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

July 23, 2001

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 INSPECTION REPORT 50-413/01-04, 50-414/01-04

Dear Mr. Peterson:

On June 23, 2001, the NRC completed an inspection at your Catawba Units 1 and 2. The enclosed report documents the inspection findings which were discussed on June 27, 2001, 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 did not identify any findings of significance.

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/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Malcolm Widmann, Acting Chief
Reactor Projects Branch 1
Division of Reactor Projects

Docket No.: 50-413, 50-414
License No.: NPF-35, NPF-52

Enclosure: Inspection Report 50-413/01-04, 50-414/01-04

cc w/encl:
Regulatory Compliance Manager
Duke Energy Corporation
Electronic Mail Distribution

Lisa Vaughn
Legal Department (PB05E)
Duke Energy Corporation
422 South Church Street
Charlotte, NC 28242

Anne Cottingham
Winston and Strawn
Electronic Mail Distribution

North Carolina MPA-1
Electronic Mail Distribution

Henry J. Porter, Assistant Director
Div. of Radioactive Waste Mgmt.
S. C. Department of Health
and Environmental Control
Electronic Mail Distribution

R. Mike Gandy
Division of Radioactive Waste Mgmt.
S. C. Department of Health and
Environmental Control
Electronic Mail Distribution

Richard P. Wilson, Esq.
Assistant Attorney General
S. C. Attorney General's Office
Electronic Mail Distribution

Vanessa Quinn
Federal Emergency Management Agency
Electronic Mail Distribution

North Carolina Electric
Membership Corporation
Electronic Mail Distribution

cc w/encl: Continued see page 3

cc w/encl: Continued
Peggy Force
Assistant Attorney General
N. C. Department of Justice
Electronic Mail Distribution

County Manager of York County, SC
Electronic Mail Distribution

Piedmont Municipal Power Agency
Electronic Mail Distribution

C. J. Thomas, Manager
Nuclear Regulatory Licensing
Duke Energy Corporation
526 S. Church Street
Charlotte, NC 28201-0006

Distribution w/encl:
C. Patel, NRR
PUBLIC

PUBLIC DOCUMENT (circle one): YES NO

OFFICE							
SIGNATURE	EL	D. Roberts	M. Giles	D. Jones for	D. Jones for	D. Jones for	D. Jones for
NAME	ELea	DRoberts	MGiles	RCarrion	DJones	ETesta	FWright
DATE	7/23/2001	7/23/2001	7/20/2001	7/19/2001	7/19/2001	7/19/2001	7/19/2001
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICE							
SIGNATURE	D. Roberts for						
NAME	RFranovich						
DATE	7/23/2001						
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY DOCUMENT NAME: C:\Program Files\Adobe\Acrobat 4.0\PDF Output\CATAWBA 0104 .wpd

U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No:	50-413, 50-414
License No:	NPF-35, NPF-52
Report No:	50-413/01-04, 50-414/01-04
Licensee:	Duke Energy Corporation
Facility:	Catawba Nuclear Station, Units 1 and 2
Location:	4800 Concord Road York, SC 29745
Dates:	March 25, 2001 - June 23, 2001
Inspectors:	D. Roberts, Senior Resident Inspector R. Franovich, Resident Inspector M. Giles, Resident Inspector R. Carrion, Health Physicist, (Section 2OS3) D. Jones, Senior Health Physicist, (Sections 2PS1, 2PS2, 2PS3) E. Testa, Senior Health Physicist, (Sections 2PS1, 2PS2, 2PS3) F. Wright, Senior Health Physicist, (Sections 2PS1, 2PS2, 2PS3) A. Nielsen, Health Physicist, (In-Training)
Approved by:	M. Widmann, Acting Chief Reactor Projects Branch 1 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000413-01-04, IR 05000414-01-04, on 03/25–6/23/2001, Duke Energy Corporation, Catawba Nuclear Station, resident inspector report.

The inspection was conducted by resident inspectors and four health physicists from the regional office. 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 to which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

A. Inspector Identified Findings

The inspectors did not identify any findings of significance.

B. Licensee Identified Violations

Two violations of very low significance have been reviewed by the inspectors. Corrective actions taken or planned by the licensee appear reasonable. These violations are listed in section 40A7 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 May 18 to May 19, 2001, when reactor power was reduced to 87 percent to facilitate main turbine control valve movement testing.

Unit 2 operated at 100 percent power throughout the inspection period, except for a brief period from June 10 to June 12, 2001, when reactor power was reduced to 87 percent to facilitate the end-of-cycle measurement of moderator temperature coefficient, and main turbine control valve movement testing.

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

1R01 Adverse Weather Protection

a. Inspection Scope

The inspectors reviewed the licensee's emergency response procedures related to severe weather conditions (tornados and hurricanes) and discussed them with plant personnel to determine if the procedures contained adequate provisions for coordinating the plant's response to such events, and to determine if personnel were knowledgeable of the requirements contained in the procedures.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

a. Inspection Scope

The inspectors performed partial walkdowns of the following equipment: (1) the Unit 2 A train nuclear service water (RN) and component cooling water (KC) systems while the 2B KC heat exchanger was out-of-service (OOS) for cleaning; (2) the Unit 2 A and B train emergency diesel generators (EDGs) and support equipment while switchyard work was ongoing; and (3) the Unit 2 turbine-driven and B train motor-driven auxiliary feedwater (CA) pumps while the 2A motor-driven pump was out of service for planned electrical work. 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. In addition, the inspectors performed a full system walkdown of the Unit 2 safety injection system to verify that components were aligned in their correct standby positions and that equipment material condition was satisfactory to support proper system operation.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors toured six areas important to reactor safety to verify that combustibles and fire ignition sources were properly controlled, and that fire detection and suppression capabilities were intact. For areas where fire detection equipment was OOS, 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 this quarter included the Unit 1 A and B train EDG rooms, the Unit 1 ETA 4160 volt switchgear room, the Unit 1 KC pump area, Unit 2 KC Pump area, and the Unit 1 and Unit 2 125 volts direct current (Vdc) vital electrical distribution system areas, including the battery rooms, vital bus areas, and cable rooms. The inspectors also observed an unannounced fire drill on June 15, 2001. This drill was conducted in the Unit 1 CA pump room area. The inspectors verified that the fire brigade and support personnel could respond in a timely manner and effectively control a fire in this safety related area, and that fire suppression equipment was readily accessible and functional. Where licensee identified deficiencies were observed, the inspectors verified that the deficiencies were properly entered into the corrective action program for timely resolution.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope

In a partial performance of this inspection procedure, the inspectors observed testing and reviewed documentation for heat capacity and clam testing associated with the Unit 1 A train EDG jacket water cooling (KD) heat exchanger. The heat capacity test was performed using procedure PT/1/A/4400/006E, "KD Heat Exchanger 1A Heat Capacity Test," Revision (Rev.) 15, to determine the heat exchanger tube fouling factor. The clam test was conducted using procedure PT/1/A/4400/009, "Cooling Water Flow Monitoring for Asiatic Clams and Mussels Quarterly Test," Rev. 48. This test was done to verify that no significant flow blockage existed in essential RN piping serving the heat exchanger. These activities were reviewed to ensure that potential heat exchanger deficiencies, which could mask degraded performance, were identified and that the licensee had resolved any potential heat sink performance problems.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed a control room simulator training scenario on May 15, 2001, to assess licensed operator and crew performance. The training scenario involved a number of challenges to the operators including: (1) a steam generator (S/G) tube leak in the D S/G, (2) a failure of the reactor to trip automatically and manually, (3) a failure of the A train EDG load sequencer to automatically load properly, and (4) the loss of manual control of the steam dump system. Following the simulator scenario, the inspectors observed the licensee's self-critique to assess it's ability to identify operator or simulator performance issues, and recommend corrective actions where necessary.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed the licensee's implementation of the maintenance rule (10 CFR 50.65) to determine whether responsible personnel were properly evaluating the effectiveness of maintenance on equipment important to safety. The inspectors verified that the licensee was properly classifying maintenance preventable functional failures (MPFFs). For those systems, structures, and components (SSCs) that were categorized as 10 CFR 50.65 (a)(1) due to previous performance problems, the inspectors reviewed corrective action documents to verify that the licensee had identified causal factors and recommended appropriate corrective actions. Some SSCs were also reviewed for proper maintenance rule scoping and risk categorization within the licensee's tracking system. The inspectors conducted this inspection for the following Problem Investigation Process reports (PIPs):

PIP or program document	Equipment Problem
C-00-00214	Ice formed on ice condenser intermediate deck door
C-00-03656, C-00-06349, and C-01-01573	Classification of unavailability hours associated with recent problems affecting the drinking water (YD) system (a risk significant system that provides backup cooling to A train charging/ high-head safety injection pumps)
C-01-00083	Failure of valve 2KC-C40B (B train pump mini-flow valve) to open
C-01-00347 and C-01-00548	Condensate storage tank heatup and effect on upper storage tank (CA system concern)

C-01-01333	Failure of A train control room ventilation system chilled water system (YC) chiller to start
C-01-01426	Recurring Unit 2 main feedwater pump reliability problems and resultant (a)(1) classification
C-01-01771	Excessive valve leakage through valve 1KC-50A (cross-train isolation valve)

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 six emergent and planned work items listed below, focusing primarily on activities determined to be risk significant within the maintenance rule. The inspectors also verified that the licensee adequately identified and resolved problems associated with maintenance risk assessment and emergent work.

Component or System	Reason for Removal from Service
Unit 1 rod control: control banks B & D, shutdown bank B	Regulating card failure in rod control system power cabinet
U 2 pressurizer heater group A	Electrical ground fault associated with Y phase contact switch
Switchyard A and B 480 volt buses	Replacement of degraded auto-transfer switches for switchyard breaker control power supply
Unit 2 A train KC heat exchanger, A train residual heat removal system	Planned maintenance for both systems
YD system concurrent with Unit 2 B train KC heat exchanger being OOS	YD system loss of header pressure due to problems with offsite water supply and KC system OOS for planned maintenance
Unit 1 steam generator water level channel failure concurrent with the A train motor driven CA pump out of service	Steam generator instrument channel experienced a process instrument cabinet card failure while CA pump was OOS for planned maintenance

b. Findings

No findings of significance were identified.

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 seven issues listed below:

PIP Number	Issue
C-98-02558	Operability of the control room ventilation system with two redundant pressurization fans in service (adverse train interaction)
C-01-01771	1KC-50A failure to fully close and isolate redundant KC trains
C-01-01994	Operability of the A train YC chiller following maintenance activities and test failures of an evaporator differential pressure switch
C-01-02010	Operability of the B train YC chiller following a failed temperature switch that caused a hot gas bypass valve to fail open and the chiller motor to pull higher than normal operating current
C-01-02142	Operability of RN system valves following detection of “induced” voltage in circuits associated with the automatic pump suction source swapover feature
C-01-02204 and C-01-02207	Operability of steam generator power operated relief valve (PORV) 1SV-19 following an operator’s failure to manually open the valve within specified time during a test to validate time-critical tasks
C-01-02332	Non-conservative allowable values for overtemperature delta temperature (Unit 1) and overpower delta temperature (Units 1 and 2) reactor trip functions

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds

a. Inspection Scope

The inspectors reviewed the list of operator workarounds in place to assess individual workarounds and determine their cumulative impact on plant risk. The inspectors also reviewed the list of “operable but degraded” equipment to determine if any of the listed problems resulted in or constituted operator workarounds, and what their impact on overall plant risk was. One of the operator workarounds involved both YC chillers being “operable but degraded” due to larger than specified divider plates being installed a few months earlier, which caused some tube blockage. This resulted in operators having to verify that Lake Wylie and standby nuclear service water pond temperatures were below

an administrative limit to ensure YC system operability. The inspectors reviewed this item, based on past history, to verify that it did not prevent the YC system from performing its function, or detract from the operators' ability to safely operate the plant.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed the following modification to: (1) verify that the design bases, licensing bases, and performance capability of a SSC that could impact initiating event frequency was not degraded through the modification; and (2) verify that the modification performed during risk significant configurations did not place the plant in an unsafe condition. The inspectors also reviewed testing associated with this modification to ensure that the intended design goal was met and that testing did not adversely affect plant operations.

Nuclear Station Modification Number	Description
NSM CN-50485/00	Replacement of defective electro-mechanical transfer scheme with electronic automatic transfer switches for 480 Volt alternating current (AC) load centers located in the 230 Kilovolt AC switchyard

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.

Test Procedure/WO Number	Maintenance/Test Activity
PT/1/A/4600/001, Rev. 32	Control rod movement testing following replacement of failed regulating card
PT/1/A/4600/001, Rev. 32	Control rod movement testing following replacement of degraded power supply associated with rod control cabinet 2BD

WO 98187968	Replaced failed relay associated with Unit 2 pressurizer pressure control circuitry ground fault
WO 98382157	Test of valve 1KC-50A following limit switch adjustment to correct a failure to isolate two redundant KC trains
WO 98384074	Refueling water storage tank water level channel operating test to verify that the instrument loop functioned properly following wiring maintenance
WO 98385243; WO 98396990	Unit 1A EDG functional test following planned maintenance (E-30 pushbutton indicating light bulb replacement associated with EDG output breaker, cylinder valve spring inspections, and cover gasket replacements)

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the seven surveillance test procedures listed below to verify that Technical Specification surveillance requirements 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
IP/0/3710/015, Rev. 40	Procedures for Batteries Periodic Inspection
PT/1/A/4200/010A, Rev. 65	Residual Heat Removal Pump 1A Performance Test
PT/0/A/4200/083, Rev. 0	RN Pond Swap Logic Test
IP/1/A/3200/002A, Rev. 31	Solid State Protection System (SSPS) Train A Periodic Testing
IP/1/A/3200/008A, Rev. 27	Train A Reactor Trip Breaker Trip Actuating Device Functional and Operational Test
PT/1/A/4700/061D, Rev. 01	1A S/G PORV EP/AP Local Valve Movement

IP/1/A/4971/007, Rev. 07	DG 1A and 1B Degraded Bus Voltage Sensing Relay Trip Actuating Device Operational Test (TADOT)

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed one temporary modification this quarter to verify that the function of an important safety system was not compromised. In the case reviewed, the modification was developed to restore a function for a system that had experienced earlier problems with the subject component. The following modification was reviewed:

Temporary Modification	Title or Description
CNTM-0067, Bypass YC Train "B" (2CRA-C-1) Chiller Interlock for the evaporator switch	Defeated the trip function output feature of the chiller evaporator differential pressure switch

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY
Cornerstones: Occupational Radiation Safety

2OS3 Radiation Monitoring Instrumentation

a. Inspection Scope

Availability, storage, and operability of portable radiation monitoring instruments for use in various radiation fields were evaluated for compliance with the Updated Final Safety Analysis Report (UFSAR) and licensee procedural requirements. Instrument calibration data were evaluated for those instruments which were staged and ready for issue to plant personnel. Area radiation monitors (ARMs), identified in UFSAR Sections 11.5.1.2.2.8 and 12.3.4, and selected local, remote, and control room radiation monitors were evaluated for operability and accuracy. The inspectors observed the semi-annual efficiency calibration of a personnel contamination monitor (PCM)-1C to evaluate technician proficiency and procedure adequacy of procedure HP/0/B/1003/068, "Set-up and Calibration of Eberline PCM-1C Personnel Monitor," Rev. 0. The inspectors also evaluated the adequacy of the following procedures: HP/0/B/1003/022, "Inservice Radiation Protection Instrument Source Check," Rev. 20; HP/0/B/1009/011, "EMF Loss," Rev. 34; and HP/0/B/1000/010, "Determination of Radiation Monitor Setpoints," Rev. 46.

The licensee's respiratory protection program activities for operations and health physics staff members who may be required to use self-contained breathing apparatus (SCBA) equipment was evaluated for implementation per UFSAR Sections 6.4.2.4, 12.5.5.3.2, and 15.6.5; Regulatory Guide 8.15, "Acceptable Programs for Respiratory Protection," Rev.1; 10 CFR 20.1703; and licensee procedures SH/0/B2003/001, "Respiratory Protection," Rev. 2, HP/0/B/1005/006, "Re-Charging Self-Contained Breathing Apparatus," Rev. 8, and HP/0/B/1005/008, "Radiological Respirators," Rev.14. The inspectors observed the SCBA charging station facilities and associated equipment and verified availability of equipment within established storage locations, including the main control room. Training, fit testing, and medical qualifications for nine on-shift operators were reviewed for compliance to 10 CFR 20.1703 requirements.

b. Findings

No findings of significance were identified.

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

a. Inspection Scope

The inspectors reviewed the licensee's most recent Radioactive Effluent Release Report which delineated the quantities of radionuclides released in liquid and gaseous effluents during the year 2000 and the radiation doses to the public resulting from those releases. The review included verification that the report included the information and data required to be reported to demonstrate conformance with 10 CFR 20.1302, 10 CFR 50.36a, and 10 CFR 50, Appendix I. The inspectors reviewed the recent changes to UFSAR Section 16.11, Radiological Effluent Controls, to determine whether those changes were evaluated pursuant to 10 CFR 50.59 when required. The inspectors toured the plant to determine whether major components of the radioactive effluent release and monitoring equipment was configured as described in Chapter 11 of the UFSAR. During the tours the inspectors also observed the following radioactivity monitors to determine whether they were in service as required by the UFSAR: EMF-31, EMF-33, 1&2-EMF-35, 1&2-EMF-36, 1&2-EMF-37, 2-EMF-38, 2-EMF-39, 2-EMF-40, EMF-41, 1-EMF-42, EMF-50, and EMF-57. The inspectors reviewed documentation and observed activities to determine whether compensatory sampling and analyses were performed as required for out of service monitors. The inspectors observed sampling, analytical, and liquid batch release activities to determine whether procedures were followed. The inspectors reviewed the records for the most recent calibrations of two liquid radwaste effluent monitors, two gaseous effluent monitors, and one gamma spectroscopic instrument in the count room to determine whether calibrations were current as required by the UFSAR. The inspectors reviewed the results of interlaboratory comparisons from the first quarter of 2001 for typical effluent samples and verified that the licensee had maintained the quality of analyses consistent with the program guidance provided by Regulatory Guide 4.15. The effectiveness of characterization and resolution of selected effluent monitoring related issues identified since April 2001 were evaluated by the inspectors.

The following licensee procedures and documents were examined during the inspection:

- HP/0/B/1004/004 Radioactive Liquid Waste Release
- HP/0/B/1001/018 RP Compliance Sampling
- IP/0/B/3314/049 R 0EMF49 Liquid Monitor Channel Calibration
- IP/0/B/3314/057 R 0EMF57 Transfer Calibration Procedure
- IP/1/B/3314/036 R 1EMF36 Gas Monitor Channel Calibration
- IP/0/B/3314/050 R 0EMF50 Gas Monitor Channel Calibration
- OP/0/B/6500/015 Radwaste Chemistry Procedure for Discharging a Monitor Tank to the Environment

- Assessment Report SA-00-05(ALL)(RA) Radiation Protection Assessment (May 2000)

b. Findings

No findings of significance were identified.

2PS2 Radioactive Material Processing and Shipping

a. Inspection Scope

The inspectors evaluated the licensee's facilities, processes and programs for the collection, processing, treatment, shipping, storage and disposal of radioactive materials and radwaste. The inspectors conducted reviews of the following: in-plant liquid and solid waste systems: waste processing and sampling program; shipment activities and records; assurance of quality, including corrective action reports; and training.

System reviews included system descriptions in Chapter 11 of the UFSAR, Chapter 16 Selected Licensee Commitments, facilities tours, liquid waste and recycle system flow diagrams and a review of system changes in accordance with 10 CFR 50.59. The inspectors also toured abandoned in-place radwaste equipment, and storage locations use for processed radwaste.

The inspectors evaluated the licensee's Process Control Program (PCP) Revision 12, including: process documentation; scaling factors (derivation, sampling type, sampling frequency, and effect of changing plant conditions); and determination of waste characteristics and waste classification.

The inspectors selected five solid radwaste shipping records for detailed review against the requirements contained in 10 CFR Parts 20, 61 and 71, and 49 CFR Parts 100-177. The inspectors reviewed the Catawba Nuclear Station 10 CFR 61 Manual, Principal Supporting Documentation. The shipments selected included test equipment and dry active waste shipments. The shipments were Uniform Low-Level Radioactive Waste Manifest Shipment Nos. (RSR) 01-0001, 01-0002, 01-0003, 01-0004, 01-0005.

The inspectors evaluated the licensee's program for assurance of quality in the radwaste processing and radioactive materials transportation program by reviewing quality assurance audit (SA-00-05), quality surveillances, and seven PIPs involving the radwaste and transportation program.

The inspectors evaluated the licensee's program for training personnel involved in the radwaste and radioactive materials transportation program with regard to the requirements contained in NRC IE Bulletin 79-9 and DOT 49 CFR, Subpart H.

b. Findings

No findings of significance were identified.

2PS3 Radiological Environmental Monitoring Program (REMP) and Radioactive Material Control Program

a. Inspection Scope

The inspectors evaluated analytical environmental procedures, self-assessment reports, cross check comparison results, daily instrument control charts, interviewed laboratory technicians and supervisors to evaluate compliance with the ODCM, REMP, UFSAR, TSs, and 10 CFR Part 20 requirements. The inspectors accompanied environmental monitoring personnel taking environmental samples, observed material condition of sampling equipment, observed sample preparations for analysis, and reviewed the results of sample analysis completed during the inspection. Duke Power Company Inter-laboratory Comparison Program cross-check results for laboratories were reviewed and discussed with licensee personnel. The inspectors observed licensee staff conduct quality control (QC) activities for several laboratory instruments and reviewed various quality control charts for laboratory equipment. The inspectors reviewed selected National Institute Standards and Technology Certificates for radioactive sources used in recent calibrations or quality controls of laboratory analytical equipment. The inspectors reviewed and discussed with licensee personnel the results published in the Catawba Annual Radiological Environmental Operating report for calendar year 2000. The inspectors evaluated the licensee's Quality Assurance Group's assessment of the environmental analysis laboratory, including what problems were identified by the group and what corrective actions were identified.

The following licensee procedures and documents were examined during the inspection:

a. "Semi-annual Calibrations or Calibration Verifications for Gamma Spectroscopy, Liquid Scintillation, Systems," 03/12/01
b. "Duke Power Analytical Laboratory, Chemistry Quality Assurance Program," 11/29/00
c. "Duke Power's Analytical Laboratory Group Environment, Health and Safety Manual," 01/11/99
d. "Radiological and Environmental Services Procedure Manual"
e. "Operational Radiological Environmental Sample Collection Program for Catawba Nuclear Station," 03/30/99
f. "Receipt, Storage, and Disposal of Samples and Disposition of Data Reports," 06/27/96
g. "Preparation of Samples for Gamma Analysis," 08/01/96
h. "Preparation of Samples for Gross Alpha and Gross Beta Analysis," 08/12/97
i. "Preparation and Counting of Samples for Low-Level I^{131} Analysis," 11/12/98

j. "Calculation and Determination of Lower Limit of Detection For Radiological Laboratory Instrumentation," 07/08/96
k. "Routine Quality Control Using the Count Room Analysis System," 02/11/97
l. "Routine Quality Control of the Tennelec Series 5 Low Background Counting Instruments Using ECLIPSE Software," 01/22/01
m. "Calibration of Gamma Spectroscopy System Using the Count Room Analysis System," 04/05/01
n. "Calibration of the Tennelec Series 5 Low Background Counting Instruments Using ECLIPSE Software," 02/12/01

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

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

Cornerstone	PI
Initiating Events	Unplanned power reductions per 7000 hours
Mitigating Systems	Emergency AC Power (safety system unavailability for the emergency diesel generators)

This review was conducted for first quarter 2001 PI data submitted to the NRC on or about April 21, 2001. To verify the PI data, the inspectors reviewed control room logs, Operator Aid Computer trends, operating procedure enclosures for removing the EDGs from service, and related licensee calculations. The inspectors verified samples of data for the entire period covered by the PI under review (e.g., for PIs covering four quarters, the inspectors reviewed samples of data for the three quarters immediately prior to first quarter 2001 in addition to that quarter's data).

b. Findings

No findings of significance were identified.

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 June 27, 2001. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee Identified Violations.

The following findings of very low safety significance were identified by the licensee and are violations of NRC requirements, which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600 for being dispositioned as Non-Cited Violations (NCVs).

NCV Tracking Number	Requirement Licensee Failed to Meet
50-413, 414/01-04-01	10 CFR Part 50, Appendix B, Criteria XI, Test Control, requires that a test program be established to assure that all testing required to demonstrate that SSCs will perform satisfactorily in service is identified and performed in accordance with written test procedures. Contrary to this, on March 13, 2001, the licensee failed to perform adequate testing following replacement of the evaporator differential pressure switch for the A train YC chiller as described in PIP C-01-01333. (Green)
50-413, 414/01-04-02	Technical Specification 5.4.1.a, and Regulatory Guide 1.33, Section 9, Procedures for Performing Maintenance, required that maintenance that can affect the performance of safety related equipment should be properly planned and performed in accordance with written procedures and documented instructions. Contrary to this, on May 3, 2001, the licensee failed to develop appropriate written procedures or documented instructions for maintenance activities performed on the A train YC chiller as described in PIP C-01-01994. (Green)

If you deny these non-cited violations, 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.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

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

NRC

K. Barr, Region II
H. Berkow, NRR
R. Emch, NRR
T. Harris, NMSS
R. Martin, NRR
C. Patel, NRR
M. Widmann, Region II

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed During this Inspection

50-413, 414/01-04-01	NCV	Failed to Perform Adequate Testing Following Replacement of the Evaporator Differential Pressure Switch for the A train YC Chiller as Described in PIP C-01-01333
50-413, 414/01-04-02	NCV	Failure to Develop Appropriate Written Procedures or Documented Instructions for Maintenance Activities Performed on the A train YC Chiller as Described in PIP C-01-01994

LIST OF ACRONYMS USED

AC	-	Alternating Current
ARM	-	Area Radiation Monitors
CA	-	Auxiliary Feedwater
CFR	-	Code of Federal Regulations
EDG	-	Emergency Diesel Generator

KC	-	Component Cooling Water
KD	-	Jacket Water Cooling
MPFF	-	Maintenance Preventable Functional Failure
NCV	-	Non-Cited Violation
NEI	-	Nuclear Energy Institute
NRC	-	Nuclear Regulatory Commission
NRR	-	Nuclear Reactor Regulation
NSM	-	Nuclear Station Modification
ODCM	-	Offsite Dose Calculation Manual
OOS	-	Out of Service
PCP	-	Process Control Program
PCM	-	Personnel Contamination Monitor
PI	-	Performance Indicator
PIP	-	Problem Investigation Process (report)
PORV	-	Power-Operated Relief Valve
PRA	-	Probabilistic Risk Assessment
QC	-	Quality Control
REMP	-	Radiological Environmental Monitoring Program
REV	-	Revision
RN	-	Nuclear Service Water
SCBA	-	Self-Contained Breathing Apparatus
SDP	-	Significance Determination Process
S/G	-	Steam Generator
SSC	-	Systems, Structures, and Components
SSPS	-	Solid State Protection System
TADOT	-	Trip Actuating Device Operational Test
TS	-	Technical Specification
TSAIL	-	Technical Specification Action Item Log
UFSAR	-	Updated Facility Safety Analysis Report
Vdc	-	Volts Direct Current
WO	-	Work Order
YC	-	Control Room Ventilation System Chilled Water System
YD	-	Drinking Water