency Diesel Generator Loading Calculation evaluated for allowable ranges of frequency and voltage identified in Technical Specifications
- PIP C-07-0735; Evaluated effects of a +/- 2% DG frequency variation on Motor Operated Valve (MOV) stroke times and operating margin
- PIP C-07-0943; 10CFR Part 21 Notification made by Carrier Corporation for the Control Area Chiller Compressor and Bearing Discharge Temperature Sensors
- PIP C-07-1004; Hanger 2-R-ND-0028 was found to be damaged and declared non-functional
- PIP C-07-0859; NV202 and NV203 manual action acceptability for plant fire
- PIP C-07-1287; Inspection results from the excavation of the 42-inch RN supply headers between manholes #8 and #9

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the five post-maintenance tests listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the licensee's test procedures to verify that 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 verify that 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.

- Emergency Diesel Generator 1A connecting rod bearing inspections and subsequent operational testing
- Unit 1 boric acid totalizer modification, repair and testing to address issues coming out of the Unit 1 refueling outage
- Comprehensive Limitorque Preventive Maintenance (PM) & motor operated valve (MOV) Test to install strain gauge, verify torque switch settings and perform subsequent functional stroke test for 2RN-846A; 2A DG Heat Exchanger return to Standby Nuclear Service Water pond valve
- Repair and testing of the electro hydraulic control system portion of CIV #3 following the failure of valve to reopen during main turbine valve movement testing
- Replacement of the actuator on 1CA47B, Auxiliary Feedwater Supply to the 1D steam generator (SG) from the 1B Auxiliary Feedwater Pump, following a failure of the valve to move and subsequent testing to verify operability

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors observed and/or reviewed the nine surveillance tests listed below to verify that Technical Specification surveillance requirements and/or Select Licensee Commitment requirements were properly complied with, and that test acceptance criteria were properly specified. The inspectors ascertained whether proper test conditions were established as specified in the procedures, that no equipment pre-conditioning activities occurred, and that acceptance criteria had been met. Additionally, the inspectors also determined if equipment was properly returned to service and that proper testing was specified and conducted to ensure that the equipment could perform its intended safety function following maintenance or as part of surveillance testing. The documents reviewed during this inspection are listed in the Attachment to this report.

Surveillance Tests

- PT/1/A/4350/002 B; Diesel Generator 1B Operability Test (5-hour run), Rev. 111
- IP/2/A/3200/001 B; Solid State Protection System (SSPS) Train B Periodic Testing, Rev. 003
- PT/1/A/4250/003 C; Turbine Driven Auxiliary Feedwater Pump #1 Performance Test; Rev. 094
- PT/1/A/4200/014 A; Ice Condenser Intermediate Deck Door and Inlet Door Position Monitoring System Inspection, Rev. 011

- PT/1/A/4200/014 B; Ice Condenser Top Deck Door Inspection, Rev. 010
- PT/0/A/4150/005; Core Power Distribution (Unit 1), Rev. 026
- PT/1/A/4250/002B, Monthly Main Turbine Valve Movement, Rev. 043
- PT/2/A/4600/001; Rod Control Cluster Assembly Movement Test, Rev. 029

In-Service Tests

- PT/1/A/4200/004 C; Containment Spray (NS) Pump 1B Performance Test, Rev. 062

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the two temporary station modifications listed below to determine whether: the individual modifications were properly installed; the modifications did not affect system operability; drawings and procedures were appropriately updated; and post-modification testing was satisfactorily performed. The documents reviewed during this inspection are listed in the Attachment to this report.

- CD 101224: Revise Operator Aid Computer (OAC) point C1I0193 (Shutdown Banks C through E Rods Train B Gray Code Max, which enters a false indication to clear the data “B” alarm) to exclude Unit 1 Shutdown Bank Rod E-3 “B” channel data to clear urgent and non-urgent annunciators which will allow other alarms to be received when expected

- CD 201320: Removal of Digital Rod Position Indication (DRPI) card SBB-7 and revise OAC point C2I0191 (Shutdown Bank A&B rods, train “B” gray code max, which enters a false indication to clear the data “B” alarm) to exclude the Unit 2 Shutdown Bank rod N-9 “B” channel data from the alarm logic to clear urgent and non-urgent annunciators allowing other alarms to be received when expected

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

a. Inspection Scope

The inspectors observed and evaluated the licensee's simulated control room and emergency planning performance during a Security Force-on-Force drill conducted on January 24, 2007. The inspectors observed licensee activities occurring in the Technical Support Center which was intended to simulate the main control room during a site security event. The NRC's assessment focused on the timeliness and accuracy of the event classification, notification to 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 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 verify the accuracy of reported performance indicator (PI) data for the two indicators during periods listed below. To verify 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. 4.

Initiating Events

- Unplanned Transients per 7,000 Critical Hours, Unit 1; 1st quarter 2005 through 4th quarter 2006

The inspectors reviewed the Unplanned transients per 7,000 Critical Hours for the period of January 1, 2005 through December 31, 2006 for Unit 1. The inspectors reviewed operating logs, PIPs and monthly operating reports associated with unplanned changes in reactor power of greater than 20 percent full-power that occurred in that period excluding manual and automatic scrams and determined whether the data

reported for the PI corresponded to the unit's power profile. The documents reviewed during this inspection are listed in the Attachment to this report.

Barrier Integrity

- Reactor Coolant System Specific Activity; Unit 2; 1st quarter 2005 through 4th quarter 2006

The inspectors reviewed the Reactor Coolant System Specific Activity PI results for the period of January 1, 2005 through December 31, 2006, for Unit 2. The inspectors reviewed maximum monthly reactor coolant Dose Equivalent Iodine (DEI-131) activity compared to Technical Specification limiting values. In addition to record reviews, the inspectors observed a chemistry technician obtain and analyze a Reactor Coolant System sample. The documents reviewed during this inspection are listed in the Attachment to this report to this report.

- Findings

No findings of significance were identified.

4OA3 Event Followup

.1 Replacement of the Unit 1 "C" Main Feedwater Isolation Valve Hydraulic Actuator

a. Inspection Scope

On January 5, 2007, a power reduction was initiated to allow main feedwater isolation Valve 1C to be removed from service for valve actuator replacement. The maintenance plan showed a final target power level of approximately 15 percent, which allowed for the isolation of the main feedwater line and removal of the hydraulic actuator. At approximately 65 percent power (below the runback setpoint), main feedwater Pump 1B tripped unexpectedly on low suction flow. At approximately 22 percent turbine load, high vibration readings were received on the #5 turbine bearing, requiring the operators to enter procedure AP/09, Rapid Downpower. The main turbine was tripped at approximately 12 percent turbine load and the plant was stabilized at nine percent reactor power. Following repairs to the main feedwater isolation Valve 1C actuator, cleaning the instrument lines associated with main feedwater Pump 1B flow indication, and an assessment of the vibration observed during the power reduction, the main generator was placed back in-service on January 7, 2007, and the unit was subsequently returned to 100 percent RTP.

c. Findings

No findings of significance were identified.

.2 Repair of Unit 1 #3 CIV Following the Failure of the Valve to Reopen During Testing

a. Inspection Scope

On March 16, 2007, during main turbine valve movement testing on Unit 1, CIV #3 failed to reopen after it was stroked closed. A Unit Threat Team was assembled and repair plans developed, which required removing the main turbine from service and securing the electro-hydraulic control system. Power was reduced to approximately 18 percent and the main turbine was isolated to allow the repairs to proceed. Following repairs to CIV #3, the main turbine was placed back in-service and the generator output breakers closed. During power ascension, steam was inadvertently admitted to the 1A and 1B second stage tube bundles of the moisture separator reheaters, resulting in the tubes experiencing a thermal transient. The Unit was held at approximately 65 percent RTP pending an engineering evaluation of the transient and the potential impact it could have had on structural integrity of the tubes. Following completion of the engineering evaluation, power ascension resumed and the Unit reached 100 percent RTP on March 20, 2007.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

On April 4, 2007, the resident inspectors presented the inspection results to Mr. G. Hamrick and other members of licensee management, who acknowledged the findings. The inspectors confirmed that all proprietary information provided or examined during the inspection period had been returned.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel
K. Adams, Human Performance Manager
E. Beadle, Emergency Planning Manager
S. Beagles, Chemistry Manager
E. Brewer, Operations Training Manager
W. Byers, Security Manager
J. Ferguson, Mechanical, Civil Engineering Manager
W. Brewer, Safety Assurance Manager
J. Foster, Radiation Protection Manager
W. Green, Reactor and Electrical Systems Manager
G. Hamilton, Training Manager
G. Hamrick, Engineering Manager
R. Hart, Regulatory Compliance Manager
J. McConnell, Shift Operations Manager
J. Morris, Catawba Site Vice President
J. Pitesa, Station Manager
L. Reed, Modifications Engineering Manager
G. Spurlin, LOR Training Supervisor
C. Trezise, Operations Superintendent/Reactor and Electrical Systems Manager

LIST OF ITEMS OPENED, CLOSED, AND REVIEWED

Opened and Closed

None

Reviewed

None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Preparations

RP/0/B/5000/030 Severe Weather Preparations, Rev. 005
Nuclear Site Directive 317, Freeze Protection Program, Rev. 03

Section 1R04: Equipment Alignment

Complex Evolution Plan for 2B KC, ND and FW Work during Week 09
Critical Evolution Plan for the Unit 2 A & B RN piping excavation during Week 09
Complex Evolution Plan for construction of the "A" turning pad for the Unit 1 ISFSI haul road (01130426-07)
Complex Evolution Plan for the Phase 3 RN piping excavation conducted during March 15 - 18, 2007

Section 1R05: Fire Protection

Pre-Fire Plan for Fire Strategy Area X; Unit 1 Turbine Building 619 Level
Pre-Fire Plan for Fire Strategy Area Y; Unit 1 Turbine Building 619 Level
Pre-Fire Plan for Fire Strategy Area AY; Unit 1 Transformer Yard
Pre-Fire Plan for Fire Strategy Area AW; Standby Shutdown Facility 594 Level
Pre-Fire Plan for Fire Strategy Area AX; Standby Shutdown Facility 611 Level
CN-1599-01.00-037, Flow Diagram of Exterior Fire Protection System
Pre-Fire Plan for Fire Strategy Area 42; Diesel Generator Building 1B Corridor 560 Level
Pre-Fire Plan for Fire Strategy Area 26; Diesel Generator Building Room 1B 560 Level
Pre-Fire Plan for Fire Strategy Area 1; Unit 2 ND Pumps 522 Level
Pre-Fire Plan for Fire Strategy Area 43; Diesel Generator Building 2A Corridor 560 Level
Pre-Fire Plan for Fire Strategy Area 27; Diesel Generator Building Room 2A 560 Level
Pre-Fire Plan for Fire Strategy Area 31; Unit 2 "A" Train Aux Shutdown Panel 543 Level
Pre-Fire Plan for Fire Strategy Area 33; Unit 2 "B" Train Aux Shutdown Panel 543 Level
Catawba Nuclear Station Fire Drill, Scenario No. 2007-2
Pre-Fire Plan for Fire Strategy Area 41; Diesel Generator Building 1A Corridor 560 Level
Pre-Fire Plan for Fire Strategy Area 25; Diesel Generator Building Room 1A 560 Level
Catawba Nuclear Station Fire Drill, Scenario No. 2007-4
Pre-Fire Plan for Fire Strategy Area L1; Auxiliary Building, 594 Level
Fire Drill Critique associated with CNS Fire Drill, Scenario No. 2007-4
Fire Drill Critique associated with CNS Fire Drill, Scenario No. 2007-2
RP/0/B/5000/029; Fire Brigade Response, Rev. 14

Section 1R12: Maintenance Effectiveness

[Quarterly]

Complex Evolution Plan for Unit 2 Non-Urgent Annunciator - PS5 Failure
CE101250; Equivalent Change for Rod Control 15 Volt Power Supplies

PIP C-07-1287; Engineering inspection and repair of the 42 inch RN supply headers located between manholes #8 and #9

[Triennial]

Assessments
Maintenance Rule Periodic Assessment for Maintenance Rule Implementation October 1, 2003 to April 1, 2005 - Catawba Nuclear Station
Maintenance Rule Periodic Assessment for Maintenance Rule Implementation April 1, 2002 to October 1, 2003 - Catawba Nuclear Station

System Health Reports
Valves - MOV (Motor Operated Valves) Health Report, 2006T2 (2nd quarter of the year)
KF - Spent Fuel [Pool] Cooling Health Report 2006T2
VC/YC - Chiller Health Report 2006T2
Valves - Check Valve Health Report Period 2006T2
EIA - 6300 Process Control System Health Report 2006T1 and 2006T2

Corrective Action Documents (PIPs)
C-06-01618, KF Maintenance Rule Status
C-05-07516, 1B KF Pump Problems
C-05-06471, KF 1B Pump
C-06-03080, 2 WL 807B light flashing
C-03-02910, CA # 60, YC chiller performance instrumentation
C-05-04974, YC system a(1) status
C-05-07239, 1YC-358 emerging trend
C-05-03233, Low refrigerant trips
C-06-01960, Review of Instrumentation for 7300 cabinets
C-05-01858, Unavailability of reactor trip breakers
C-05-03781, Type C test failure of Check Valve 1/ACK5340. Valve failed to pressurize.
C-06-04532, Containment Super System, MPFF on check valve C2WLA22 and 2V1368 failed Type C test due to degraded seating materials
C-06-08331, Guidance on how to repair and accept an existing seal in an underground electrical conduit
C-06-03374, Function CICV.2 in the SSC Function Database needs to be broken out further into two separate functions
C-06-03902, CA#22, Implement a preventive maintenance program to insure that identified flood protection barriers are inspected periodically
C-06-03902, CA#18, MCE Civil to re-verify that all penetrations with the potential for water intrusion to the DG rooms and Aux building have been identified and sealed.
C-07-00512, Use of non-safety equipment in Emergency Operating Procedures

Reports
Severe Accident Analysis Report/PSA Assessment Period Ending March 2005
Inspection Report on Civil Maintenance Rule Inspection of Structures 2003 - 2005
Inspection Report on Civil Engineering Maintenance Rule Inspection of Structures 1997 - 1998

Meeting Notes
CNS Expert Panel Meeting dated 01/25/2007

Procedures
EDM 410, Inspection Program for Civil Engineering Structures and Components
Procedure MP/0/A/7150/022, Fuel Pool Corrective Maintenance, Rev. 29
Procedure AP/1/A/5500/021, Loss of Component Cooling, Rev. 34
Procedure EP/1/A/5000/FR-H.1, Response to Loss of Secondary Heat Sink, Rev. 28
Procedure EP/1/A/5000/E-2, Faulted Steam Generator Isolation, Rev. 12

Other Documents
Super System Performance Criteria XL Spread Sheet as of the Inspection Period
List of Maintenance Rule Functional Failures from October 1, 2003- April 1, 2005 current a(1) list as of the inspection time frame
Top Equipment Problem Report (TEPR) List, dated August 8, 2006
Open One Priority List, dated 9/25/06
Memorandum CN-1602.01, 1-CNS-Maintenance Rule [PSA Assessment Review to JP Fraedrich, from SAAG], dated March 29, 2004
List of Root Causes for the last two years

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

U2 A & B DG Piping Excavation Critical Evolution Contingency
PIP C-07-105; "A" Chiller failed to start
Complex Evolution Plan for 'C' RL Pump Discharge Piping Replacement and 'C' RL Pump Refurbishment
Complex Evolution Plan for 2B KC, ND and FW Work during Week 09
Critical Evolution Plan for Yellow Bus Relay Testing and Associated Activities
PORC package for the Critical Evolution Plan for Yellow Bus Relay Testing and Associated Activities
PIP C-07-0842; PORC meeting on 2/21/07 to discuss the Yellow Bus Relay Testing
Complex Evolution Plan for the Phase 3 RN piping excavation conducted during March 15 - 18, 2007
Unit Threat Status reports associated with the Unit 1 CIV#3 failure to reopen event on March 16, 2007

Section 1R15: Operability Evaluations

YC Chiller A Failure Investigation Process (FIP) Engineering Troubleshooting Process Guide
PIP C-06-2961; Support 2-R-ND-0273 discovered pulled loose from wall, subsequent testing

revealed the snubber on nearby support 2-R-ND-0277 was also damaged and inoperable
Catawba UFSAR Section 8.3.1, April, 2006
PT/1/A/4350/002 A; Diesel Generator Operability Test; Rev. 114
NRC Regulatory Issue Summary 2006-10; Regulatory Expectations with Appendix R Paragraph III.G.2 Operator Manual Actions
PIP C-05-6055; CNS response to NRC proposal to withdraw the Operator Manual Action Rule

Section 1R19: Post-Maintenance Testing

PT/1/A/4350/002A; DG '1A' Operability Test; 24-hr run following replacement of #4 bearing on 1A DG; Rev. 112
Work Order #01725382; Verify Connecting Rod Bearing Shell Positions
C-07-00190 1A Diesel Generator rod bearing inspection results
SI/0/A/5200/015; MOV/AOV Test Sensor Installation; Rev. 005
IP/0/A/3820/004A; MOV Diagnostic Testing; Rev. 046
Work Order #01709510; 2RN-846A; Perform MOV Test (GL 96-05)
Work Order #01729058; 2RN-846A; Perform Comprehensive Limitorque PM

Section 1R22: Surveillance Testing

CN-1563-1.0; Rev. 31; Flow Diagram of Containment Spray System (NS)
OP/1/A/6250/002; Auxiliary Feedwater System; Rev. 135
OP/0/A/6150/007; Incore Instrumentation; Rev. 014
PT/0/A/4600/005 D; One Point Incore/Excore Calibration; Rev. 016

Section 1R23: Temporary Plant Modifications

CD 101224 Temporary Change due to DRPI Rod E-3 Data Failure
WO 01731139, Input test signals into another rod position within the same modified database point to verify that alarms will continue to be generated if another alarm condition occurs
CD 201320, Temporary Change due to DRPI Rod N-9 "B" channel data failure
IP/0/A/3890/032; Controlling procedure for installation and removal of temporary modifications, Rev. 013
PIP C-07-1288; Problems identified with the implementation of Temporary Modification CD 201320 associated with the Unit 2 DRPI N-9 rod alarms

1EP6: Drill Evaluation

RP/0/A/5000/001; Classification of an Emergency; Rev. 017
RP/0/A/5000/002; Notification of an Unusual Event; Rev. 038
RP/0/A/5000/003; Notification of an Alert; Rev. 041
RP/0/A/5000/004; Site Area Emergency; Rev. 043
RP/0/B/5000/026; Site Response to Security Events; Rev. 009
RP/0/B/5000/026; Site Response to Security Events; Rev. 010
Catawba Emergency Notification Form drafted during the exercise; 01/24/07

4OA1 : Performance Indicator Verification

PIP C-05-00168 U1 Turbine Runback caused by manual trip of 1B CFPT due to pump vibration
NSD 225, NRC Performance Indicators, Rev. 3
ChemDesk chemistry database reports; DEI-131 Chemistry samples taken for each month from January 2005 to December 2006

LIST OF ACRONYMS USED

CA	-	Auxiliary Feedwater
CFR	-	Code of Federal Regulations
CIV	-	Combined Intermediate Valve
DEI	-	Dose Equivalent Iodine
DG	-	Diesel Generator
DRPI	-	Digital Rod Position Indicator
EOC	-	End of Cycle
FW	-	Refueling Water
ISFSI	-	Independent Spent Fuel Storage Installation
KC	-	Component Cooling
KF	-	Spent Fuel Pool Cooling
MOV	-	Motor Operated Valve
MR	-	Maintenance Rule
ND	-	Residual Heat Removal
NRC	-	Nuclear Regulatory Commission
NS	-	Containment Spray
NSD	-	Nuclear System Directive
NUREG	-	Nuclear Regulations
OAC	-	Operator Aid Computer
PI	-	Performance Indicator
PIP	-	Problem Investigation Process (report)
PM	-	Preventive Maintenance
PT	-	Penetrant Test
RL	-	Low Pressure Service Water
RN	-	Nuclear Service Water
RTP	-	Rated Thermal Power
SSCs	-	Systems, Structures and Components
SSPS	-	Solid State Protection System
UFSAR	-	Updated Final Safety Analysis Report
VC	-	Controlled Area Ventilation System
YC	-	Controlled Area Chilled Water