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

January 24, 2006

Duke Energy Corporation
ATTN: Mr. D. M. Jamil
Site Vice President
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

SUBJECT: CATAWBA NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT 05000413/2005005 AND 05000414/2005005

Dear Mr. Jamil:

On December 31, 2005, the US 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 January 5, 2006 with you 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.

This report documents a licensee-identified violation, which was determined to be of very low safety significance. However, because of the very low safety significance and because the issue was entered into your corrective action program, the NRC is treating the finding as a non-cited violation (NCV) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest the NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC, 20555-0001; with copies to the Regional Administrator Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC, 20555-0001; and the NRC Resident Inspector at the Catawba Nuclear Station.

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/

Michael E. Ernstes, Chief
Reactor Projects Branch 1
Division of Reactor Projects

Docket Nos.: 50-413, 50-414, 72-45
License Nos.: NPF-35, NPF-52

Enclosure: Integrated Inspection Report 05000413/2005005 and 05000414/2005005, w/Attachment: Supplemental Information

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos:	50-413, 50-414, 72-45
License Nos:	NPF-35, NPF-52
Report No:	05000413/2005005 and 05000414/2005005
Licensee:	Duke Energy Corporation
Facility:	Catawba Nuclear Station, Units 1 and 2
Location:	4800 Concord Road York, SC 29745
Dates:	October 1, 2005 through December 31, 2005
Inspectors:	E. Guthrie, Senior Resident Inspector A. Sabisch, Resident Inspector G. Laska, Senior Operations Engineer (Section 1R11) J. Lenahan, Senior Reactor Inspector (Section 1R07) M. Scott, Senior Reactor Inspector (Section 1R07)
Approved by:	Michael E. Ernstes, Chief Reactor Projects Branch 1 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000413/2005-005, IR 05000414/2005-005; 10/1/2005 - 12/31/2005; Catawba Nuclear Station, Units 1 and 2; Routine Integrated Report.

The report covered a three month period of inspection by two resident inspectors, two regional-based senior reactor inspectors, and an in-office review by an operations engineer. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, “Reactor Oversight Process,” Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

None.

B. Licensee-Identified Violations

A violation of very low safety significance, that was identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee’s corrective action program. This violation and the corrective actions are listed in Section 4OA7 of this report.

Enclosure

REPORT DETAILS

Summary of Plant Status:

Unit 1 operated at 100 percent Rated Thermal Power (RTP) for the entire inspection period.

Unit 2 began the inspection period operating at 100 percent RTP. On December 5, 2005, power was reduced to 94 percent RTP following a tube leak in the 2E1 feedwater heater which required removing the 2E1 and 2D1 heaters from service. The tube leak was repaired and the unit returned to 100 percent RTP on December 9, 2005 and remained there for the rest of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

Cold Weather Preparation

a. Inspection Scope

The inspectors reviewed the licensee's preparations for adverse weather associated with cold ambient temperatures. This included field walkdowns to assess the material condition and operation of freeze protection equipment (e.g., heat tracing, instrument box heaters, area space heaters, etc.), as well as other preparations made to protect plant equipment from freeze conditions. Risk significant systems reviewed included the standby shutdown facility, nuclear service water pump house and the refueling water storage tanks. In addition, the inspectors conducted discussions with operations, engineering, and maintenance personnel responsible for implementing the licensee's cold weather protection program to assess the licensee's ability to identify and resolve deficient conditions associated with cold weather protection equipment prior to cold weather events. Documents reviewed during this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

Partial System Walkdowns

a. Inspection Scope

The inspectors verified the critical portions of equipment alignments for selected systems remained operable while the redundant trains for that system were inoperable. The inspectors reviewed plant documents to determine the correct system and power alignments, as well as the required positions of selected valves and breakers. The

inspectors verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact mitigating system availability. Documents reviewed are listed in the Attachment to this report. The inspectors verified the following three partial system alignments:

- 2A diesel generator (DG) when the 2B DG was inoperable due to a failed fuel oil pump coupling
- 2A DG and 2A 4160V Vital Electrical Bus when the 2B DG was removed from service for scheduled maintenance
- Main switchyard, unit 1 transformer yard, 1A and 1B diesel generators and the Unit 1 Auxiliary Feedwater System (CA) pumps when the Unit 1 standby makeup pump was removed from service for planned and subsequent corrective maintenance

b. Findings

No findings of significance were identified.

1R05 Fire Protection

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, 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. Documents reviewed/generated during this inspection are listed in the Attachment to this report. The inspectors toured the following eight areas important to reactor safety:

- Standby Shutdown Facility (SSF)
- Unit 2 'A' Essential Switchgear Room, 577 foot elevation
- Unit 2 'B' Train Auxiliary Shutdown Panel
- 2B Diesel Generator Room
- Unit 1 A & B Residual Heat Removal (ND) Pump rooms, Auxiliary Building 522 foot elevation
- Unit 2 A & B Containment Spray (NS) Pump rooms, Auxiliary Building 522 foot elevation
- Unit 2 Mechanical Penetration Room, 543 foot elevation
- Unit 1 Mechanical Penetration Room, 577 foot elevation

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

Service Water Piping Refurbishment Inspection Activities

a. Inspection Scope

The inspectors reviewed the licensee's program for restoration of the service water system piping which has undergone degradation due to fouling from growth of marine organisms, pipe wall thinning caused by corrosion, and accelerated corrosion attack in the heat affected zones in the proximity of welds (seam welds and joint welds). The inspectors examined the mock-up which was fabricated to train and qualify the coating applicators and quality control personnel, and provide weld orientation mockup for the welders.

The inspectors reviewed calculation number CNC-1167.01-00-0002, Justification of Plastocor Coating System for Safety Related Service Water Piping, which provided background information to justify selection of the Plastocor system to coat the piping and provided details for surface preparation requirements, prior experience (case histories) using the system at other facilities, and recommended inservice inspection intervals to identify localized areas of coating degradation. The inspectors reviewed the inspection procedures and specifications for the materials to verify the following attributes were specified: surface preparation requirements, environmental conditions, controls for the coating materials, application procedures, and inspection requirements.

The inspectors observed mockup preparation for the weld activities and discussed potential repair techniques with the site welding staff. Additionally, the inspectors observed initial cleaning and preparation of the Lake Wylie end of the service water suction piping. Further, the inspectors reviewed the licensee's completed piping weld inspection results and work order 98710599 that collectively represented the anomalies found in the pipe length.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

.1 Requalification Activities Review by Resident Staff

a. Inspection Scope

The inspectors observed simulator exercise, PTRQ (Task Requirement Guide) scenario 35, conducted on October 25, 2005, to assess the performance of licensed operators. The exercise included the loss of a reactor coolant flow instrument channel, a low power reactivity management issue, a steam line break inside containment and a turbine trip failure. The inspection focused on high-risk operator actions performed during implementation of the emergency operating procedures, emergency plan implementation and classification, and the incorporation of lessons learned from previous plant events. Through observations of the critique conducted by training instructors following the exam session, the inspectors assessed whether appropriate feedback was provided to the licensed operators regarding identified weaknesses.

b. Findings

No findings of significance were identified.

.2 Annual Review of Licensee Requalification Examination Results

a. Inspection Scope

On August 05, 2005, the licensee completed the annual operating tests required to be given to all licensed operators by 10 CFR 55.59(a)(2). The inspector performed an in-office review of the overall pass/fail results of the individual operating tests, and the crew simulator operating tests. These results were compared to the thresholds established in Manual Chapter 609 Appendix I, Operator Requalification Human Performance Significance Determination Process.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the licensee's effectiveness in performing routine maintenance activities. 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 verified that 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 inspectors conducted this inspection for the degraded equipment conditions associated with the one item listed below. Documents reviewed are listed in the Attachment to this report.

- Unit 1 containment penetration airlock check valve PC24 failed the type C leak rate test

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 six emergent and planned 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 (NSD) 415, "Operational Risk Management (Modes 1-3)," for appropriate guidance to comply with 10 CFR 50.65 (a)(4). Documents reviewed are listed in the Attachment to this report.

- Removal of the Unit 1 EBA (125 VDC vital battery) from service for planned discharge testing (5-day duration)
- Scheduled maintenance on the 2B DG
- Pre-outage preparation work associated the Unit 2 DG battery replacement project
- Tube leak on the 2E1 feedwater heater requiring an unplanned power reduction to 94 percent RTP
- Troubleshooting associated with the "B" Controlled Area Chilled Water compressor controller
- Planned maintenance schedule review and rescheduling of selected activities following the loss of both Belews Creek units and resulting Orange grid status

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions

a. Inspection Scope

On December 5, 2005, a Unit 2 intermediate pressure feedwater heater (2E1) experienced a failure of multiple tubes requiring isolation of the heat exchanger in order to conduct repairs. Power was reduced to 94 percent, and remained at that level while

repairs were completed. The inspectors verified operator actions, particularly discussing reactivity management for the power decrease evolution and use of procedures in responding to the feedwater heater tube leak. In addition, the inspectors reviewed selected trend graphs for parameters and engineering assessments to verify the plant responded as expected and that no structural damage resulted during the isolation of the feedwater heater. The inspectors also observed the repair activities, system return-to-service and power ascension. Documents reviewed are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed operability evaluations to verify that the operability of systems important to safety were properly established, that the affected components or systems remained capable of performing their intended safety function, and that no unrecognized increase in plant or public risk occurred. Operability evaluations were reviewed for the five issues listed below. Documents reviewed are listed in the Attachment to this report.

- PIP C-05-6096; Failure and repair of the component cooling (KC) water heat exchanger mini flow valve, 1KC-C40B
- PIP C-05-6827; Unexpected start of the “A” train of Controlled Room Area Ventilation (VC) during the performance of the VC System Performance Test
- PIP C-05-6986; Allowable values associated with the Pressurizer Pressure setpoints in the Tech Specs were determined to be non-conservative following completion of a new calculation
- PIP C-05-7243; Operability of the 2B Chemical and Volume Control (NV) pump due to an oil leak on the outboard bearing
- PIP C-05-7464; Failure of the SSF Standby Makeup Pump suction valve from the transfer canal (1NV-865A) to open on demand during testing

b. Findings

No findings of significance were identified.

1R16 Cumulative Operator Workarounds

a. Inspection Scope

The inspectors reviewed the cumulative Catawba Nuclear Station Operator Workaround List for potential effects on the functionality of mitigating systems. The workarounds were reviewed to determine: (1) if the functional capability of the system or human reliability in responding to an initiating event was effected; (2) the effect on the operator's ability to implement abnormal or emergency procedures; and (3) if operator

workaround problems were captured in the licensee's corrective action program. Aggregate impacts of the identified workarounds on each individual operator watch station were also reviewed. Documents reviewed for this inspection are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors witnessed and/or reviewed post-maintenance testing procedures and/or test activities, as appropriate, for selected risk significant systems to verify whether: (1) testing was adequate for the maintenance performed; (2) acceptance criteria were clear and adequately demonstrated operational readiness consistent with design and licensing basis documents; (3) test instrumentation had current calibrations, range, and accuracy consistent with the application; (4) tests were performed as written with applicable prerequisites satisfied; and (5) equipment was returned to the status required to perform its safety function. Documents reviewed are listed in the Attachment to this report. The five tests reviewed are listed below:

- Troubleshooting and repair of the 2B DG fuel oil pump drive coupling
- Operability run of the 1B Spent Fuel Pool Cooling (KF) pump following maintenance
- Operability run of the 2B DG following planned maintenance
- Valve stroke testing of 1RN-2B and 1RN-6B, 'A' and 'B' Nuclear Service Water (RN) pumphouse pit isolation valves, following refurbishment and re-installation of valves as part of the service water piping coating project
- Retest of 1NW8A, Containment Penetration Valve Injection System (NW) Surge Chamber RN Supply valve, following housing and o-ring replacement

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors observed and/or reviewed the surveillance tests listed below to verify that Technical Specification surveillance requirements and/or Selected Licensee Commitment requirements were properly complied with, and that test acceptance criteria were properly specified. The inspectors verified that proper test conditions were established as specified in the procedures, that no equipment preconditioning activities occurred, and that acceptance criteria had been met. Additionally, the inspectors also verified that 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. Additional documents reviewed during this inspection are listed in the Attachment to this report. The following six activities were reviewed:

Surveillance Tests:

- CA Valve Inservice Test for 1CA-40, CA Pump 1B Flow to Steam Generator 1D; and 1CA-44, CA Pump 1B Flow to Steam Generator 1C
- 1B CA Auxiliary Safeguards Pump Start
- Diesel Generator 1B Operability Test
- Unit 2 Train B Reactor Trip Breaker Trip Actuating Device Functional and Operational Test
- Unit 2 Solid State Protection System (SSPS) Train B Periodic Testing

In-Service Tests:

- 1B NS Pump Inservice Test Procedure

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA2 Problem Identification and Resolution (PI & R)

.1 Review of Items Entered Into the Corrective Action Program

a. Inspection Scope

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. Documents reviewed are listed in the attachment.

b. Findings

No findings of significance were identified.

.2 Semi-Annual Review to Identify Trends

b. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," the inspectors performed a review of the licensee’s Corrective Action Program (CAP)

and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screenings discussed in section 4OA2.1 above, licensee trending efforts, and licensee human performance results. The inspectors' review primarily considered the six month period of June 2005 through December 2005, although some examples expanded beyond those dates when the scope of the trend warranted. The review also included issues documented outside the normal CAP in major equipment problem lists, plant health team vulnerability lists, Catawba focus area reports, system health reports, self-assessment reports, maintenance rule reports, and Safety Review Group Monthly Reports. The specific items reviewed are listed in the Attachment to this report. The inspectors compared and contrasted their results with the results contained in the licensee's latest quarterly trend reports. Corrective actions associated with a sample of the issues identified in the licensees trend report were reviewed for adequacy.

c. Assessment and Observations

Oversight and Control of Vendors and Contractors Trend Statement

No findings of significance were identified. In general, the licensee has identified trends and has appropriately addressed the trends with their CAP.

However, the inspectors identified a trend, that the licensee had not previously fully recognized. The trend was associated with insufficient management oversight and control of vendors and contractors (non-station personnel). Licensee management was not effective in ensuring corporate and station procedures were effectively implemented and adhered to during work planning, execution and closeout.

This trend was identified based on inspector observations of major activities performed on-site as well as the review of station documents as described in the Inspection Scope section. Aspects of several of the observed activities over the previous two inspection periods have been dispositioned as both minor and Green non-cited violations (NCVs).

Observations included:

- Activities that were not planned or performed in accordance with corporate or station procedures; i.e., NSD, Duke Scaffolding Manual, Work Process Manual, operating procedures, maintenance directives and instructions
- Work that was initiated by vendors and contractors without notification of or approval by station operations or maintenance personnel. Work Control Center personnel have repeatedly placed special project work activities on-hold due to conflicts with planned activities or insufficient resources to support tagouts, maintenance or testing required by the project workers
- Attempting to start work without proper scheduling or assurance that required material was available to complete the activity
- Repeated examples of scaffolding erected in the vicinity of safety-related components that failed to meet the Duke Scaffolding Manual requirements.

In addition, on several instances these activities resulted in safety-related equipment being unnecessarily removed from service, work on safety-related equipment that required rework or additional inspections, and personnel injuries.

The inspectors performed a review of the Problem Investigation Process (PIP) documents generated as a result of the inspectors' observations and events that occurred at the station related to non-station personnel. The PIPs reviewed and used as the basis for this trend statement are listed in the Attachment to this report. The description, classification, proposed and actual corrective actions, and the codes assigned to the issue were reviewed by the inspectors. The inspectors noted that most of the coding assigned to the PIP's through the screening process identified "Work Practices," "Training / Qualification" or "Work Organization / Planning" as the underlying cause(s) for the events, while cause codes which existed for "Supervisory Methods" or "Managerial Methods" were seldom assigned to the events described in the PIP's. Use of the seldom-used cause codes could have allowed for the identification of the trend in this area and development of more focused corrective actions

A number of the PIP's initiated as a result of the vendor and contractor issues either did not have a group listed in the "Culpable Group" field or had the station group that the contractor/vendor reported to listed. The inspectors determined that the combination of Cause and Culpable Group coding issues was the most likely reason the licensee had not identified the insufficient management oversight and control of vendors and contractors trend while analyzing the PIP database.

The inspectors discussed the basis for their observation that a trend continued to exist with the licensee. Following these discussions and the licensee's review of the PIPs associated with work performed by various groups including vendor and contractor personnel via a 2005 Common Cause Review of Human Performance Related Issues, the licensee continued to evaluate PIP data and develop appropriate corrective actions to address this trend. The licensee acknowledged the existence of a trend involving insufficient management oversight and control of vendors and contractors (non-station personnel) performing work at Catawba

Procedure Use & Adherence Trend Statement

The inspectors continue to follow the actions being implemented by the licensee in response to the inspector-identified trend associated with inadequate procedure use and adherence. This trend statement was discussed in the following NRC Inspection Reports: 05000413/2005003 AND 05000414/2005003, section 4OA2.3, Semi-Annual Trend Review and 05000413/2004006 AND 05000414/2004006, section 4OA2.2, Semi-Annual Trend Review. Based on the inspectors identification of this trend, the licensee implemented a site-wide focus initiative in January 2005 covering the aspects of: self reporting; conducting cross disciplinary management observations focusing on procedure use and adherence behaviors; a common cause problem evaluation / assessment on procedure use and adherence performed by work control, operations and maintenance; and the establishment of a "human performance report card" that includes measures for tracking procedure use and adherence indicating group and team error rates (colored from green to red) and employing feedback and reward incentives.

Reports showing station and department performance in this area were generated and provided to station management along with action plans when required. The inspectors have observed an improvement in technical procedure use and adherence. The inspectors found site wide initiatives to be comprehensive in nature. The station plans on assessing personnel performance during the Spring 2006 Unit 2 refueling outage period. According to station management, the initiative was developed and implemented to create a sustained culture change in this area.

.3 Annual Sample Review

a. Inspection Scope

The inspectors selected one PIP for detailed review. PIP C-05-03781 involved testing failures on the Unit 1 airlock penetration, PC24, that met the performance level criteria for maintenance rule a(1) status. The PIP was reviewed to determine whether the full extent of the issues were identified, an appropriate evaluation was performed, and appropriate corrective actions were specified and prioritized. The inspectors evaluated the PIP against the requirements of the licensee's corrective action program document and 10 CFR 50, Appendix B.

b. Findings

No findings of significance were identified.

4OA6 Meetings

Exit Meeting Summary

On January 5, 2006, the resident inspectors presented the inspection results to Mr. D. Jamil, Site Vice President, and other members of licensee management, who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection period.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as a non-cited violation:

- 10 CFR 50.55a(g) requires that inservice inspections be performed on American Society of Mechanical Engineers (ASME) Code Class 1, 2 and 3 components. The specific inspection requirements and techniques to be used are contained in the 1992 Edition of the ASME Pressure Vessel Code, Section III, Subsection ND; Article ND-5222; Piping, Pumps and Valves. Contrary to the above, on August 4, 2005, the licensee determined that the required final inspection of an internal weld had not been performed on a slip-on flange in the replacement nuclear service water piping at the point where it connected to the new 1A NS heat exchanger. Subsequent

licensee review of the inspection records associated with the 1B NS heat exchanger replacement project identified two additional internal welds that had not received the ASME-required surface inspections prior to returning the system to operation. These discrepancies are documented in the licensee's corrective action program as PIP's C-05-4713 and C-05-6552. This violation is of very low safety significance because the internal and external welds were made, all other code requirements including welder qualification, proper weld material, fit-up clearances, cleanliness and preheating of the material were met, a visual Quality Control (QC) inspection was successfully performed on all three welds, and a hydrostatic test of the systems were conducted at the completion of the work. The required ASME Inspections were scheduled to be performed during scheduled nuclear service water train outages in early-2006.

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
W. Byers, Security Manager
T. Daniels, Emergency Planning/Fire Protection
J. Ferguson, Safety Assurance Manager
J. Foster, Radiation Protection Manager
W. Green, Reactor and Electrical Systems Manager
G. Hamrick, Mechanical, Civil Engineering Manager
W. Hogan, Fire Protection Engineer, MCE
D. Jamil, Catawba Site Vice President
L. Keller/R. Hart, Regulatory Compliance Manager
A. Lindsay, Training Manager
S. Magee, Public Relations
G. Mitchell, Emergency Planning
M. Patrick, Work Control Superintendent
J. Pitesa, Station Manager
T. Ray, Maintenance Superintendent
R. Repko, Engineering Manager
R. Smith, Emergency Planning
G. Strickland, Regulatory Compliance Specialist
C. Trezise, Operations Superintendent

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Nuclear System Directive 317, Freeze Protection Program, Rev. 02
Freeze Protection Readiness Preparation for Fall 2005 / Winter 2006 Season
PT/0/B/4700/038; Cold Weather Protection; Rev. 025
PT/0/B/4350/008; Heat Tracing Alignment Verification; Rev. 038
IP/0/B/3560/009; Operational Check for Winter Months and Extreme Cold Weather Surveillance of Freeze Protection Heat Trace and Instrument Box Heaters (EHT/EIB) Systems; Rev. 007
PIP C-05-6507; Evaluate the need to maintain YW (Service Building Chilled Water) freeze protection circuits
PIP C–05-6982; Thermostat in the SSF is not set properly or the ventilation system is not working
PIP C-05-1316; Deviations identified during the 2005 Catawba Freeze Protection Assessment conducted by the General Office
PIP C-05-1318; Areas for Improvement identified by Freeze Protection Assessment Team
PIP C-05-6015; Conditions noted during freeze protection walkdown of the main feedwater system on 10/4/05
PIP C-05-6329; Engineering to evaluate RC system freeze protection
PIP C-05-6797; Current items for weather surveillance activities for Operations
PIP C-05-7024; E1 work request to repair 2MIHB0005 box heater
PIP C-05-7040; E1 work request to inspect & repair the Unit 2 FWST level transmitter heat lamp

PIPs generated as a result of this inspection
PIP C-05-7171; Procedure enhancement recommended for PT/0/B/4700/038, Cold Weather Protection

Section 1R05: Fire Protection

Pre-Fire Plan for Fire Strategy Area AW; Standby Shutdown Facility Elevation 594 foot
Pre-Fire Plan for Fire Strategy Area AX; Standby Shutdown Facility Elevation 611 foot
Pre-Fire Plan for Fire Strategy Area 14; Unit 2 Essential Switchgear Room, Auxiliary Building, 577 foot elevation
Pre-Fire Plan for Fire Strategy Area 33; Unit 2 ‘B’ Train Auxiliary Shutdown Panel, Auxiliary Building, 543 foot elevation
Pre-Fire Plan for Fire Strategy Area 28; Unit 2 “B” Diesel Generator Room
Pre-Fire Plan for Fire Strategy Area 4; Auxiliary Building, 543 foot elevation
Pre-Fire Plan for Fire Strategy Area 1; Auxiliary Building, 522 foot elevation
Pre-Fire Plan for Fire Strategy Area 18; Auxiliary Building, 577 foot elevation

Section 1R07: Heat Sink Performance

Calculation number CNC-1167.01-00-0002, Justification of Plastocor Coating System for Safety Related RN Service Water Piping, Rev. 1
Duke Power Company Item Technical Evaluation, Duromar/Plastocor, Document number CGD-1024.00-01-0001, Commercial Grade Evaluation

Nuclear System Directive 318, Coatings Program, Rev. 2
Duke Procedure MP/0/A/7650/163, Service Level I through IV Coatings and ISI Inspections, Rev. 4
Duke Procedure QA-3, Inspection of Field Applied Coatings, Rev. 10
Duke Special Field Coating Specification 7028-I, Document number NCMM-1167.02, Rev. 2
Duke Special Field Coating Specification 7029-I, Document number NCMM-1167.02, Rev. 0
Duke Special Field Coating Specification 7030-I, Document number NCMM-1167.02, Rev. 2

Section 1R11: Licensed Operator Requalification

PTRQ Task Requirement Guide; loss of NC flow channel, Simulator Exercise Guide, Rev. 8

Section 1R12: Maintenance Effectiveness

PIP C-05-03781; Penetration PC24 in the Unit 1 airlock is Maintenance Rule A1

Section 1R13: Maintenance Risk Assessments and Emergent Work Evaluation

PIP C-05-7156; Work Week 05W47 Critique
Complex Evolution Plan for the 2B DG Preventative Maintenance Work; Electrical and ventilation work; dated 11/21/05
Complex Evolution Plan for the DG 2A and 2B pre-outage battery work CN-21447; dated 11/18/05
Daily work schedule for Work Week 05W49
Complex Maintenance Plan for the repair of the 2E1 feedwater heater tube leak

Section 1R14: Personnel Performance During Nonroutine Plant Evolutions

OP/2/A/6250/001M; Isolation of condensate feedwater system components, Encl.4.15, 12
PIP C-05-7265; 2E1 Feedwater heater level went Hi-Hi
PIP C-05-7349; Root cause associated with the tube leaks on the 2E1 feedwater heater
PIP C-05-7356; System restoration issues related to returning the 2E1 feedwater heater to service
OP/2/A/6250/001M; Isolation of Condensate and Feedwater System Components, Rev. 38
AP/2/A/5500/023; Loss of Condenser Vacuum; Rev. 15
Prejob briefing held prior to returning the 2E1 feedwater heater to service

Section 1R15: Operability Evaluations

PIP C-05-6248; Oil leak on the 2B NV pump outboard bearing
PIP C-05-06096; Critique of items relating to the failure and subsequent repair of 1KC-C40B

Section 1R16: Operator Workarounds

NSD 506; Operator Workarounds, Rev. 03
Catawba Operator Workaround List, Dated December 20, 2005
PIP C-05-7405; Valve 2NI185A has a seat leak which requires operator actions

Section 1R19: Post-Maintenance Testing

Cooper-Enterprise Service Information Memo #402A; Cooper-Enterprise's R4/RV4 Preventative Maintenance Program (PMP) for Nuclear Standby Applications
10CFR Part 21 Notification from Transamerica Delaval, Inc. on a potential problem with the overspeed governor and fuel transfer pump drive which could result in engine non-availability
Cooper-Enterprise Service Information Memo #363; Overspeed governor / fuel booster pump drive coupling

Maintenance on the 1B KF Pump
WO 98755553; Inspect/Repair increased inboard bearing vibration on 1KF-PU-B; Unit 1 B Spent Fuel Pool Cooling Pump
WO 98747278; Inspect/Repair inboard mechanical seal leak on 1KF-PU-B

Planned Maintenance on the 2B Diesel Generator
PT/2/A/4350/002B; Diesel Generator 2B Operability Test; Rev. 084
Complex Evolution Plan for the 2B DG Preventative Maintenance Work; Electrical and ventilation work; dated 11/21/05

Refurbishment of valves 1RN-02B and 1RN-06B
WO 98698073; Inspect and Refurbish Valve 1RN-02B; RN pump house pit A isolation from the lake
WO 98715631; A Pit Snorkel Activities
WO 98698075; Inspect and Refurbish Valve 1RN-06B; RN pump house pit B isolation from the lake
WO 98715589; B Pit Snorkel Activities
MP/0/A/7600/031; Anchor/Darling 48" Butterfly Valve Disassembly & Reassembly; Rev. 004
MP/0/A/7600/055; Limitorque Valve Operator Type SMB-00/000 Corrective Maintenance; Rev. 031
IP/0/A/3820/004A; MOV Diagnostic Testing; Rev. 045
IP/0/A/3820/001; Limitorque Component Actuator Corrective Maintenance; Rev. 065 (valve removal) and 066 (valve re-installation)

Retest of 1NW08A
WO 98752717; 1NW08A, Replace SW housing and solenoid o-rings
PT/1/A/4200/027, Rev. 45; NW Valve Inservice Test, Encl. 13.3, 1NW-8A NW Valve Inservice Test; Rev. 45

Section 1R22: Surveillance Testing

PT/1/A/4350/002B; Diesel Generator 1B Operability Test, Rev. 109
PT/1/A/4200/004C; Containment Spray Pump 1B Performance Test, Rev. 60
IP/2/A/3200/008B; Train B Reactor Trip Breaker Trip Actuating Device Functional and Operational Test, Rev. 33
IP/2/A/3200/002B; Solid State Protection System (SSPS) Train B Periodic Testing, Rev. 38
PT/1/A/4200/013E; CA Valve Inservice Test, Rev. 86
PT/1/A/4200/009A; Auxiliary Feedwater Pump Start (K633)- Train B

PIP's generated during these inspections:
PIP C-05-6876; Need to evaluate IP/2/A/3200/002B and IP/2/A/3200/008B for potential procedure enhancements based on NRC inspector comments

Section 4OA2: Problem Identification and Resolution (PI & R)

PIP C-05-03781; Penetration PC24 in the Unit 1 airlock is Maintenance Rule A1
NSD 105; Control of non-assigned individuals and EHS contractor safety process; Rev. 11
NSD 223; Trending Program, Rev. 04
2005 Technical Procedure Use and Adherence Error Rate Report Card, dated 11/30/05
2005 Maintenance Human Performance Report Card for June, September and November 2005
2005 Operations Procedure Use and Adherence Improvement Plan
Maintenance Directive 2.3; Manager and Supervisor Job Observation Program; Rev. 04
Maintenance Directive 2.13; Maintenance Pre-Job Walkdowns; Rev. 0
Common Cause of 2005 Human Performance Related Issues Assessment report presented to station management on December 20, 2005
PIP C-04-3944; Investigation of an individual receiving an electrical shock while working on temporary power
PIP C-05-4267; Valves in the new Raw Water Treatment system were manipulated without the Owner Control Group (Chemistry) being informed
PIP C-05-6546; Vendor work crew performed work prior to obtaining clearance to begin work from Operations
PIP C-05-6629; QC inspections not performed as required by the SWP team
PIP C-05-6639; SWP went outside of the established process to schedule welding qualifications as set forth in NSD 105 and WMP 301 without involving inprocessing or training
PIP C-05-5372; Questions raised regarding the adequacy of the lift plan for the template and the associated complex evolution plan for the cofferdam construction around the RN lake intake structure
PIP C-05-5022; Emerging trend associated with procedure use and adherence by the Service Water Project team
PIP C-05-3935; Drilling barge capsized while drilling crew was preparing to start work
PIP C-05-7335; FME logging requirements were incorrectly waived for previously performed and future planned SWP work
PIP C-05-7438; Several Service Water Project work orders were not planned and released for implementation in accordance with site processes
PIP C-05-7593; Actions taken by the SWP team are resulting in the Nuclear Supply Chain performing unnecessary tasks and purchasing unneeded supplies
PIP C-05-6802; SWP craft caused a large arc strike with a TIG welding torch and attempted to remove the burn marks by grinding. This was done without informing anyone about the strike. Work was stopped until a review of the incident was conducted.
PIP C-05-6800; Welding was performed on the inside of an RN piping joint without proper process control
PIP C-05-6716; Installation of SWP temporary power met none of the procedural requirements for temporary power installation. The WO was also not planned by an approved planner for these WO types

PIP C-05-6740; Missed welding QC inspection hold points
PIP C-05-6634; Missed inspections and misuse of inspection waivers / supplemental inspection instructions
PIP C-05-6377; Procedures not adhered to during the installation of the snorkel assembly in the "A" and "B" RN pits
PIP C-05-6332; Measuring and Test Equipment checked out greater than the time allowed for in NSD-406. This has been a repetitive issue for the SWP team and spot coaching has proven to be in effective
PIP C-05-6888; Current trending identifies a performance gap pertaining to scaffolds satisfying the seismic requirements based on PIP's initiated since May 2005
PIP C-05-6482; Scaffolding located in the Unit 2 Aux Bldg, Penetration Room 227, was found not to be meeting the minimum clearances needed for seismic considerations
PIP C-05-5653; Scaffolding not properly secured in the vicinity of safety-related equipment
PIP C-05-4201; Scaffolding identified that was past its expiration date and did not have the appropriate documentation required by the scaffolding manual
PIP C-05-4053; Concerns identified related to scaffolding in the Mechanical Penetration rooms on elevations 577 and 560
PIP C-05-3560; Scaffold in the Unit 1 YV building is not conforming to stated seismic requirements
PIP C-05-3197; Scaffolding deficiencies identified in the Unit 1 auxiliary building
PIP C-05-3155; Scaffolding deficiencies identified in the Unit 1A diesel generator room
PIP C-05-5379; Numerous scaffolds in the Auxiliary Building that are not used or do not meet scaffolding requirements
PIP C-05-7052; Seismic requirements for scaffolding in the RN pump house were not met or properly documented
PIP C-05-6961; Scaffold is incomplete yet being used. Erected in August 2004
PIP C-05-6878; Seismic section of the scaffold tag in the Unit 1 Aux Bldg does not reflect the current condition of the scaffold