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

October 21, 2002

Duke Energy Corporation
ATTN: Mr. G. R. Peterson
Site Vice President
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

SUBJECT: CATAWBA NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT 50-413/02-03 AND 50-414/02-03

Dear Mr. Peterson:

On September 21, 2002, the NRC completed an inspection at your Catawba Nuclear Station. The enclosed report documents the inspection findings which were discussed on September 30, 2002, 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, the inspectors identified one issue of very low safety significance (Green). This issue was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because it had been entered into your corrective action program, the NRC is treating this issue as a non-cited violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. Additionally, a licensee identified violation is listed in Section 4OA7 of this report. If you contest any non-cited violation in this report, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the United States 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 facility.

In accordance with 10 CFR 2.790 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/

Robert Haag, Chief
Reactor Projects Branch 1
Division of Reactor Projects

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

Enclosure: NRC Inspection Report 50-413/02-03, 50-414/02-03
w/Attachment - Supplemental Information

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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:	50-413/02-03, 50-414/02-03
Licensee:	Duke Energy Corporation
Facility:	Catawba Nuclear Station, Units 1 and 2
Location:	4800 Concord Road York, SC 29745
Dates:	June 23, 2002 - September 21, 2002
Inspectors:	D. Roberts, Senior Resident Inspector M. Giles, Resident Inspector R. Baldwin, Senior Operations Engineer (Section 1R11.2) J. Ennis, Physical Security Inspector (Section 3PP4 - in office review) R. Monk, Operations Engineer (Section 1R11.2) M. Shannon, Senior Resident Inspector - Oconee (Section 1R05)
Approved by:	R. Haag, Chief Reactor Projects Branch 1 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000413-02-03, IR 05000414-02-03, Duke Energy Corporation, on 06/23–9/21/2002, Catawba Nuclear Station, Units 1 and 2, Maintenance Risk Assessments and Emergent Work Evaluation.

The inspection was conducted by three resident inspectors (one visiting), two regional operations engineers, and one regional physical security inspector. The inspection identified one Green finding, which was determined to be a non-cited violation. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using the Significance Determination Process (SDP) found in Inspection Manual Chapter 0609. Findings for which the SDP does not apply may be "Green" or be assigned a severity level after NRC management review. 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. Inspector Identified Findings

Cornerstone: Barrier Integrity

Green. The inspectors identified a failure to implement adequate document control measures. Specifically, a non-controlled document existed in the control room which licensed operators had been trained to use as a backup when verifying the status of containment integrity. The document would be used during implementation of certain emergency operating procedures when the normal indicating panel was not available. This finding was dispositioned as a non-cited violation.

The failure was of very low safety significance because the affected components had train redundancy, received automatic initiating signals, and could be verified in the correct positions based on control room indications. (Section 1R13)

B. Licensee Identified Violations

One violation of very low safety significance, which was identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee appear reasonable. This violation is listed in Section 4OA7 of this report.

Report Details

Summary of Plant Status: Unit 1 operated at 100 percent power throughout the inspection period, except for a brief period from August 16 to August 17, when reactor power was reduced to 94 percent to facilitate main turbine control valve testing.

Unit 2 operated at 100 percent power throughout the inspection period, except for a brief period on September 21, when reactor power was reduced to 88 percent to facilitate main turbine control valve testing.

1. REACTOR SAFETY
Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

The inspectors reviewed the licensee's mitigating strategies in preparation for potential tornado, high-wind, and hurricane events. This review included an assessment of station procedures RP/0/A/5000/007, Rev. 021, Natural Disaster and Earthquake, and RP/0/B/5000/030, Rev. 000, Severe Weather Preparations. In addition, two risk significant systems were selected for this inspection; the nuclear service water (RN) and emergency diesel generator (EDG) systems. The inspectors also conducted interviews with Emergency Preparedness personnel to discuss station administrative and procedural guidance and controls, which provided protective measures for the RN and EDG systems.

The inspectors reviewed the licensee's response to the failure of tornado damper 2ABTD-1 to close during the performance of PT/0/A/4450/019A, Rev. 003, Tornado Isolation Train A Test, on August 2, 2002. This test failure, captured in Problem Investigation Process report (PIP) C-02-4236, was reviewed to ensure the licensee was adequately identifying and entering issues into their corrective action program and that corrective actions were commensurate with the significance of the issue.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

The inspectors performed partial walkdowns of the following equipment: (1) Unit 1 charging and component cooling water system components while the A-train charging pump's backup cooling system (drinking water (YD)) was out-of-service for a leak repair; (2) the 1A EDG while 1B was inoperable for testing; and (3) the 2A component cooling water (KC) heat exchanger while the 2B KC heat exchanger was inoperable for cleaning activities. These partial walkdowns were conducted to verify the availability of redundant or diverse systems and components during periods when safety equipment was inoperable. The walkdowns were performed to ensure that proper levels of defense-in-depth were maintained.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors toured ten areas important to reactor safety to verify that combustible material and fire ignition sources were properly controlled, and that fire detection and suppression capabilities were intact. For areas where fire detection equipment was out of service, the inspectors verified that compensatory measures (i.e., fire watch tours) were properly implemented. For dry pipe suppression systems, the inspectors verified that pre-fire plans specified proper steps for fire brigade personnel to activate the systems when needed. The inspectors selected the areas based on a review of the licensee's safe shutdown analysis, probabilistic risk assessment (PRA) based 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. Areas toured included the Unit 1 auxiliary feedwater (CA) pump complex, Unit 1 containment spray (NS)/residual heat removal (ND) pump area, main control room, standby shutdown facility, Unit 1A EDG room, 1B EDG room, 2A EDG room, 2B EDG room, Unit 1 125 volt-DC (vdc) vital electrical distribution system area (including battery rooms), and Unit 2 125-vdc area.

To assess the licensee's identification and/or resolution of problems in this area, the inspectors reviewed PIP C-02-03975, which was written for a 2B EDG exhaust manifold gasket leak. This included an assessment of the licensee's corrective actions to install fire-resistant material between the manifold leak and nearby fuel oil lines.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

.1 Simulator Training

a. Inspection Scope

The inspectors observed a control room simulator training scenario on July 24, 2002, to assess licensed operator crew performance. The training scenario involved a mock terrorist event which resulted in a plant transient. Following the simulator scenario, the inspectors observed a training presentation given by a security supervisor to the operations crew, along with the standard post-simulator critique conducted by training instructors to assess their efforts in identifying operator or simulator performance deficiencies.

b. Findings

No findings of significance were identified.

.2 Program Inspection

a. Inspection Scope

The inspectors reviewed the facility operating history since the last requalification program inspection for indications of licensed operator performance weaknesses. The inspectors also reviewed the biennial written examinations for several crews and evaluated their effectiveness in providing a basis for assessing operator knowledge of material covered in the requalification training program. Examination quality, licensee effectiveness in integrating industry, plant and student feedback into the requalification training program, and examination development methodology were also evaluated.

The inspectors observed annual dynamic Active Simulator Examinations (ASEs) (five scenarios) for two on-shift operator crews and one staff crew to assess the adequacy of the licensee's evaluation of operator knowledge and abilities. Additionally, the inspectors observed administration of simulator and in-plant Job Performance Measures (JPMs). During these observations, the inspectors assessed licensee evaluator effectiveness in identifying operator performance deficiencies which may require supplemental training.

The inspectors reviewed and evaluated the licensee's remedial training program for operator deficiencies identified during this years annual examinations. The inspectors also reviewed a sample of on-shift licensed operator qualification records, watchstanding records, and medical records to ensure compliance with 10CFR 55.59, Requalification, and 10CFR 55.53, Conditions of Licenses.

The inspectors reviewed and evaluated the licensee's simulation facility for adequacy for use in operator licensing examinations and for satisfying experience requirements. The inspectors also reviewed a sample of simulator performance test records (transient test and malfunction test), simulator modification request records, and the process for ensuring continued assurance of simulator fidelity to ensure compliance with 10CFR 55.46 Simulation Facilities. (Documents reviewed are listed in the Attachment to this report.)

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, scoping, 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 (SSCs) 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 following PIPs:

Associated PIPs	Equipment Problem
C-02-04564, C-01-00254, and C-00-03853	Recurring problems with remote shutdown panel manual loaders associated with CA system steam generator (SG) flow control valves
C-01-02763, C-02-03126, and C-02-04651	Tripping or failure-to-start problems associated with instrument air (VI) compressors

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 of the risk impact of removing from service those components associated with the seven emergent and planned work items listed below, focusing primarily on activities determined to be risk significant within the maintenance rule. The inspectors also assessed the adequacy of the licensee identification and resolution of problems associated with maintenance risk assessment and emergent work.

Component or System	Reason for Removal from Service
Unit 2A RN pump	Planned maintenance
Unit 1B containment pressure control system (CPCS), Channel 4	Intermittent alarms and degraded power supply
Unit 2 monitor light panel	Planned maintenance
Unit 1 refueling water storage tank (FWST) level channel 1	Channel failed high
Unit 1 YD system	Leaking valve resulting in isolation of backup cooling to charging pumps
Unit 1 digital feedwater control system	Failed power supply
Unit 2 essential inverter "D" (EID)	Repair of choke assembly due to high temperatures

b. Findings

(1) Introduction

A Green finding was identified and dispositioned as a non-cited violation (NCV) for the licensee's failure to implement adequate document control measures. This failure pertained to a cross-reference document which was located in the control room and was intended to be used during the failure or absence of the Unit 2 monitor light panel, 2MD-8, when determining the status of containment integrity.

(2) Description

While performing a control room walkdown on July 11, 2002, the inspectors noticed that monitor light panel 2MD-8 was physically removed from service. This panel is designed to provide control room operators an indication of containment integrity status during accident conditions. Discussions conducted with control room operators revealed that no compensatory measures had been established prior to the removal of this safety-related component despite its use in diagnosing post-accident conditions, nor was any documentation initiated to heighten the current or oncoming operating crews' awareness of this condition. A maintenance work order number 98517172, had been generated to investigate/repair an occasional flickering of the panel's lights. The inspectors were informed by the operating crew that the absence of this panel did not create a significant challenge because licensed operator requalification training incorporated similar failures in previously completed simulator exercises. During these exercises, licensed operators relied on a cross-reference document, located in the simulator, to verify that components were in their desired position when the monitor light panel was not available. The operator action of using this document would be performed during the implementation of EP/2/A/5000/E-0, Revision 021, Reactor Trip or Safety Injection, steps 9 and 20, when the panel was not available. A similar document existed in the control room, and according to the operating crew, would also be relied upon based on current conditions, if emergency operating procedures were implemented. The inspectors reviewed the document and noted that it did not contain a title or an identification number. Further investigation revealed this was an uncontrolled document, which had existed in the control room for several years. The inspectors learned later that operating procedure OP/2/B/6100/009 Z, Revision 001, Unit 2 Monitor Light Panel Cross Reference, was a controlled procedure intended to perform the same function. This procedure had been issued several weeks earlier and was filed in a control room area filing cabinet, however, licensed operators were not aware that the procedure existed. The uncontrolled cross-reference documents applicable to Unit 1, Unit 2, and the simulator were replaced with controlled documents.

(3) Analysis

In order to assess the significance of using the uncontrolled cross-reference document, the inspectors performed a comparison between the uncontrolled document and the controlled procedure. This review identified errors in certain valve designations and also the omission of two containment penetration indications in the uncontrolled document. This issue was processed through the significant determination process Phase 1 screening and determined to be of very low safety significance (Green). This was based on the availability of redundant trains designed to provide containment integrity, which

would have received independent, automatic actuation signals during an event for which containment integrity was required.

(4) Enforcement

10 CFR 50, Appendix B, Criterion VI, Document Control, requires that measures be established to assure that the issuance of documents affecting quality are controlled. These measures shall assure that documents, including changes, are reviewed for adequacy and approved for release by authorized personnel and are distributed to and used at the location where the prescribed activity is performed. These requirements are implemented through the licensee's Quality Assurance Program by Nuclear System Directive (NSD) 702, Document Management, Revision 17. NSD 702 requires that documents be generated and controlled according to established processes prior to their distribution and use. The inspectors considered the failure to implement document control measures pertaining to the cross-reference document to be a violation of 10 CFR 50, Appendix B, Criterion VI. Accordingly, because this violation has been captured in the licensee's corrective action program as PIP C-02-03860 it is being treated as a non-cited violation (NCV), consistent with the Section VI.A.1 of the NRC Enforcement Policy. It is identified as NCV 50-414/ 02-03-01: Failure To Establish Adequate Document Control Measures.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed operability determinations (or justifications for continued operation) to verify that the operability of systems important to safety was properly established, that the affected component or system remained available to perform its intended safety function, and that no unrecognized increase in plant or public risk occurred. Operability evaluations were reviewed for the six issues listed below:

PIP Number	Issue
PIP C-02-03961	Operability of Unit 1 B-train Channel 4 CPCS
PIP C-02-03975	2B EDG operability following discovery of leaking cylinder exhaust manifold
PIP C-02-03277	Failed heat capacity test for 1A KC heat exchanger
PIP C-02-04141	1CA-60 air-drop test failure
PIP C-02-03798	2B boron dilution mitigation system following shutdown monitor loss of indication
PIP C-02-04564	2 CA-36 remote shutdown panel controller for SG flow control

To assess the licensee's identification and resolution of problems in this area, the inspectors reviewed PIP C-02-4982, which was written to address a problem pertaining to newly-installed Acopian power supplies in the Unit 1, Train B containment air return and hydrogen skimmer (VX) system. The licensee's evaluation of this issue determined

that intermittent, inherent noise conditions caused by the existing circuit design, resulted in momentary cycling and subsequent dropout of the newly installed power supplies. The inspectors assessed the appropriateness of the corrective actions to resolve this deficiency.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspectors observed or reviewed post-maintenance tests associated with the following six work activities to verify 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.

Work Order (WO) Number	Maintenance/Test Activity
WO 98514405-01	Unit 1 Train B CPCS power supply, BD, replacement
WO 98400717-01	Unit 2B nuclear service water pump packing replacement
WO 98528701-01	FWST level channel 1 NLP card replacement
WO 9851278-01	Response time test for CA pump swapover logic after replacement of pressure switch 2CAPS5231
WO 98530982-01	2CA-36 remote shutdown panel flow controller (manual loader) replacement
WO 98323638-01	Unit 1 Train B CPCS power supply, GH, replacement

To assess of the licensee's identification and resolution of problems in this area, the inspectors reviewed PIP C-02-04529, which documented deficiency with the retest following replacement of pressure switch 2CAPS5231. Once tested this quarter, however, the pressure switch did pass its associated surveillance requirements. The inspectors reviewed this item to verify that corrective actions were properly identified and implemented.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the seven surveillance tests procedures listed below to verify that Technical Specification (TS) surveillance requirements (SRs) and/or Selected Licensee Commitment requirements were properly incorporated and that test acceptance criteria were properly specified. The inspectors observed actual performance of some of the tests and reviewed completed procedures to verify that acceptance criteria had been met. The inspectors also verified that proper test conditions were established in the procedures and that no equipment preconditioning activities were occurring.

Procedure Number	Title
PT/1/A/4200/13E, Rev. 084	CA Valve Inservice Test (Quarterly)
PT/1/A/4400/009, Rev. 050	KC Heat Exchanger Water Flow Monitoring for Asiatic Clams and Mussels Quarterly Test
IP/2/A/3200/008A, Rev. 025	Train A Reactor Trip Breaker Trip Actuating Device Functional And Operational Test
IP/2/A/3200/002A, Rev. 028	Solid State Protection System (SSPS) Train A Periodic Testing
PT/2/A/4200/026, Rev. 041	NS Valve Inservice Test (Quarterly)
PT/2/A/4350/002B, Rev. 075	EDG 2B Operability Test
PT1/A/4350/015B, Rev. 33	EDG 1B Performance Test

As part of the 1B EDG performance test listed above, the inspectors observed 18-month tests required by TS SR 3.8, including tests of load rejection, hot restart, and fuel transfer system functions.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed temporary modification CNTM-0094, Add temporary spray shield between SMXC and FF-57 to keep potential RF system spray from reaching MCC 2EMXH, to verify that the functions of important safety systems were not compromised. In this case, the modification was developed to resolve a potential vulnerability associated with 600-volt motor control center 2EMXH.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation

Quarterly Drill Observation

a. Inspection Scope

The inspectors observed a control room simulator training scenario on July 24, 2002, to assess licensed operators' performance in the area of emergency preparedness. Inspection attributes included verification that the operators made the correct drill event declaration and that associated followup actions were performed in accordance with regulatory requirements and the licensee's procedures. The observed scenario (a mock-terrorist event) was performed in conjunction with the licensed operator requalification program.

b. Findings

No findings of significance were identified.

3. SAFEGUARDS
Cornerstone: Physical Protection

3PP3 Response to Contingency Events

The Office of Homeland Security (OHS) developed a Homeland Security Advisory System (HSAS) to disseminate information regarding the risk of terrorist attacks. The HSAS implements five color-coded threat conditions with a description of corresponding actions at each level. NRC Regulatory Information Summary (RIS) 2002-12a, dated August 19, 2002, "NRC Threat Advisory and Protective Measures System," discusses the HSAS and provides additional information on protective measures to licensees.

a. Inspection Scope

On September 10, 2002, the NRC issued a Safeguards Advisory to reactor licensees to implement the protective measures described in RIS 2002-12a in response to the Federal government declaration of threat level "orange." Subsequently, on September 24, 2002, the OHS downgraded the national security threat condition to "yellow" and a corresponding reduction in the risk of a terrorist threat.

The inspectors interviewed licensee personnel and security staff, observed the conduct of security operations, and assessed licensee implementation of the threat level "orange" protective measures. Inspection results were communicated to the region and headquarters security staff for further evaluation.

b. Findings

No findings of significance were identified.

3PP4 Security Plan Changes

a. Inspection Scope

The inspectors evaluated five revisions (numbers 9, 10, 11, 12, and 13) to the Duke Power Company Nuclear Security and Contingency Plan as they related to the Catawba Nuclear Station. The revisions were submitted under the provisions of 10 CFR 50.54(p) and were evaluated for decreases in effectiveness against the previously-approved physical security plan.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

Mitigating Systems and Barrier Integrity

a. Inspection Scope

The inspectors conducted annual reviews of the following three Reactor Safety PIs, as submitted to the NRC by the licensee, for accuracy:

Cornerstone	PI
Mitigating Systems	Safety System Unavailability - Auxiliary Feedwater
Mitigating Systems	Safety System Functional Failure
Barrier Integrity	Reactor Coolant System Leakage

This review was conducted for second quarter 2002 PI data submitted to the NRC on or about July 22, 2002. To verify the PI data, the inspectors reviewed control room logs, operating procedures associated with the removal from service of the auxiliary feedwater system, related licensee calculations provided on PI Validation/Approval Forms, and several PIPs related to auxiliary feedwater system issues, including PIPs C-02-01859, C-02-03538, and C-02-04124. The inspectors verified samples of data for the entire period covered by the PI under review (i.e., for PIs covering four quarters, the inspectors reviewed samples of data for the three quarters immediately prior to second quarter 2002, in addition to that quarter's data). The inspectors also reviewed Nuclear Energy Institute document NEI 99-02, Regulatory Assessment Performance Indicator Guidance, Revision 2, to compare the licensee's PI submittal to changes in the guidance.

To assess the licensee's identification and/or resolution of problems in this area, the inspectors reviewed PIP C-02-01087, which documented an error associated with the January 2002 PI data submittal; and PIP C-00-05162, which requested clarification of NEI 99-02 guidance on auxiliary feedwater system unavailability.

b. Findings

No findings of significance were identified.

4OA3 Event Followup

.1 Event Response

a. Inspection Scope

The inspectors reviewed one reported event this quarter to evaluate the licensee's actions and to confirm that this event was properly classified and reported to NRC and state/county governments, as warranted. This event involved a lost sealed source consisting of 0.0244 micro-curies of Americium-241. This event was reported to the NRC in accordance with 10 CFR Part 20 reportability requirements for lost or missing radioactive material licensed by the NRC.

b. Findings

No findings of significance were identified.

.2 (Closed) Licensee Event Report (LER) 50-413/02-006-00: Technical Specification Noncompliance - Inoperable Diesel Generator Caused by Inadequate Wire Lug Crimping at Closing Spring Motor Disconnect Switch

This condition was discovered by the licensee during performance of a periodic surveillance test on June 28, 2002. The 1B EDG had been tested successfully approximately four days earlier and was being tested to satisfy different TS requirements on the June 28, 2002. The EDG failed the test on June 28 when its output breaker, 1ETB-18, would not close to allow loading. The licensee determined that the breaker's closing springs had not been fully charged (after the last successful closing attempt on June 24), which prevented the breaker from closing during the failed test. The licensee's troubleshooting discovered a burnt wire and lug on one of the connections to a switch that is required to operate to allow the springs to be automatically charged upon completion of a breaker closing cycle. A root cause determination concluded that this wire and lug were inadequately crimped by the manufacturer at an undetermined time in the past. The licensee surmised that, over time, heat stress caused by the inadequate crimping allowed temperature in the area to increase to a point where insulation burned off and the wire was eventually melted.

Based on the successful closing of the breaker on June 24, the licensee concluded that the diesel became inoperable following the incomplete spring-charging cycle during the start of that test (when the breaker successfully closed), and remained inoperable until repair efforts were completed and the diesel successfully tested again on June 29. The

inspectors reviewed 1B EDG surveillance tests since that time (see report Section 1R22) to verify operability of the equipment.

The inoperability of EDG 1B from June 24 - 29, 2002, constituted a violation of TS 3.8.1, which requires that, with the unit operating in Mode 1 (Power Operation), the inoperable EDG must be returned to operable within 72 hours or the unit shall be placed in Mode 3 (Hot Standby) and later Mode 5 (Cold Shutdown) within the next six and 36 hours, respectively. The TS violation is of very low safety significance because of the short duration of the 1B EDG inoperability, and the availability of the 1A EDG and offsite power sources. The violation is licensee-identified and is listed in Section 4OA7 of this report.

4OA6 Meetings

Exit Meeting Summary

The inspectors presented the inspection results to Mr. Gary Peterson, Site Vice President, and other members of licensee management at the conclusion of the inspection on September 30, 2002. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. Cycle 13 transient data was identified as proprietary information.

4OA7 Licensee Identified Violations

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

NCV Tracking Number	Requirement Licensee Failed to Meet
50-413/02-03-02	As described in Section 4OA3.2 of this inspection report, this issue involved a failure to maintain the 1B EDG operable in accordance with TS 3.8.1 requirements. This issue was captured in the licensee's corrective action program as PIP C-02-03685. The finding was of very low safety significance because of the availability of redundant equipment and offsite power sources. (Green)

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

E. Beadle, Emergency Preparedness Manager
S. Brown, Operations Superintendent
W. Byers, Security Manager
J. Foster, Radiation Protection Manager
G. Gilbert, Regulatory Compliance Manager
W. Green, Work Control Superintendent
P. Grobusky, Human Resources Manager
M. Glover, Station Manager
P. Herran, Engineering Manager
L. Keller, Safety Review Group Manager
R. Parker, Maintenance Superintendent
G. Peterson, Catawba Site Vice President
F. Smith, Chemistry Manager
R. Sweigart, Safety Assurance Manager

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

50-414/02-03-01	NCV	Failure To Establish Adequate Document Control Measures (Section 1R13)
50-413/02-03-02	NCV	Licensee Identified Failure to Maintain the 1B EDG Operable in Accordance with TS 3.8.1 Requirements (Section 4OA7)

Previous Items Closed

50-413/02-006-00	LER	Technical Specification Noncompliance - Inoperable Diesel Generator Caused by Inadequate Wire Lug Crimping at Closing Spring Motor Disconnect Switch (Section 4OA3.2)

LIST OF ACRONYMS USED

ASE	-	Active Simulator Examination
BOL	-	Beginning of Life
CA	-	Auxiliary Feedwater
CFR	-	Code of Federal Regulations

CPCS	-	Containment Pressure Control System
EDG	-	Emergency Diesel Generator
EID	-	Essential Inverter “D”
EOL	-	End of Life
FWST	-	Refueling Water Storage Tank
HSAS	-	Homeland Security Advisory System
JPM	-	Job Performance Measure
KC	-	Component Cooling Water
LER	-	Licensee Event Report
MOL	-	Middle of Life
NCV	-	Non-Cited Violation
ND	-	Residual Heat Removal
NEI	-	Nuclear Energy Institute
NRC	-	Nuclear Regulatory Commission
NRR	-	Nuclear Reactor Regulation
NS	-	Containment Spray
NSD	-	Nuclear System Directive
OHS	-	Office of Homeland Security
PI	-	Performance Indicator
PIP	-	Problem Investigation Process (report)
PRA	-	Probabilistic Risk Assessment
REV	-	Revision
RIS	-	Regulatory Information Summary
RF	-	Fire Protection
RN	-	Nuclear Service Water
RP	-	Radiation Protection
SDP	-	Significance Determination Process
SG	-	Steam Generator
SSC	-	System, Structure, and Component
SSPS	-	Solid State Protection System
TS	-	Technical Specification
UFSAR	-	Updated Final Safety Analysis Report
Vdc	-	Volts Direct Current
VI	-	Instrument Air
WO	-	Work Order
YD	-	Drinking Water

DOCUMENTS REVIEWED

(Section 1R11.2)

Operations Training Management Procedures:

OTMP 3.0, Design & Development
OTMP 4.0, Implementation
OTMP 5.0, Program Evaluations
OTMP 6.0, Training Programs
OTMP 7.0, Simulator Configuration Management

OP-CN-TAD, Training Analysis and Design Instructor Guide

OP-CN-INST-SEQ, Sequestration

OP-CN-INST-ESEC, Exam Security

PTQR Annual Examination Sample Plan 2002

Simulator Transient Periodic Test Procedures:

Transient # 1: Steam Generator Tube Rupture (2001)
Transient # 2: Loss of Coolant Accident (2001)
Transient # 4: Loss of Offsite Power (2001)
Transient #10: Pzr PORV Failure (2001)
Transient #11: Reactor Trip (2001)
Transient #12: Steam Line Break (2001)

Steady State Test (at 4 power levels including 100 percent power)

Simulator Malfunction Periodic Test Procedures:

Malf.# EGB-2: Main Generator Breaker Trip
Malf.# EHC-1: Inadvertent Turbine Trip
Malf.# EPX-8: Loss of 4160 VAC Bus
Malf.# NCP-1: Reactor Coolant Pump Trip
Malf.# NCX-2: PZR PORV Failure
Malf.# SGX-1: Steam Generator Tube Rupture

Catawba Simulator C1C13 Core Tests (BOL,MOL,and EOL)

Catawba Simulator Work Requests (as of 9/2/02)

Current/open items:
WR# OAC-142, regarding thermal best estimate average
WR# OAC-141, regarding corrupted OAC snaps
WR# SGN- 42, regarding ruptured S/G cooldoown

Closed items:
WR# EPS-059, regarding loss of KXPB and CFPTs
WR# EHC-033, regarding turbine reset
WR# PPL-032, regarding Malfunction IPX004A
WR# SIS-017, regarding FW recirc pumps logic
WR# CVC-071, regarding VCT parameter during JPM

Annual Requalification Simulator Scenario Examination Sets

ASE-16, 28
ASE-14, 37
ASE 25, 21
ASE-4, 26

1998 Catawba Nuclear Station Simulator Upgraded Site Acceptance Test