
DUKE ENERGY CORPORATION

**INSERVICE INSPECTION
PRESSURE TEST PLAN**

REVISION 2



A Duke Energy Company

Prepared By:

J.M. Boughman

Date

8/18/98

Reviewed By:

R. C. Rouse

Date

8/19/98

Approved By:

L. Kevin Rhyme

Date

8/19/98

ANII Review:

Robert McMill

Date

8-19-98

Copy No.

9

Assigned To

NRC

Controlled X

Uncontrolled _____

9810060210 980929
PDR ADDCK 05000269
Q PDR

Duke Energy Corporation
Inservice Inspection
Pressure Test Plan

J.M. Boughman
(704) 382-5112

September 8, 1998

V. E. Keller
QA Technical Services
P O Box 1006 - EC07J
Charlotte NC 28201-1006

Subject: Receipt of the Inservice Inspection Pressure Test Plan, Rev.2
for Catawba, McGuire and Oconee Nuclear Stations

Please be advised that the above referenced Pressure Test Plan forwarded by
V. E. Keller's letter of September 8, 1998 has been received and is in my
possession as of the date below.

Copy No.: 9

Assigned to: NRC Document Control

By: _____

Date: _____

TABLE OF CONTENTS

SECTION

TITLE

- 1.0 General Requirements
 - 1.1 Applicable Codes and Standards for Inservice Inspection Pressure Testing
 - 1.2 Inspection Methods and ASME Procedures to be Used for Inservice Inspection Pressure Testing
 - 1.3 Description of Inservice Inspection Pressure Testing Plan for ASME Class 1 Items
 - 1.4 Description of Inservice Inspection Pressure Testing Plan for ASME Class 2 Items
 - 1.5 Description of Inservice Inspection Pressure Testing Plan for ASME Class 3 Items
 - 1.6 System Boundaries Subject to Examination
 - 1.7 Description of Examination Schedules
 - 1.8 Requests for Relief From ASME Code Requirements
- 2.0 Catawba Nuclear Station - Unit 1
 - 2.1 Catawba Unit 1 - Examination Zone Listing, Associated Flow Diagrams, & Boundary Valves
 - 2.2 Catawba Unit 1 - Class 2 Containment Penetrations Examined In Accordance With Appendix J
 - 2.3 Catawba Unit 1 - Schedules for Examinations
 - 2.4 Catawba Unit 1 - Flow Diagram and System Listing

TABLE OF CONTENTS

<u>SECTION</u>	<u>TITLE</u>
3.0	Catawba Nuclear Station - Unit 2
3.1	Catawba Unit 2 - Examination Zone Listing, Associated Flow Diagrams, & Boundary Valves
3.2	Catawba Unit 2 - Class 2 Containment Penetrations Examined In Accordance With Appendix J
3.3	Catawba Unit 2 - Schedules for Examinations
3.4	Catawba Unit 2 - Flow Diagram and System Listing
4.0	McGuire Nuclear Station - Unit 1
4.1	McGuire Unit 1 - Examination Zone Listing, Associated Flow Diagrams, & Boundary Valves
4.2	McGuire Unit 1 - Class 2 Containment Penetrations Examined In Accordance With Appendix J
4.3	McGuire Unit 1 - Schedules for Examinations
4.4	McGuire Unit 1 - Flow Diagram and System Listing
5.0	McGuire Nuclear Station - Unit 2
5.1	McGuire Unit 2 - Examination Zone Listing, Associated Flow Diagrams, & Boundary Valves
5.2	McGuire Unit 2 - Class 2 Containment Penetrations Examined In Accordance With Appendix J
5.3	McGuire Unit 2 - Schedules for Examinations
5.4	McGuire Unit 2 - Flow Diagram and System Listing

TABLE OF CONTENTS

SECTION

TITLE

- 6.0 Oconee Nuclear Station - Unit 1
 - 6.1 Oconee Unit 1 - Examination Zone Listing, Associated Flow Diagrams, & Boundary Valves
 - 6.2 Oconee Unit 1 - Class 2 Containment Penetrations Examined In Accordance With Appendix J
 - 6.3 Oconee Unit 1 - Schedules for Examinations
 - 6.4 Oconee Unit 1 - Flow Diagram and System Listing
- 7.0 Oconee Nuclear Station - Unit 2
 - 7.1 Oconee Unit 2 - Examination Zone Listing, Associated Flow Diagrams, & Boundary Valves
 - 7.2 Oconee Unit 2 - Class 2 Containment Penetrations Examined In Accordance With Appendix J
 - 7.3 Oconee Unit 2 - Schedules for Examinations
 - 7.4 Oconee Unit 2 - Flow Diagram and System Listing
- 8.0 Oconee Nuclear Station - Unit 3 and Keowee Hydro Units 1 & 2
 - 8.1 Oconee Unit 3 & Keowee Hydro - Examination Zone Listing, Associated Flow Diagrams, & Boundary Valves
 - 8.2 Oconee Unit 3 & Keowee Hydro - Class 2 Containment Penetrations Examined In Accordance With Appendix J
 - 8.3 Oconee Unit 3 & Keowee Hydro - Schedules for Examinations
 - 8.4 Oconee Unit 3 & Keowee Hydro - Flow Diagram and System Listing

CONTROLLED DISTRIBUTION

COPY NO.

ASSIGNED TO

Original	QATS - Technical Specialist
1	Work Control - Pressure Test Administrator - Catawba
2	Work Control - Pressure Test Administrator - McGuire
3	Work Control - Pressure Test Administrator - Oconee
4	Hartford Steam Boiler Inspection & Insurance Co.; ANII - Catawba
5	Hartford Steam Boiler Inspection & Insurance Co.; ANII - McGuire
6	Hartford Steam Boiler Inspection & Insurance Co.; ANII - Oconee
7	Manual File - EC03C
8	Manager, Oconee License Renewal Project
9	NRC Document Control

Section 1.0

General Requirements

1.0 General Requirements

Catawba Unit 1 and Catawba Unit 2 are the only Duke Energy Corporation power units currently subjected to pressure testing examination zones. McGuire Unit 1, McGuire Unit 2, Oconee Unit 1, Oconee Unit 2, Oconee Unit 3, Keowee Hydro Unit 1, and Keowee Hydro Unit 2 remain under the philosophy of individual flow diagram tracking. This plan is written to address the inservice inspection pressure testing requirements of piping systems and their components for the second inspection interval for Catawba Unit 1 and Catawba Unit 2. All remaining Duke Energy Corporation nuclear units and Keowee Hydro Units 1 & 2 shall be controlled by the Duke Energy Corporation station specific Inservice Inspection Plan until this Pressure Testing Plan is revised to include them.

The pressure testing requirements for metal and concrete containment are controlled by Duke Energy Corporation station specific Containment Inservice Inspection Plans.

All ASME Class 1, 2, and 3 pressure retaining components have been reviewed to determine the inservice inspection pressure test examination requirements for Catawba Unit 1 and Catawba Unit 2. The information contained in Section 1 of this Plan is generic to all seven nuclear units and Keowee Hydro Units 1 & 2. Each of the remaining Sections in this Plan, Sections 2 through 8, is unique to a specific unit. Sections 4 through 8 of this Plan are in the course of preparation.

1.1 Applicable Codes and Standards for Inservice Inspection Pressure Testing

In accordance with the requirements of Paragraph 50.55a(g) of 10CFR Part 50, all inservice inspection pressure testing activities shall be performed in accordance with the 1989 Edition of ASME Section XI, no addenda, (hereafter referred to as Section XI).

The following code cases may be used for the Pressure Testing Program at Duke Energy Corporation:

- | | |
|--------------------|---|
| Code Case N-416-1: | "Alternative Pressure Test Requirement for Welded Repairs or Installation of Replacement Items by Welding, Class 1, 2 and 3". (This code case is approved for use by Request for Relief Serial No. 95-GO-001) |
| Code Case N-498-1: | "Alternative Rules For Ten Year System Hydrostatic Testing For Class 1, 2 and 3 Systems". (This code case is approved for use by Request for Relief Serial No. 94-GO-001) |
| Code Case N-522: | "Pressure Testing of Containment Penetration Piping". (This code case is approved for use by Request for Relief Serial No. 94-GO-002) |
| Code Case N-533: | "Alternative Requirements for VT-2 Visual Examination of Class 1 Insulated Pressure Retaining Bolted Connections Section XI, Division 1". (This code case is approved for use by Request for Alternative dated May 7, 1996) |

1.2 Inspection Methods and Procedures to Be Used for Inservice Inspection Pressure Testing

VT-2 visual examinations shall be conducted to locate evidence of leakage from pressure retaining components during the conduct of a system pressure test.

Pressure testing and associated VT-2 visual examinations shall be performed using the latest revision of procedure QAL-15 "ISI Visual Examination, VT-2".

The Inservice Inspection Pressure Testing Plan includes all requirements and schedules necessary for pressure test examinations. General requirements are contained in Section 1 and unit specific requirements are contained in Sections 2 through 8 of this Plan.

The following Duke Energy procedures and directives shall be used to control pressure testing inservice inspection activities, and the Duke Energy Corporation Inservice Inspection Pressure Testing Plans and Inservice Inspection Pressure Reports:

PROCEDURE NO.	TITLE
NSD-701	Records Management
NSD-702	Document Control
QA-520	Preparation and Distribution of Inservice Inspection Reports
QA-521	Control and Administration of Inservice Inspection Databases and Programs
QA-522	Preparation and Implementation of the Inservice Inspection Pressure Testing Plans
QAL-5	Control Of Preservice And Inservice Inspection Activities
QAL-15	ISI Visual Examination, VT-2

1.3 Description of Inservice Inspection Pressure Testing Plan for ASME Class 1 Items

Pressure testing of ASME Class 1 items shall be performed in accordance with the requirements of Articles IWB-2000 and IWB-5000 of Section XI. Class 1 systems that are required to be pressure tested shall be divided into isolable areas (to the extent practical). These areas represent specific pressure testing zones (hereafter referred to as Examination Zones). Each station will have its own unique Examination Zone numbering system as described in Sections 2 through 8 of this Plan. Components such as flow elements, orifices, vents and drain valves are not required to be Examination Boundary interfaces.

Examination Categories and Requirements

The examination categories and item numbers shall be those listed in Table IWB-2500-1 of Section XI. Each Examination Zone may include various Section XI Categories and Item Numbers.

Class 1 items to be examined includes:

Category B-E, Pressure Retaining Partial Penetration Welds In Vessels

<u>IWB-2500-1 Item</u>	<u>Component To Be Examined</u>	<u>Comments</u>
B4.10	<i>Partial Penetration Welds</i>	
B4.11	Vessel Nozzles	Duke Energy Corporation has no Class 1 partial penetration vessel nozzle welds.
B4.12	Control Rod Drive Nozzles	Perform VT-2 examination on 100% of welds during Class 1 Hydrostatic test
B4.13	Instrumentation Nozzles	Perform VT-2 examination on 100% of welds during Class 1 Hydrostatic test
	<i>Pressurizer</i>	
B4.20	Heater Penetration Welds	Perform VT-2 examination on 100% of welds during Class 1 Hydrostatic test (where applicable)

Category B-P, All Pressure Retaining Components

<u>IWB-2500-1 Item</u>	<u>Component To Be Examined</u>	<u>Comments</u>
	<i>Reactor Vessel</i>	
B15.10	Pressure Retaining Boundary	
B15.11	Pressure Retaining Boundary	
	<i>Pressurizer</i>	
B15.20	Pressure Retaining Boundary	
B15.21	Pressure Retaining Boundary	
	<i>Steam Generators</i>	
B15.30	Pressure Retaining Boundary	
B15.31	Pressure Retaining Boundary	
	<i>Heat Exchangers</i>	
B15.40	Pressure Retaining Boundary	
B15.41	Pressure Retaining Boundary	

Piping

B15.50	Pressure Retaining Boundary
B15.51	Pressure Retaining Boundary

Pumps

B15.60	Pressure Retaining Boundary
B15.61	Pressure Retaining Boundary

Valves

B15.70	Pressure Retaining Boundary
B15.71	Pressure Retaining Boundary

1.4 Description of Inservice Inspection Pressure Testing Plan for ASME Class 2 Items

Pressure testing of ASME Class 2 items shall be performed in accordance with the requirements of Articles IWC-2000 and IWC-5000 of Section XI. Class 2 systems that are required to be pressure tested shall be divided into isolable areas (to the extent practical). These areas represent specific pressure testing zones (hereafter referred to as Examination Zones). Each station will have its own unique Examination Zone numbering system as described in Sections 2 through 8 of this Plan. Components such as flow elements, orifices, vents and drain valves are not required to be Examination Boundary interfaces.

Examination Categories and Requirements

The examination categories and item numbers shall be those listed in Table IWC-2500-1 of Section XI. Each Examination Zone may include various Section XI Categories and Item Numbers.

Class 2 items to be examined includes:

Category C-B, Pressure Retaining Nozzle Welds In Vessels

<u>IWC-2500-1 Item</u>	<u>Component To Be Examined</u>	<u>Comments</u>
C2.33	Nozzle-to-Shell (or Head) Welds When Inside of Vessel is Inaccessible	The telltale hole in reinforcing plates shall be examined for evidence of leakage while the vessel is undergoing the system pressure test of Category C-H.

Category C-H, All Pressure Retaining Components

<u>IWC-2500-1 Item</u>	<u>Component To Be Examined</u>	<u>Comments</u>
<i>Pressure Vessels</i>		
C7.10	Pressure Retaining Components	
C7.20	Pressure Retaining Components	
<i>Piping</i>		
C7.30	Pressure Retaining Components	
C7.40	Pressure Retaining Components	
<i>Pumps</i>		
C7.50	Pressure Retaining Components	
C7.60	Pressure Retaining Components	
<i>Valves</i>		
C7.70	Pressure Retaining Components	
C7.80	Pressure Retaining Components	

1.5 Description of Inservice Inspection Pressure Testing Plan for ASME Class 3 Items

Pressure testing of ASME Class 3 items shall be performed in accordance with the requirements of Articles IWD-2000 and IWD-5000 of Section XI. Class 3 systems that are required to be pressure tested shall be divided into isolable areas (to the extent practical). These areas represent specific pressure testing zones (hereafter referred to as Examination Zones). Each station will have its own unique Examination Zone numbering system as described in Sections 2 through 8 of this Plan. Components such as flow elements, orifices, vents and drain valves are not required to be Examination Boundary interfaces.

Examination Categories and Requirements

The examination categories and item numbers shall be those listed in Table IWD-2500-1 of Section XI. Each Examination Zone may include various Section XI Categories and Item Numbers.

Class 3 items to be examined includes:

Category D-A , Systems In Support Of Reactor Shutdown Function

<u>IWD-2500-1 Item</u>	<u>Component to be Examined</u>	<u>Comments</u>
D1.10	Pressure Retaining Components	
D1.11	/	Duke Energy generated number that relates to the IWD-5221 test.
D1.12		Duke Energy generated number that relates to the IWD-5223 test.

Category D-B, Systems In Support Of Emergency Core Cooling, Containment Heat Removal, Atmosphere Clean Up, And Reactor Residual Heat Removal

<u>IWD-2500-1 Item</u>	<u>Component to be Examined</u>	<u>Comments</u>
D2.10	Pressure Retaining Components	
D2.11		Duke Energy generated number that relates to the IWD-5222 test.
D2.12		Duke Energy generated number that relates to the IWD-5223 test.

Category D-C, Systems In Support Of Residual Heat Removal From Spent Fuel Storage Pool

<u>IWD-2500-1 Item</u>	<u>Component to be Examined</u>	<u>Comments</u>
D3.10	Pressure Retaining Components	
D3.11		Duke Energy generated number that relates to the IWD-5221 test.
D3.12		Duke Energy generated number that relates to the IWD-5223 test.

1.6 System Boundaries Subject to Examination

The pressure testing examination boundaries of Class 1, 2, and 3 systems shall be divided into pressure testing zones by boundary valves or component/building interfaces identified on system flow diagrams listed in Sections 2 through 8 of this Plan. Revisions to flow diagrams shall be reviewed for additions/changes to the pressure testing boundaries. These additions/changes are incorporated into the Inservice Inspection Pressure Testing Plan as described in section 5.5 of procedure QA-522. Two sets of marked-up flow diagrams shall be generated to show the pressure testing examination boundaries for each unit. One copy shall be kept in the General Office and one copy kept at the respective station. Unless otherwise noted, systems designated as Class A are equivalent to Class 1, those designated as Class B are equivalent to Class 2, and those designated as Class C are equivalent to Class 3. All instrumentation taps within the examination boundary shall be examined up to the first isolation valve off the process pipe.

1.6.1 Pressure Testing Class 1 Components

Examination Category B-E :

All partial penetration welds in the control rod drive nozzles, instrumentation nozzles and pressurizer heater penetrations (where applicable) require pressure testing and VT-2 visual examination during conduct of the system Hydrostatic Test (IWB-5222).

Examination Category B-P :

The Leakage Test (IWB-5221) is performed following opening and reclosing of the system after pressurization not less than nominal operating pressure associated with 100% rated reactor power attained at a rate in accordance with the heat-up limitations specified for the system.

The Hydrostatic Test (IWB-5222) is performed at a test pressure of 1.02 times the nominal operating pressure associated with 100% rated reactor power and the test temperature is 500°F or greater. Whenever the Hydrostatic test is conducted with fuel in the reactor vessel, the test pressure shall not exceed limiting conditions specified in the Technical Specifications.

The incore monitoring system shall be included as part of the Category B-P examination listed in Sections 2 through 8 of this Plan.

1.6.2 Pressure Testing Class 2 Components

Examination Category C-B:

When nozzle-to-shell (or head) welds (to be examined by NDE methods) are inaccessible, the telltale hole in the reinforcing plates shall receive a VT-2 visual examination for evidence of leakage while the vessel is undergoing the System Pressure Test as required by Category C-H.

Examination Category C-H:

The System Pressure Test (IWC-5221) is made up of either a functional test or a system inservice test. This test is required once in each inspection period except where a hydrostatic test is required.

- a. A Functional Test is a pressure test conducted to verify operability of systems or components not required to operate during normal plant operation while under system operating pressure. The components subject to test pressurization shall include only those pressure retaining components within the system boundary pressurized under the test mode required during the performance of a periodic system (or component) functional test.
- b. A System Inservice Test is a pressure test conducted to perform visual examination (VT-2) while the system is in service under operating pressure.

The system Hydrostatic Test (IWC-5222) is performed at a test pressure of 1.10 times the system pressure for systems with a design temperature of 200°F or less; or a test pressure of 1.25 times the system pressure for systems with a design temperature above 200°F.

The containment penetrations that may be tested in accordance with the rules of 10 CFR Part 50 Appendix J are listed in Sections 2 through 8 of this Plan. All other containment penetrations shall be included as part of the Examination Zones listed in sections 2 through 8 of this plan.

1.6.3 Pressure Testing Class 3 Components

Examination Category D-A, Systems in Support of Reactor Shutdown Functions:

The System Inservice Test (IWD-5221) is a pressure test conducted to perform visual examination (VT-2) while the system is in service under operating pressure.

The Hydrostatic Test (IWD-5223) is performed at a test pressure of 1.10 times the system pressure for systems with a design temperature of 200°F or less; or a test pressure of 1.25 times the system pressure for systems with a design temperature above 200°F.

Examination Category D-B, Systems In Support of Emergency Core Cooling, Containment Heat Removal, Atmosphere Cleanup, and Reactor Residual Heat Removal:

The Functional Test (IWD-5222) is a pressure test conducted to verify operability of systems or components not required to operate during normal plant operation while under system operating pressure. The components subject to test pressurization shall include only those pressure retaining components within the system boundary pressurized under the test mode required during the performance of a periodic system (or component) functional test.

The Hydrostatic Test (IWD-5223) is performed at a test pressure of 1.10 times the system pressure for systems with a design temperature of 200°F or less; or a test pressure of 1.25 times the system pressure for systems with a design temperature above 200°F.

Examination Category D-C , Systems in Support of Residual Heat Removal from Spent Fuel Storage Pool:

The System Inservice Test (IWD-5221) is a pressure test conducted to perform visual examination (VT-2) while the system is in service under operating pressure.

The Hydrostatic Test (IWD-5223) is performed at a test pressure of 1.10 times the system pressure for systems with a design temperature of 200°F or less; or a test pressure of 1.25 times the system pressure for systems with a design temperature above 200°F.

1.6.4 Components Exempt From Pressure Test Examination

Open ended portions of Class 2 systems (this does not apply to repair pressure testing). Reference Section XI, Table IWC-2500-1, Category C-H, footnote 1.

Class 2 portions of systems that do not support the system safety function. Reference Section XI, Table IWC-2500-1, Category C-H, footnote 7.

Class 3 portions of systems extending beyond the first normally closed valve or valve capable of automatic closure as required to perform the safety-related system function. Reference Section XI, Table IWD-2500-1, Category D-A, footnote 1, Category D-B, footnote 1, and Category D-C, footnote 1.

1.7 Description of Examination Schedules

The Class 1 Leakage Test zone shall be completed each refueling outage except when the Class 1 Hydrostatic Test zones are being examined. The Class 1 Hydrostatic zones shall be examined once during the ten year interval and shall be conducted at or near the end of the interval. Class 1 Examination Zone requirements are not scheduled on an outage-by-outage basis since the examinations are required to be completed for each refueling outage. Sections 2 through 8 of this plan include schedules that show the time frame for each pressure testing zone.

The Class 2 and 3 Inservice and Functional Test zones shall be examined once during each inspection period, except when the hydrostatic zones are being examined. The Class 2 and 3 hydrostatic zones shall be examined once during the ten year interval and the examination shall be conducted at or near the end of the interval. Class 2 and 3 Examination Zone requirements will not be scheduled on an outage-by-outage basis since the examinations are required to be completed each inspection period. Sections 2 through 8 of this plan include schedules that show the time frame for each Examination Zone to maintain the examination sequence established in previous intervals.

The sequence of component examinations established during the first inspection interval must be repeated for each inspection interval during the service life of the power unit. During the first inspection interval at each station, hydrostatic tests were performed in the second inspection period to eliminate the burden of completing all hydrostatic tests in the third inspection period. Code Case N-498-1 allows a system pressure test in lieu of a system hydrostatic test. If this alternative test is used, the sequence of component examinations established during the first inspection interval needs to be repeated.

1.8 Requests for Relief from ASME Code Requirements

Each Request for Relief from a requirement of the ASME Code specified in Section 1.1 of this Plan will be submitted by the Nuclear Generation Department to the Nuclear Regulatory Commission for approval. A copy of each submitted request for relief will be included in this section of the Inservice Inspection Pressure Test Plan.

The following is a listing of the Requests for Relief submitted for use:

<u>Serial Number</u>	<u>Description</u>	<u>Units Affected</u>	<u>Date Submitted</u>
¹ 94-GO-001	Allow the Use of Code Case N-498-1	Catawba Units 1 & 2 McGuire Units 1 & 2 Oconee Units 1, 2 & 3	06/22/94
¹ 94-GO-002	Allow the Use of Code Case N-522	Catawba Units 1 & 2 McGuire Units 1 & 2 Oconee Units 1, 2 & 3	06/22/94
ONS-003	Allow the Use of ASME Section XI, 1990 Addenda, Subsection IWA-5250	Oconee Units 1, 2, & 3	08/23/94
¹ 95-GO-001	Allow the Use of Code Case N-416-1	Catawba Units 1 & 2 McGuire Units 1 & 2 Oconee Units 1, 2 & 3	02/22/95
² N/A	Allow the Use of Code Case N-533	Catawba Units 1 & 2 McGuire Units 1 & 2 Oconee Units 1, 2 & 3	05/07/96
96-03	Allow the Use of ASME Section XI, 1990 Addenda, Subsection IWA-5250	Catawba Units 1 & 2	06/24/96
97-GO-001, Revision 1	Allow the use of an evaluation to determine if leaking bolting examination may be deferred until next outage.	Catawba Units 1 & 2 McGuire Units 1 & 2 Oconee Units 1, 2 & 3	08/07/97

¹ This Request for Relief is approved for use until incorporated into Regulatory Guide 1.147.

² This Request for Alternative is submitted by letter dated May 7, 1996.

DUKE POWER COMPANY

Request for Relief From
Inservice Inspection Requirement

Station: Oconee, McGuire and Catawba

Unit: Oconee 1, 2 and 3; McGuire 1 and 2; Catawba 1 and 2

Requesting Department: Nuclear Generation

Reference Code: ASME Boiler and Pressure Vessel Code, Section XI
1980 Edition through Winter 1980 Addenda (Second Inspection Interval) &
1989 Edition with no Addenda (Third Inspection Interval) for Oconee Units 1, 2
and 3;
1986 Edition with no Addenda for McGuire Unit 1;
1989 Edition with no Addenda for McGuire Unit 2;
1980 Edition through Winter 1981 Addenda for Catawba Units 1 and 2.

I. Component for which exemption is requested:

a. Name and Identification Number:

This request is for all of the remaining ISI Class 3 system
hydrostatic tests to be performed prior to the end of each inspection
interval as follows:

Oconee 1, 2 and 3 - Second and Third Ten Year Inspection Intervals
McGuire 1 and 2 - Second Ten Year Inspection Interval
Catawba 1 and 2 - First Ten Year Inspection Interval

b. Function:

Systems in support of Reactor Shutdown Function, Emergency Core
Cooling, Containment Heat Removal, Atmosphere Cleanup, Reactor
Residual Heat Removal and Residual Heat Removal From Spent Fuel
Storage Pool.

c. ASME Section XI Code Class: 3

d. Construction Code and Class (If Applicable):

Oconee - ANSI B31.1 - 1967 & 1973, with Summer 1975 Addenda;
ANSI B31.7 - 1968 & 1973, with Summer 1975 Addenda
ASME Section III - 1974 through Summer 1975 Addenda
McGuire - ASME Section III - 1971 through Winter 1971 Addenda
Catawba - ASME Section III - 1974 through Summer 1974 Addenda

e. Valve Category (If Applicable): N/A

II. Reference Code Requirement that has been determined to be impractical:

System hydrostatic test per IWD-5223; Categories D-A, D-B and D-C;
Items D1.10, D2.10 and D3.10.

III. Basis for Requesting Relief:

Consistent with the philosophy of ASME Code Case N-498 Revision 1, this request is based on performing VT-2 examinations at nominal operating pressures in lieu of the interval hydrostatic pressure tests. A review of all the Class 3 interval hydrostatic pressure tests performed at Duke Power Company to date has shown that a leak has never occurred in the base metal or in an existing weld. All leaks that have occurred have been in mechanical joints such as packing glands and body-to-bonnet connections. This review covers a time period of twenty years for Oconee, twelve years for McGuire and eight years for Catawba. Additionally, the ASME Boiler & Pressure Vessel Code, Section XI Task Group for Code Case N-498 Revision 1, surveyed 41 nuclear utilities and this survey revealed that a hydrostatic test only increases the leakage rate from that of a leakage test run at nominal operating pressure. That is, no new leakage was identified in any instance by raising the test pressure from operating pressure to hydrostatic pressure. Therefore, performing a VT-2 examination at nominal operating pressure provides reasonable assurance of system integrity.

ASME Code Case N-498 Revision 1 has been approved by the ASME Boiler & Pressure Vessel Code Committee and the Board on Nuclear Codes and Standards as an acceptable alternative to the rules of the ASME Boiler & Pressure Vessel Code, Section XI.

The burdens imposed by Class 3 hydrostatic testing (IWD-5223) are as follows:

- (1) The system isolation and coordination (required for hydrostatic testing at elevated pressures during a refueling outage) potentially increases critical path time and possible limiting conditions for operation (LCO's), as opposed to testing at operating pressure.
- (2) System hydrostatic tests frequently require securing relief valves in a closed position or disassembly of check valves to maintain an open flow path which requires time and personnel exposure.
- (3) The required time to complete system hydrostatic tests compared to system pressure tests results in a significant increase in the total amount of work force, radiological exposure and radwaste from hydrostatic equipment decontamination without a compensating increase in the level of quality or safety.

IV. Alternate Examination:

- (1) A system pressure test at operating pressure (IWD-5221 for Categories DA and DC; IWD-5222 for Category DB) shall be conducted at or near the end of the inspection interval.
- (2) The boundary subject to test pressurization during the system pressure test shall extend to all Class 3 components included in those portions of systems required to operate or support the safety system function up to and including the first normally closed valve (including a safety or relief valve), or valve capable of automatic closure when the safety function is required.
- (3) Prior to performing the VT-2 visual examination, the system shall be pressurized to nominal operating pressure for a minimum of 4 hours for insulated systems and 10 minutes for noninsulated systems. The system shall be maintained at nominal operating pressure during performance of the VT-2 visual examination.
- (4) The VT-2 visual examination shall include all components within the boundary identified in (2) above.
- (5) Test instrumentation requirements of IWA-5260 (Gages for Hydrostatic or Pneumatic Pressure Tests) are not applicable.

V. Implementation Schedule:

Immediate implementation.

Evaluated By: J.M. Rosenman Date 6/13/94

Evaluated By: J. Barkin Date 6/13/94

DUKE POWER COMPANY

Request for Relief From
Inservice Inspection Requirement

Station: Oconee, McGuire and Catawba

Unit: Oconee 1, 2 and 3; McGuire 1 and 2; Catawba 1 and 2

Requesting Department: Nuclear Generation

Reference Code: ASME Boiler and Pressure Vessel Code, Section XI
1980 Edition through Winter 1980 Addenda (Second Inspection Interval) &
1989 Edition with no Addenda (Third Inspection Interval) for Oconee Units 1, 2
and 3;
1986 Edition with no Addenda for McGuire Unit 1;
1989 Edition with no Addenda for McGuire Unit 2;
1980 Edition through Winter 1981 Addenda for Catawba Units 1 and 2.

I. Component for which exemption is requested:

a. Name and Identification Number:

This request is for all of the remaining Interval hydrostatic testing for piping that penetrates a containment vessel, when the piping and isolation valves that are part of the containment system are Class 2 but the balance of the piping system is outside the scope of Section XI. This request is for system hydrostatic tests to be performed prior to the end of each inspection interval as follows:

Oconee 1, 2 and 3 - Second and Third Ten Year Inspection Intervals

McGuire 1 and 2 - Second Ten Year Inspection Interval

Catawba 1 and 2 - First Ten Year Inspection Interval

b. Function:

Containment integrity.

c. ASME Section XI Code Class: 2

d. Construction Code and Class (If Applicable):

Oconee - ANSI B31.1 - 1967 & ANSI B31.7 - 1968

McGuire - ASME Section III - 1971 through Winter 1971 Addenda

Catawba - ASME Section III - 1974 through Summer 1974 Addenda

e. Valve Category (If Applicable): N/A

II. Reference Code Requirement that has been determined to be impractical:

System hydrostatic test per IWC-5222; Category C-H; Items C7.40 and C7.80.

III. Basis for Requesting Relief:

Consistent with the philosophy of ASME Code Case N-522, this request is based on performing a 10 CFR 50, Appendix J test in lieu of the Interval hydrostatic pressure test, when the piping and isolation valves that are part of the containment system are Class 2 but the balance of the piping system is outside the scope of ASME Boiler & Pressure Vessel Code, Section XI. The only reason that the penetration piping is classified as Class 2 is because of its function as part of the containment pressure boundary. The remaining portion of the system is non nuclear related and the integrity of the system in relation to its primary function is not within the scope of Section XI. Since containment integrity is the only safety related function performed, it is logical to test the penetration portion of the system to the Appendix J criteria.

The Final Safety Analysis Report (FSAR) requires 10CFR 50, Appendix J testing for containment penetrations. By performing a hydrostatic test on these same components imposes a burden of duplicate testing. Duplicate testing results in a significant increase in the total amount of work force and radiological exposure without a compensating increase in the level of quality or safety.

ASME Code Case N-522 has been approved by the ASME Boiler & Pressure Vessel Code Committee and the Board on Nuclear Codes and Standards as an acceptable alternative to the rules of the ASME Boiler & Pressure Vessel Code, Section XI. ASME Code Case N-522 has also been published in ASME Code Cases:Nuclear Components, 1992 Edition, Supplement No.7.

IV. Alternate Examination:

Class 2 piping and isolation valves that are part of the containment system, but the balance of the piping system is outside the scope of Section XI, shall be tested under the rules of 10CFR 50, Appendix J.

V. Implementation Schedule:

Immediate implementation.

Evaluated By: J. M. Baughman Date 6/14/94
Evaluated By: G. Barlow Date 6/15/94

DUKE POWER COMPANY
Request for Relief From
Inservice Inspection Requirement

Station: **Oconee**

Unit: **1,2 & 3**

Requesting Department: **Nuclear Generation**

Reference Code: **1989 Edition of ASME Section XI, no addenda**

I. Component for which exemption is requested

a. Name and Identification Number:

NA

b. Function:

NA

c. ASME Section XI Code Class:

1, 2 and 3

d. Construction Code and Class (If Applicable):

NA

e. Valve Category (If Applicable):

NA

II. Reference Code Requirement that has been determined to be impractical:

IWA-5250 CORRECTIVE MEASURES

Paragraph IWA-5250 (a)(2) "if leakage occurs at a bolted connection, the bolting shall be removed, VT-3 visually examined for corrosion, and evaluated in accordance with IWA-3100 ".

III. Basis for Requesting Relief:

Removal of all bolting at a bolted connection is not always required to assure the connection has not degraded. In addition, some connections are more difficult to seal after disassembly when compared to retorquing an already assembled connection. Complete disassembly of a connection in a radiation area would also increase personnel exposure. ASME has recognized such situations and changed this requirement to allow removal and evaluation of one bolt closest to the leak in a bolted connection identified as leaking.

IV. Alternate Examination:

In lieu of removing all bolting at leaking connections, we intend to adopt the requirements of the 1990 addenda that allows for only the one bolt closest to the leak be removed and examined visually by a VT-3 inspector.

This alternative examination will provide an acceptable level of quality and safety and not endanger the public health and safety.

V. Implementation Schedule:

We intend to implement this alternate examination with the start of refueling outage number 16 (first outage of the third interval for Unit 1); Outage Number 15 (first outage of the third interval for Unit 2); Outage Number 15 (first outage of third interval for Unit 3), and thereafter for the entire third interval.

Evaluated By:

J. J. Hogge, Jr.

Date

8-18-94

Reviewed By:

G. B. Barlowe

Date

8/23/94

Duke Power Company
P.O. Box 1006
Charlotte, NC 28201-1006

M. S. TUCKMAN
Senior Vice President
Nuclear Generation
(704)382-2200 Office
(704)382-4360 Fax



DUKE POWER

February 22, 1995

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

SUBJECT: Duke Power Company

McGuire Nuclear Station, Units 1 & 2
Docket Nos. 50-369, 50-370

Catawba Nuclear Station, Units 1 & 2
Docket Nos. 50-413, 50-414

Oconee Nuclear Station, Units 1, 2 & 3
Docket Nos. 50-269, 50-270, 50-287

Request to Use an Alternative to ASME Code Section XI
Duke Power Request for Relief 95-GO-001

Dear Sir:

Pursuant to 10 CFR 50.55a (a) (3) (ii), Duke Power Company requests the use of an alternative to the ASME Boiler and Pressure Vessel Code Section XI for McGuire Units 1 and 2; Catawba Units 1 and 2 and Oconee Units 1, 2 and 3. Specifically, Duke Power requests approval to use the provisions of Code Case N-416-1, "Alternative Pressure Test Requirement For Welded Repairs Or Installation Of Replacement Items By Welding, Class 1, 2, and 3, Section XI, Division 1" dated February 15, 1994.

In the past, at each of our Nuclear Stations, we have found it necessary to defer hydrostatic tests or ask relief from ASME Section XI hydrostatic tests following repair or replacement activities. This was due to various reasons of impracticality such as hardship on the plant due to extended system down time, difficulty in locating and installing hydrostatic pumps and gages necessary to pressurize the system, or special efforts such as dismantling valves or use of freeze plugs in order to isolate the test boundary. Many times, these problems are discovered during the test or prior to performing the test. As a consequence, these situations have necessitated prompt communications with the NRC to avoid exceeding the limiting condition for operation or delaying startup.

U. S. Nuclear Regulatory Commission
February 22, 1995
Page 2

A hydrostatic test has never detected any leaks or flaws resulting from welded repairs or welded replacements at the Duke nuclear stations. Thus it is felt the elimination of this hydrostatic testing will not compromise the safety of our operating units.

Use of hydrostatic test deferrals, which are presently allowed in the current Code Case N-416 for Class 2 components, is not satisfactory because relief from the burden of conducting the test is not achieved. Also, Code Case N-416 does not apply to Class 1 and 3 components. Code Case N-416-1 allows a system leakage test to be performed in lieu of a hydrostatic pressure test when Section XI code repairs are made, provided that NDE is performed in accordance with the methods and acceptance criteria of the applicable Subsection of the 1992 Edition of Section III and that prior to or immediately upon return to service, a visual examination (VT-2) shall be performed in conjunction with a system leakage test, using the 1992 Edition of Section XI, in accordance with paragraph IWA-5000, at nominal operating pressure and temperature. Code Case N-416-1 applies to Class 1, 2 and 3 components and provides flexibility which should considerably reduce the number of relief requests associated with post welded repair/replacement hydrostatic testing while, as determined by the ASME Code, maintaining an acceptable level of safety and quality.

As a further requirement, when N-416-1 is applied, additional surface examinations will be performed on the root (pass) layer of butt and socket welds on the pressure retaining boundary of Class 3 components.

Proposed Alternative Examination:

Duke Power proposes to apply Code Case N-416-1 as alternative pressure test rules for welded repairs or installation of replacement items by welding in Class 1, 2, and 3 piping at McGuire Units 1 and 2, Catawba Units 1 and 2, and Oconee Units 1, 2 and 3.

Catawba Unit 1 is presently in the End of Cycle 8 outage. Therefore, it is requested that a reply granting approval to use Code Case N-416-1, at least for Catawba Unit 1, be received by March 9, 1995. The feasibility of receiving approval in this time frame was discussed with Mr. T. K. McLellan, NRR in an informal telephone conference call held during the week of February 6, 1995, and is based on the fact that Code Case N-416-1 has been previously reviewed and approved for use by other utilities.

If you have any questions concerning this request, please call J. S. Warren at (704) 382-4986. Also, it is requested that the approval of this request be forwarded via FAX number (704) 382-4545 to the attention of J. S. Warren.

U. S. Nuclear Regulatory Commission
February 22, 1995
Page 3

Very truly yours,

M. S. Tuckman

M. S. Tuckman

MST/JSW

xc: S. D. Ebnetter
Regional Administrator, Region II

R. E. Martin
V. Nerses
L. A. Wiens
NRC Project Managers, ONRR

T. K. McLellan, ONRR

R. J. Freudenberger (CNS)
P. E. Harmon (ONS)
G. F. Maxwell (MNS)
NRC Senior Resident Inspectors

U. S. Nuclear Regulatory Commission
February 22, 1995
Page 4

bxc: G. A. Copp
J. E. Burchfield
J. E. Snyder
Z. L. Taylor
W. G. Goodman
L. J. Rudy
J. S. Warren
NRIA File

Duke Power Company
P.O. Box 1006
Charlotte, NC 28201-1006

M. S. TUCKMAN
Senior Vice President
Nuclear Generation
(704)382-2200 Office
(704)382-4360 Fax



DUKE POWER

May 7, 1996

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Subject: Duke Power Company

Catawba Nuclear Station, Units 1 & 2
Docket Nos. 50-413, 50-414

McGuire Nuclear Station, Units 1 & 2
Docket Nos. 50-369, 50-370

Oconee Nuclear Station, Units 1, 2 & 3
Docket Nos. 50-269, 50-270, 50-287

Request to Use Alternative to ASME Code Section XI
Duke Power Request for Approval of Alternative

Pursuant to 10 CFR 50.55a (a) (3) (i & ii), Duke Power Company requests the use of an alternative to the ASME Boiler and Pressure Vessel Code Section XI for Catawba Units 1 and 2, McGuire Units 1 and 2 and Oconee Units 1, 2, and 3. Specifically, Duke Power requests approval to use the provisions of Code Case N-533, "Alternative Requirements for VT-2 Visual Examination of Class 1 Insulated Pressure-Retaining Bolted Connections, Section XI, Division 1" dated March 14, 1995. This Code Case has not yet been listed in the latest published revision (Revision 11) of NRC Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability-ASME Section XI Division 1." A copy of Code Case N-533 is included as Attachment 1 of this letter.

It is required by the 1989 ASME Code (no addenda), Subsection XI, IWA-5242 (a) "For systems bordinated for the purpose of controlling reactivity, insulation shall be removed from pressure retaining bolted connections for visual examination VT-2. For other components, visual examinations VT-2 may be conducted without the removal of

insulation by examining the accessible and exposed surfaces and joints of the insulation. Essentially vertical surfaces of insulation need only be examined at the lowest elevation where leakage may be detectable. Essentially horizontal surfaces of insulation shall be examined at each insulation joint."

Duke believes these requirements described above create a hardship for utilities that results in duplicative work activities and compromises personnel and radiation safety. Compliance with these code requirements would necessitate removal of insulation from all pressure retaining bolted connections for visual examination VT-2 when borated Class I systems are at elevated temperatures and pressures. To remove insulation and perform the VT-2 examination at elevated temperatures and pressures makes inspection more difficult and does not provide for a compensating increase in the level of quality and safety. It is also estimated that utilizing the provisions of this code case would reduce personnel radiation exposure by approximately 20 mr/hr per item. Duke Power believes the same level of quality and safety can be maintained by implementing the alternative means contained in Code Case N-533.

Request for Approval of Alternative Examinations:

Duke Power proposes to apply Code Case N-533 as an alternative to the rules for visual examination of insulated components (IWA-5242) for borated Class 1 systems. Code Case N-533 states that "It is the opinion of the Committee that, as an alternative to the requirements of IWA-5242(a) to remove insulation from Class 1 pressure-retaining bolted connections to perform a VT-2 visual examination, the following requirements shall be met.

(a) A system pressure test and VT-2 visual examination shall be performed each refueling outage without removal of insulation.

(b) Each refueling outage the insulation shall be removed from the bolted connection, and a VT-2 visual examination shall be performed. The connection is not required to be pressurized. Any evidence of leakage shall be evaluated in accordance with IWA-5250."

Catawba Unit 1 begins refueling outage EOC 9 on June 13, 1996. Duke would like to use this alternative examination

at that time. It is requested that a reply granting approval to use Code Case N-533 (copy attached), at least for Catawba Unit 1, be received by June 7, 1996. Duke realizes that the time frame for approval is short, but believes that it is possible based upon previous NRC review and approval of this code case for use by other utilities.

If you have questions concerning this request, please call J. S. Warren at (704) 382-4986.

Very truly yours,

M. S. Tuckman

M. S. Tuckman

MST/JSW/JCS

Attachment: ASME Boiler & Pressure Vessel Code Case N-533

xc: S. D. Ebnetter, Regional Administrator
U. S. Nuclear Regulatory Commission, Region II

D. E. Labarge, Project Manager (ONS)
ONRR

V. Nerses, Project Manager (MNS)
ONRR

P. S. Tam, Project Manager (CNS)
ONRR

R. J. Freudenberger
NRC Senior Resident Inspector (CNS)

P. E. Harmon
NRC Senior Resident Inspector (ONS)

G. F. Maxwell
NRC Senior Resident Inspector (MNS)

U. S. NRC, Document Control Desk
May 7, 1996
Page 4

bxc: G. A. Copp
J. E. Burchfield
J. E. Snyder
R. O. Sharpe
J. C. Shropshire
NRIA File/ELL

CASES OF ASME BOILER AND PRESSURE VESSEL CODE

Approval Date: March 14, 1995

*See Numerical Index for expiration
and any reaffirmation dates.*

Case N-533

**Alternative Requirements for VT-2 Visual
Examination of Class 1 Insulated Pressure-
Retaining Bolted Connections
Section XI, Division 1**

Inquiry: What alternative requirements may be used in lieu of those of IWA-5242(a) to remove insulation from Class 1 pressure-retaining bolted connections to perform a VT-2 visual examination?

Reply: It is the opinion of the Committee that, as an alternative to the requirements of IWA-5242(a) to remove insulation from Class 1 pressure-retaining bolted connections to perform a VT-2 visual examination, the following requirements shall be met.

(a) A system pressure test and VT-2 visual examination shall be performed each refueling outage without removal of insulation.

(b) Each refueling outage the insulation shall be removed from the bolted connection, and a VT-2 visual examination shall be performed. The connection is not required to be pressurized. Any evidence of leakage shall be evaluated in accordance with IWA-5250.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 20, 1996

Mr. M. S. Tuckman
Senior Vice President
Nuclear Generation
Duke Power Company
P. O. Box 1006
Charlotte, NC 28201

SUBJECT: CATAWBA NUCLEAR STATION, UNITS 1 AND 2, MCGUIRE NUCLEAR STATION,
UNITS 1 AND 2, AND OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3 -
AUTHORIZATION TO IMPLEMENT ASME CODE CASE N-533 (TAC NOS.
M95364, M95365, M95357, M95358, M95361, M95362, and M95363)

Dear Mr. Tuckman:

By letter dated May 7, 1996, Duke Power Company requested approval to use the provisions of ASME Code Case N-533 "Alternative Requirements for VT-2 Visual Examination of Class 1 Insulated Pressure-Retaining Bolted Connections, Section XI, Division 1," as an alternative to the Code requirements for Catawba Nuclear Station, Units 1 and 2, McGuire Nuclear Station, Units 1 and 2, and Oconee Nuclear Station, Units 1, 2, and 3. Our evaluation and conclusions of this proposed alternative are contained in the enclosed Safety Evaluation.

Approval is granted to Duke Power Company to use Code Case N-533 at the three plants named above. Details are delineated in the enclosed Safety Evaluation. The staff has concluded that granting this approval would not result in unacceptable consequences or impair the ability to shut the plant down during normal operation or accident conditions. The staff has determined that Duke Power Company's proposed alternative provides an acceptable level of quality and safety. Therefore, the use of the proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i).

Sincerely,

Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-413, 50-414, 50-369, 50-370,
50-269, 50-270, and 50-287

Enclosure: Safety Evaluation

cc w/encl: See next page
Mr. M. S. Tuckman
Senior Vice President



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST TO USE CODE CASE N-533 FOR

DUKE POWER COMPANY
CATAWBA NUCLEAR STATION, UNITS 1 AND 2,
MCGUIRE NUCLEAR STATION, UNITS 1 AND 2,
AND
OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3
DOCKET NOS. 50-413, 50-414, 50-369, 370,
50-269, 50-270, AND 50-287

1.0 INTRODUCTION

The Technical Specifications for Catawba Nuclear Station, Units 1 and 2, McGuire Nuclear Station, Units 1 and 2, and Oconee Nuclear Station, Units 1, 2, and 3 state that the inservice inspection of the American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by Title 10 of the Code of Federal Regulations (10 CFR) 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). Section 50.55a(a)(3) states that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if (i) the proposed alternatives would provide an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) shall meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. The applicable edition of Section XI of the ASME Code for the Catawba Nuclear Station, Units 1 and 2 first 10-year inservice inspection (ISI) interval is the 1980 Edition through Winter 1981 Addenda. The applicable edition of Section XI of the ASME Code for McGuire Nuclear Station, Units 1 and 2, and Oconee Nuclear Station, Units 1, 2, and 3 second and third 10-year inservice inspection (ISI) interval, respectively, is the 1989 Edition. The components (including supports) may meet the requirements set forth in subsequent editions and addenda of the ASME Code incorporated by reference in 10 CFR 50.55a(b) subject to the limitations and modifications listed therein and subject to Commission approval.

Pursuant to 10 CFR 50.55a(g)(5), if the licensee determines that conformance with an examination requirement of Section XI of the ASME Code is not practical for its facility, information shall be submitted to the Commission in support of that determination and a request made for relief from the ASME Code requirement. After evaluation of the determination, pursuant to 10 CFR 50.55a(g)(6)(i), the Commission may grant relief and may impose alternative requirements that are determined to be authorized by law, will not endanger life, property, or the common defense and security, and are otherwise in the public interest, giving due consideration to the burden upon the licensee that could result if the requirements were imposed. In a letter dated May 7, 1996, Duke Power Company submitted its first, second, and third 10-year interval inservice inspection program plan request to implement Code Case N-533 *"Alternative Requirements for VT-2 Visual Examination of Class 1 Insulated Pressure-Retaining Bolted Connections, Section XI, Division 1"* as an alternative to Code requirements for Catawba Nuclear Station, Units 1 and 2, McGuire Nuclear Station, Units 1 and 2, and Oconee Nuclear Station, Units 1, 2, and 3, respectively.

2.0 EVALUATION

The staff, has evaluated the information provided by the licensee in support of its first, second, third 10-year interval inservice inspection program plan, request to implement Code Case N-533 *"Alternative Requirements for VT-2 Visual Examination of Class 1 Insulated Pressure-Retaining Bolted Connections, Section XI, Division 1"* as an alternative to the Code requirements for the licensee's three plants named above.

Code Requirement:

IWA-5242(a) states that for systems borated for the purpose of controlling reactivity, insulation shall be removed from pressure-retaining bolted connections for a direct VT-2 visual examination.

Code cases are periodically published by ASME to either clarify the intent of the Code rules or to provide alternative rules to existing Code requirements. Use of these nonmandatory Code cases for inservice inspection is subject to general acceptance by the NRC staff and incorporation into Regulatory Guide 1.147. Pursuant to 10 CFR 50.55a, other Code cases may be used provided specific authorization is granted.

Licensee's Code Relief Request:

The licensee has requested to use Code Case N-533, *"Alternative Requirements for VT-2 Visual Examination of Class 1 Insulated Pressure-Retaining Bolted Connections, Section XI, Division 1."*

Licensee's Basis for Requesting Relief (as stated):

It is required by the 1989 ASME Code (no addenda) Subsection XI, IWA-5242 (a) "For systems borated for the purpose of controlling reactivity, insulation shall be removed from pressure retaining bolted connections for visual examination VT-2. For other components, visual examinations VT-2 may be conducted without the removal of insulation by examining the accessible and exposed surfaces and joints of the insulation. Essentially horizontal surfaces of insulation shall be examined at each insulation joint."

Duke believes these requirements described above create a hardship for utilities that results in duplicated work activities and compromises personnel and radiation safety. Compliance with these Code requirements would necessitate removal of insulation from all pressure retaining bolted connections for visual examination VT-2 when borated Class I systems are at elevated temperatures and pressures. To remove insulation and perform VT-2 examination at elevated temperatures and pressures makes inspection more difficult and does not provide for a compensating increase in the level of quality and safety. It is also estimated that utilizing the provisions of this Code Case would reduce personnel radiation exposure by approximately 20 mr/hr per item. Duke Power believes the same level of quality and safety can be maintained by implementing the alternative means contained in Code Case N-533.

Licensee's Proposed Alternative Examination (as stated):

Duke Power proposes to apply Code Case N-533 as an alternative to the rules for visual examination of insulated components (IWA-5242) for borated Class I systems. Code Case N-533 states that "It is the opinion of the Committee that, as an alternative to the requirements of IWA-5242(a) to remove insulation from Class 1 pressure-retaining bolted connections to perform a VT-2 visual examination, the following requirements shall be met.

(a) A system pressure test and VT-2 visual examination shall be performed each refueling outage without removal of insulation.

(b) Each refueling outage the insulation shall be removed from the bolted connection, and a VT-2 visual examination shall be performed. The connection is not required to be pressurized. Any evidence of leakage shall be evaluated in accordance with IWA-5250."

Paragraph IWA-5242(a) requires the removal of all insulation from pressure-retaining bolted connections in systems borated for the purpose of controlling reactivity when performing VT-2 visual examinations during system pressure tests. The licensee has proposed to use Code Case N-533, which requires (1) performing the Code-required pressure test without removing the insulation, (2) examination of Class 1 bolted connections, each refueling outage, at atmospheric or static pressure with insulation removed, and (3) requires that any evidence of leakage be evaluated in accordance with IWA-5250.

Paragraph IWA-5242(a) provides requirements to ensure that leakage or evidence of leakage at bolted connections is found. Performing a VT-2 visual examination during system pressure tests as required by Code Case N-533, with the insulation in place will likely result in the detection of any significant leakage, provided a 4-hour hold time is observed prior to the VT-2 visual examination. Furthermore, performing a VT-2 visual examination after removal of the insulation at atmospheric or static pressure during outages, as specified by Code Case N-533, will allow for examination for evidence of borated water leakage. The Code Case states that any evidence of leakage must be evaluated in accordance with IWA-5250 of Section XI.

3.0 CONCLUSION

The staff has reviewed the licensee's submittal and concluded that by using Code Case N-533 the licensee will locate and evaluate leakage, or evidence of leakage, in a manner comparable to the requirements of the Code, and thus the licensee's proposed alternative provides an acceptable level of quality and safety. Therefore, the licensee's proposed alternative for Catawba Nuclear Station, Units 1 and 2, McGuire Nuclear Station, Units 1 and 2, and Oconee Nuclear Station, Units 1, 2, and 3, to implement Code Case N-533, is authorized pursuant to 10 CFR 50.55a(a)(3)(i), provided a 4-hour hold time at test conditions is observed prior to the VT-2 visual examination. The use of this Code Case is authorized for the duration of the respective current applicable 10-year ISI intervals for the above plants, or until the Code Case is approved for general use by reference in Regulatory Guide 1.147. After that time, the licensee may continue to use Code Case N-533 with the limitations, if any, listed in Regulatory Guide 1.147.

Principal Contributor: Thomas K. McLellan

Date: June 20, 1996

Duke Power Company
Catawba Nuclear Generation Department
4800 Concord Road
York, SC 29745

William R. McMillan
Vice President
(803) 831-5200 Office
(803) 831-3426 Fax



DUKE POWER

June 24, 1996

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Subject: Duke Power Company
Catawba Nuclear Station, Units 1 & 2
Docket Nos. 50-413, 50-414

Request to use alternative to 1989 edition of ASME
Boiler and Pressure Vessel Code, Section XI.
Serial No. 96-03

Pursuant to 10CFR 50.55a (a) (3) (i & ii), Duke Power
Company requests the use of an alternative to the 1989
edition of ASME Boiler and Pressure Vessel Code, Section XI
for Catawba Units 1 & 2.

Specifically, Duke Power requests approval to use the
provisions of IWA-5250 in the 1990 Addenda.

It is required by the 1989 ASME Code (no addenda),
Subsection XI, IWA-5250(a)(2) "if leakage occurs at a bolted
connection, the bolting shall be removed, VT-3 visually
examined for corrosion, and evaluated in accordance with
IWA-3100:"

Duke Power Company believes these requirements described
above create a hardship for utilities and compromises
radiation safety. Removal of all bolting from a mechanical
joint is not always required to assure the connection has
not degraded. In addition, some connections are more
difficult to seal after disassembly when compared to
retorquing an already assembled connection. Complete
disassembly of a connection in a radiation area would also
increase personnel exposure. ASME has recognized such
situations and changed this requirement to allow removal and
evaluation of one bolt closest to the leak in a bolted
connection identified as leaking.

Document Control Desk
Page 2
June 24, 1996

Request for Approval of Alternative Examinations:

Duke Power Company proposes to apply the requirements of the 1990 Addenda that allows for only the one bolt closest to the leak be removed and examined visually by a VT-3 inspector.

Catawba intends to use this alternative examination method during the current Unit 1 EOC9 outage. Approval of this alternate examination method is requested by August 30, 1996.

Should there be any questions concerning this change, please call D. Tower at (803) 831-3419.

Very truly yours,


William R. McCollum, Jr.
Vice President
Catawba Nuclear Station

xc:

S.D. Ebnetter, Regional Administrator
Region II

R.J. Freudenberger, Senior Resident Inspector
Catawba Nuclear Station

P.S. Tam, Senior Project Manager
ONRR

Document Control Desk
Page 3
June 24, 1996

bx:

G.R. Peterson	CN01SM
J.M. Boughman	EC07J
T.E. Hawkins	CN03MA
J.O. Barbour	EC07J
D. Tower	CN01RC
G.A. Copp	EC050
J.E. Snyder	MG01RC
J.S. Forbes	CN01EG
M.S. Kitlan	CN01RC
P.R. Newton	PB05A
ELL	EC050
NCMPA-1	
NCEMC	
PMPA	
SREC	
Document Control File	CN-801.01
Group File	CN-801.01



M. S. Tuckman
Executive Vice President
Nuclear Generation

Duke Power Company
A Duke Energy Company
EC07H
526 South Church Street
P.O. Box 1006
Charlotte, NC 28201-1006

(704) 382-2200 OFFICE
(704) 382-4360 FAX

August 7, 1997

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Subject: Duke Energy Corporation
Oconee Nuclear Station, Units 1, 2, and 3
Docket Nos. 50-269, 50-270, 50-287

McGuire Nuclear Station, Units 1 and 2
Docket Nos. 50-369, 50-370

Catawba Nuclear Station, Units 1 and 2
Docket Nos. 50-413, 50-414

Request to use an Alternative to the
ASME Code, Section XI
Duke Energy Corporation Serial Number 97-GO-001,
Revision 1

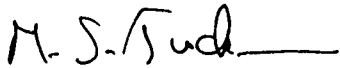
Attached is a Duke Energy Corporation request to use an alternative to the ASME Boiler and Pressure Vessel Code, Section XI. This request, Serial Number 97-GO-001, Rev. 1, seeks NRC approval to use this alternative at Oconee, McGuire, and Catawba Nuclear Stations. Initially this request, 97-GO-001, was submitted to the NRC by Duke letter dated June 20, 1997. Revision 1 removes all references to Code Case N-566. Submittal of this revision was discussed with representatives of the NRC Staff and INL during an August 6, 1997 conference call.

Duke Energy Corporation would like to initially implement this alternative during the End-of-Cycle Outage Number 17 on Oconee Unit 1. In order to meet this schedule, it is requested that the NRC review and approve 97-GO-001, Rev. 1 by September 12, 1997.

Please direct questions on this request to J. S. Warren at (704) 382-4986.

U. S. NRC
August 7, 1997
Page 2

Very truly yours,



M. S. Tuckman

MST/JSW

Attachment:
Duke Energy Corporation
Request for Alternative
ASME Boiler and Pressure Vessel Code, Section XI
Serial Number 97-GO-001, Revision 1

xc w/att: L. A. Reyes
NRC Regional Administrator, Region II

D. E. Labarge (ONS)
V. Nerses (MNS)
P. S. Tam (CNS)
NRC Senior Project Managers
ONRR

NRC Senior Resident Inspector (CNS)

M. A. Scott
NRC Senior Resident Inspector (ONS)

S. M. Shaeffer
NRC Resident Inspectors (MNS)

U. S. NRC
August 7, 1997
Page 3

bxc w/att: G. A. Copp
J. E. Burchfield
M. T. Cash
M. S. Kitlan, Jr.
J. O. Barbour
J. M. Boughman
J. S. Warren
Catawba Owners: NCMPPA-1, SREC, PMPA, NCEMC
NRIA File/ELL

Attachment

DUKE ENERGY CORPORATION

Request for Alternative

ASME Boiler and Pressure Vessel Code, Section XI

Background:

Pursuant to 10 CFR 50.55a (a) (3) (i), Duke Energy Corporation requests the use of an alternative to the 1989 Edition of Section XI of the ASME Boiler and Pressure Vessel Code (Code) for Oconee Units 1, 2, and 3; McGuire Units 1 and 2; and Catawba Units 1 and 2.

The 1989 Edition of Section XI, (no addenda), paragraph IWA-5250(a)(2) states "if leakage occurs at a bolted connection, the bolting shall be removed, VT-3 visually examined for corrosion, and evaluated in accordance with IWA-3100." Duke Power Company previously requested, and was granted, NRC approval to use the 1990 Addenda as an alternative. The 1990 Addenda allows only the one bolt closest to the leak to be removed and visually examined for corrosion by a VT-3 inspector.

I. Systems/Components for Which Alternative is Requested:

All Class 1, 2, and 3 systems/components subject to IWA-5000 pressure testing.

II. Code Requirement:

Section XI of the ASME Code, 1989 Edition with 1990 Addenda, Subsection IWA-5250(a)(2) states: "If leakage occurs at a bolted connection, one of the bolts shall be removed, VT-3 examined, and evaluated in accordance with IWA-3100. The bolt selected shall be the one closest to the source of leakage. When the removed bolt has evidence of degradation, all remaining bolting in the connection shall be removed, VT-3 examined, and evaluated in accordance with IWA-3100."

III. Requirement for Which Alternative Is Requested:

Relief is requested from the mandatory requirement to remove the bolt closest to the source of leakage when leakage is detected at a mechanical connection.

IV. Basis for Requesting Alternative:

Removal of pressure retaining bolting at mechanical connections for visual, VT-3 examination and subsequent evaluation, in locations where leakage has been identified, is not always the most discerning course of action to determine the acceptability of the bolting. The Code requirement to remove, examine, and evaluate bolting in this situation does not allow the owner to consider other factors which may indicate the acceptability of mechanical joint bolting.

Other factors which should be considered when evaluating bolting acceptability when leakage has been identified at a mechanical joint include, but are not limited to: joint bolting material, service age of joint bolting materials, location of the leakage, history of leakage at the joint, evidence of corrosion with the joint assembled, and corrosiveness of process fluid.

Performance of the pressure test while the system is in service may identify leakage at a bolted connection that, upon evaluation, may conclude the integrity and pressure retaining ability of the joint is not challenged. It would not be prudent to negatively impact the availability of a safety system by removing the system from service to address a leak that does not challenge the system's ability to perform its safety function.

A situation frequently encountered at Duke Energy Corporation is the complete replacement of bolting materials (studs, bolts, nuts, washers, etc.) at mechanical joints during plant outages. When the associated system piping is pressurized during plant start up, leakage may be identified at these joints. The root cause of this leakage is most often due to thermal expansion of the piping and bolting materials at the joint and subsequent fluid seepage at the joint gasket. Proper retorquing of the joint bolting, in most cases, stops the leakage. Removal of the joint bolting to evaluate for corrosion would be unwarranted in this

situation due to the new condition of the bolting materials.

V. Alternative Examinations:

When leakage is identified at bolted connections by Visual, VT-2 examination during system pressure testing, an evaluation will be performed to determine the susceptibility of the bolting to corrosion and assess the potential for failure. The evaluation will, at a minimum, consider the following factors:

1. Bolting materials
2. Corrosiveness of process fluid leaking
3. Leakage location
4. Leakage history at connection or other system components
5. Visual evidence of corrosion at connection (while connection is assembled)
6. Service age of bolting materials

When the pressure test is performed on a system that is in service or that Technical Specifications require to be operable, and the bolting is susceptible to corrosion, the evaluation shall address the connection's structural integrity until the next component/system outage of sufficient duration. If the evaluation concludes the system can perform its safety related function, removal of the bolt closest to the source of the leakage and a Visual, VT-3¹ examination of the bolt will be performed when the system or component is taken out of service for a sufficient duration (to accomplish other system maintenance activities).

For bolting that is susceptible to corrosion, and when the initial evaluation indicates that the connection cannot conclusively perform its safety function until the next component/system outage of sufficient duration, the bolt closest to the source of the leakage will be removed, and a Visual, VT-3 examination will be evaluated in accordance with IWA-3100(a).

¹ The acceptance criteria for Visual, VT-1 will be used to assess the acceptability of the bolting.

VI. Justification for Granting Alternative:

The purpose of the Code required corrective action to remove bolts and visually examine them for degradation, as stated in IWA-5250(a)(2), is to ensure joint integrity. In addition to removing bolts and performing a Visual, VT-3 examination, Section V above states alternative methods to ensure joint integrity of bolted connections. These alternative methods have been determined to provide an acceptable level of quality and safety.

VII. Implementation Schedule:

Oconee Unit 1 is currently scheduled to begin refueling outage EOC17 on September 18, 1997. Duke Energy Corporation requests that approval be granted to permit use of this alternative examination at that time.



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

October 15, 1997

Mr. M. S. Tuckman
Senior Vice President
Nuclear Generation
Duke Energy Corporation
P. O. Box 1006
Charlotte, NC 28201

SUBJECT: EVALUATION OF 10-YEAR INTERVAL INSPECTION PROGRAM PLAN
ALTERNATIVES FOR OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3;
MCGUIRE NUCLEAR STATION, UNITS 1 AND 2; AND CATAWBA NUCLEAR
STATION, UNITS 1 AND 2 (TAC NOS. M99075, M99076, M99087, M99088,
M99101, M99102, M99103)

Dear Mr. Tuckman:

By letter dated June 20, 1997, Duke Energy Corporation (DEC) requested relief from the 1989 Edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (ASME Code), Section XI, paragraph IWA-5250(a)(2) requirements and approval of proposed alternatives to the ASME Code for the Oconee Nuclear Station, Units 1, 2, and 3, McGuire Nuclear Station, Units 1 and 2, and Catawba Nuclear Station, Units 1 and 2. The relief and alternatives are related to actions to be taken in the event leakage is detected at a bolted connection. As a result of an August 6, 1997, conference call, you submitted a revision to the proposed alternative in a letter dated August 7, 1997.

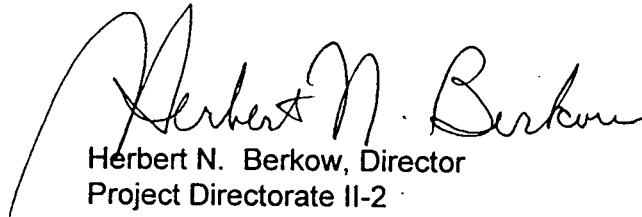
The staff, with technical assistance from its contractor, the Idaho National Engineering and Environmental Laboratory (INEEL), has reviewed the material provided and concluded that the proposed alternative to the requirements of the Code is a conservative and technically sound engineering approach and provides an acceptable level of quality and safety for leaking bolted connections. Therefore, your proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i).

M. S. Tuckman

- 2 -

The staff's evaluation and conclusions are contained in Enclosure 1. Enclosure 2 is the INEEL Technical Letter Report.

Sincerely,

A handwritten signature in cursive script, reading "Herbert N. Berkow". The signature is written in dark ink and is positioned above the printed name and title.

Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-269, 50-270, 50-287,
50-369, 50-370, 50-413,
and 50-414

Enclosures:

1. NRR Safety Evaluation
2. INEEL Technical Letter Report

cc w/encl: See next page

Catawba Nuclear Station
McGuire Nuclear Station
Oconee Nuclear Station

cc:

Mr. M. S. Kitlan
Regulatory Compliance Manager
Duke Energy Corporation
4800 Concord Road
York, South Carolina 29745

Mr. Paul R. Newton
Duke Energy Corporation, PB05E
422 South Church Street
Charlotte, North Carolina 28242

J. Michael McGarry, III, Esquire
Winston and Strawn
1400 L Street, NW.
Washington, DC 20005

North Carolina Municipal Power
Agency Number 1
1427 Meadowwood Boulevard
P. O. Box 29513
Raleigh, North Carolina 27626

Mr. T. Richard Puryear
Owner's Group (NCEMC)
Duke Energy Corporation
4800 Concord Road
York, South Carolina 29745

County Manager of York County
York County Courthouse
York, South Carolina 29745

Richard P. Wilson, Esquire
Assistant Attorney General
S.C. Attorney General's Office
P. O. Box 11549
Columbia, South Carolina 29211

Piedmont Municipal Power Agency
121 Village Drive
Greer, South Carolina 29651

North Carolina Electric Membership
Corporation
P. O. Box 27306
Raleigh, North Carolina 27611

Saluda River Electric Cooperative,
Inc.
P. O. Box 929
Laurens, South Carolina 29360

Senior Resident Inspector
Route 2, Box 179N
York, South Carolina 29745

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
Atlanta Federal Center
61 Forsyth Street, S.W., Suite 23T85
Atlanta, Georgia 30303

Max Batavia, Chief
Bureau of Radiological Health
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Ms. Karen E. Long
Assistant Attorney General
North Carolina Department of Justice
P. O. Box 629
Raleigh, North Carolina 27602

Mr. G. A. Copp
Licensing - ECO50
Duke Energy Corporation
526 South Church Street
Charlotte, North Carolina 28242-0001

Catawba Nuclear Station
McGuire Nuclear Station
Oconee Nuclear Station

cc:

Dr. John M. Barry
Mecklenburg County
Department of Environmental
Protection
700 N Tryon Street
Charlotte, North Carolina 29202

County Manager of Mecklenburg County
720 East Fourth Street
Charlotte, North Carolina 28202

Mr. Michael T. Cash
Regulatory Compliance Manager
Duke Energy Corporation
McGuire Nuclear Site
12700 Hagers Ferry Road
Huntersville, North Carolina 28078

Senior Resident Inspector
c/o U.S. Nuclear Regulatory
Commission
12700 Hagers Ferry Road
Huntersville, North Carolina 28078

Mr. Richard Frye, Director
Division of Radiation Protection
Department of Environmental
Health and Natural Resources
3825 Barrett Drive
Raleigh, North Carolina 27609-7721

County Supervisor of Oconee County
Walhalla, South Carolina 27621

Elaine Wathen, Lead REP Planner
Division of Emergency Management
116 West Jones Street
Raleigh, North Carolina 27603-1335

Mr. Ed Burchfield
Compliance
Duke Energy Corporation
Oconee Nuclear Site
P. O. Box 1439
Seneca, South Carolina 29679

Mr. Robert B. Borsum
Framatome Technologies
Suite 525
1700 Rockville Pike
Rockville, Maryland 20852

Manager, LIS
NUS Corporation
2650 McCormick Drive, 3rd Floor
Clearwater, Florida 34619-1035

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
7812B Rochester Highway
Seneca, South Carolina 29672

Mr. G. R. Peterson
Site Vice President
Catawba Nuclear Station
Duke Energy Corporation
4800 Concord Road
York, South Carolina 29745-9635

Mr. H. B. Barron
Vice President, McGuire Site
Duke Energy Corporation
12700 Hagers Ferry Road
Huntersville, North Carolina 28078

Mr. William R. McCollum
Vice President, Oconee Site
Duke Energy Corporation
P. O. Box 1439
Seneca, South Carolina 29679



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM PLAN

PROPOSED ALTERNATIVE

FOR

DUKE ENERGY CORPORATION

OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3,

MCGUIRE NUCLEAR STATION, UNITS 1 AND 2,

AND

CATAWBA NUCLEAR STATION, UNITS 1 AND 2

DOCKET NOS. 50-269, 50-270, 50-287, 50-369,

50-370, 50-413, AND 50-414

1.0 INTRODUCTION

The Technical Specifications (TS) for Oconee Nuclear Station, Units 1, 2, and 3, McGuire Nuclear Station, Units 1 and 2, and Catawba Nuclear Station, Units 1 and 2, state that the inservice inspection of the American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code (ASME Code) and applicable addenda as required by Title 10 of the Code of Federal Regulations (10 CFR) Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). Section 50.55a(a)(3) states that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if (i) the proposed alternatives would provide an acceptable level of quality and safety or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) shall meet the requirements, except the design and access provisions and the pre-service examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," to the extent practical within the limitations of

10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the first 12 months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein.

The applicable edition of Section XI of the ASME Code for the McGuire Nuclear Station, Unit 2, Catawba Nuclear Station, Units 1 and 2, second 10-year inservice inspection (ISI) interval and Oconee Nuclear Station, Units 1, 2, and 3, third 10-year ISI interval is the 1989 Edition. The Code of record for McGuire Nuclear Station, Unit 1, second 10-year interval inservice inspection is the 1986 Edition.

Pursuant to 10 CFR 50.55a(g)(5), if the licensee determines that conformance with an examination requirement of Section XI of the ASME Code is not practical for its facility, information shall be submitted to the Commission in support of that determination and a request made for relief from the ASME Code requirement. After evaluation of the determination, pursuant to 10 CFR 50.55a(g)(6)(i), the Commission may grant relief and may impose alternative requirements that are determined to be authorized by law, will not endanger life, property, or the common defense and security, and are otherwise in the public interest, giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

In a letter dated June 20, 1997, Duke Energy Corporation (licensee) submitted a proposed alternative to ASME Section XI requirements for Oconee Nuclear Station, Units 1, 2, and 3, McGuire Nuclear Station, Units 1 and 2, and Catawba Nuclear Station, Units 1 and 2. As a result of an August 6, 1997, conference call, the licensee submitted a revised version of the proposed alternative in a letter dated August 7, 1997.

2.0 EVALUATION

The staff, with technical assistance from its contractor, the Idaho National Engineering and Environmental Laboratory (INEEL), has evaluated the information provided by the licensee in support of its 10-Year Inservice Inspection Interval Program Plan Alternatives for Oconee Nuclear Station, Units 1, 2, and 3, McGuire Nuclear Station, Units 1 and 2, and Catawba Nuclear Station, Units 1 and 2. On the basis of the information submitted, the staff adopts the contractor's conclusions and recommendations presented in the Technical Letter Report (TLR) (Enclosure 2).

Proposed Alternative 97-GO-001, Revision 1, IWA-5250(a)(2), Corrective Measures for Bolted Connections: The 1989 Edition of Section XI IWA-5250(a)(2) requires that if leakage occurs at a bolted connection, the bolting shall be removed, VT-3 visually examined for corrosion, and evaluated in accordance with IWA-3100.

Note: In the 1990 Addenda, IWA-5250(a)(2) requires that only one bolt closest to the leakage be removed and VT-3 visually examined. Duke Energy Corporation stated that it previously requested and received approval from the NRC staff to use the 1990 Addenda as an alternative to the requirements of paragraph IWA-5250(a)(2) of the Code of record.

Pursuant to 10 CFR 50.55a(a)(3)(i), the licensee has proposed an alternative to the requirements of the 1990 Addenda, IWA-5250(a)(2), to remove at least one bolt from leaky bolted connections as stated by the licensee below:

When leakage is identified at bolted connections by Visual, VT-2 examination during system pressure testing, an evaluation will be performed to determine the susceptibility of the bolting to corrosion and assess the potential for failure. The evaluation will, at a minimum, consider the following factors:

1. Bolting materials
2. Corrosiveness of process fluid leaking
3. Leakage location
4. Leakage history at connection or other system components
5. Visual evidence of corrosion at connection (while connection is assembled)
6. Service age of bolting materials

When the pressure test is performed on a system that is in service or that Technical Specifications require to be operable, and the bolting is susceptible to corrosion, the evaluation shall address the connection's structural integrity until the next component/system outage of sufficient duration. If the evaluations conclude the system can perform its safety related function, removal of the bolt closest to the source of the leakage and a Visual, VT-3¹ examination of the bolt will be performed when the system or component is taken out of service for a sufficient duration (to accomplish other system maintenance activities).

For bolting that is susceptible to corrosion, and when the initial evaluation indicates that the connection cannot conclusively perform its safety function until the next component/system outage of sufficient duration, the bolt closest to the source of the leakage will be removed, and a Visual, VT-3 examination will be evaluated in accordance with IWA-3100(a).

¹ The acceptance criteria for Visual, VT-1 will be used to assess the acceptability of the bolting.

In accordance with the 1990 Addenda, if leakage occurs at a bolted connection, one bolt closest to the leakage shall be removed, VT-3 visually examined for corrosion, and evaluated in accordance with IWA-3100. In lieu of this requirement, the licensee has proposed to evaluate the bolting to determine its susceptibility to corrosion. The staff has reviewed the licensee's submittal and believes that the evaluation process proposed by the licensee provides a sound engineering approach.

This evaluation considers a number of parameters, including bolting materials, the potential for corrosion, and visual evidence of corrosion with the bolting in place. If the evaluation cannot confirm the integrity of the joint, the licensee has proposed to remove one bolt nearest the leakage for VT-3 visual examination, and to use the VT-1 acceptance criteria. The staff agrees with the licensee that the VT-1 acceptance criteria is more appropriate and provides a comprehensive assessment of the structural integrity of the bolt. As a result, significant patterns of degradation will be detected, thus, the proposed alternative provides an acceptable level of quality and safety.

3.0 CONCLUSION

The staff has reviewed the licensee's submittal and concludes that the licensee's proposed alternative to the requirements of IWA-5250(a)(2) is a conservative and technically sound engineering approach and provides an acceptable level of quality and safety for leaking bolted connections. Therefore, the licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i).

Principal Contributor: Thomas K. McLellan

Date: October 15, 1997

TECHNICAL LETTER REPORT ON
PROPOSED ALTERNATIVE FOR
DUKE ENERGY CORPORATION'S
OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3,
DOCKET NUMBERS 50-269, 50-270, AND 50-287,
MCGUIRE NUCLEAR STATION, UNITS 1 AND 2,
DOCKET NUMBERS 50-369 AND 50-370, AND
CATAWBA NUCLEAR STATION, UNITS 1 AND 2,
DOCKET NUMBERS 50-413 AND 50-414

1.0 INTRODUCTION

By letter dated June 20, 1997, the licensee, Duke Energy Corporation, submitted a proposed alternative to ASME Section XI requirements for Oconee Nuclear Station, Units 1, 2, and 3, McGuire Nuclear Station, Units 1 and 2, and Catawba Nuclear Station, Units 1 and 2. As a result of an August 6, 1997, conference call, the licensee submitted a revised version of the proposed alternative in a letter dated August 7, 1997. The Idaho National Engineering and Environmental Laboratory (INEEL) staff has evaluated the information provided by the licensee in support of the proposed alternative in the following section.

2.0 EVALUATION

The applicable edition of Section XI for the Oconee Units 1, 2, and 3, third 10-year inservice inspection (ISI) interval and the Catawba Units 1 and 2 and McGuire Unit 2 second 10-year ISI interval is the 1989 Edition. The Code of record for McGuire Unit 1 is the 1986 Edition. The proposed alternative has been evaluated and the basis for disposition documented below.

Proposed Alternative 97-GO-001, Revision 1, IWA-5250(a)(2), Corrective Measures for Bolted Connections

Code Requirement: In the 1989 Edition of Section XI, IWA-5250(a)(2) requires that if leakage occurs at a bolted connection, the bolting

shall be removed, VT-3 visually examined for corrosion, and evaluated in accordance with IWA-3100.

Note: In the 1990 Addenda, IWA-5250(a)(2) requires that only one bolt closest to the leakage be removed and VT-3 visually examined. The licensee stated that Duke Power Corporation previously requested and received approval from the NRC staff to use the 1990 Addenda as an alternative to the requirements of paragraph IWA-5250(a)(2) of the Code of record.

Licensee's Proposed Alternative: Pursuant to 10 CFR 50.55a(a)(3)(i), the licensee has proposed an alternative to the requirements of IWA-5250(a)(2), to remove at least one bolt from leaky bolted connections. The licensee stated:

Enclosure 2

"When leakage is identified at bolted connections by Visual, VT-2 examination during system pressure testing, an evaluation will be performed to determine the susceptibility of the bolting to corrosion and assess the potential for failure. The evaluation will, at a minimum, consider the following factors:

1. "Bolting materials
2. "Corrosiveness of process fluid leaking
3. "Leakage location
4. "Leakage history at connection or other system components
5. "Visual evidence of corrosion at connection (while connection is assembled)
6. "Service age of bolting materials

"When the pressure test is performed on a system that is in service or that Technical Specifications require to be operable, and the bolting is susceptible to corrosion, the evaluation shall address the connection's structural integrity until the next component/system outage of sufficient duration. If the evaluations conclude the system can perform its safety related function, removal of the bolt closest to the source of the leakage and a Visual, VT-3² examination of the bolt will be performed when the system or component is taken out of service for a sufficient duration (to accomplish other system maintenance activities).

"For bolting that is susceptible to corrosion, and when the initial evaluation indicates that the connection cannot conclusively perform its safety function until the next component/system outage of sufficient duration, the bolt closest to the source of the leakage will be removed, and a Visual, VT-3 examination will be evaluated in accordance with IWA-3100(a)."

Licensee's Basis for Requesting Relief (as stated):

"Removal of pressure retaining bolting at mechanical connections for visual, VT-3 examination and subsequent evaluation, in locations where leakage has been identified, is not always the most discerning course of action to determine the acceptability of the bolting. The Code requirement to remove, examine, and evaluate bolting in this situation does not allow the owner to consider other factors which may indicate the acceptability of mechanical joint bolting.

"Other factors which should be considered when evaluating bolting acceptability when leakage has been identified at a mechanical joint include, but are not limited to: joint bolting material, service age of joint bolting materials, location of leakage, history of leakage at the joint, evidence of corrosion with the joint assembled, and corrosiveness of process fluid.

² The acceptance criteria for Visual, VT-1 will be used to assess the acceptability of the bolting.

"Performance of the pressure test while the system is in service may identify leakage at a bolted connection that, upon evaluation, may conclude the integrity and pressure retaining ability of a safety system by removing the system from service to address a leak that does not challenge the system's ability to perform its safety function.

"A situation frequently encountered at Duke Energy Corporation is the complete replacement of bolting materials (studs, bolts, nuts, washers, etc.) at mechanical joints during plant outages. When the associated system piping is pressurized during plant start up, leakage is most often due to thermal expansion of the piping and bolting materials at the joint and subsequent fluid seepage at the joint gasket. Proper retorquing of the joint bolting, in most cases, stops the leakage. Removal of the joint bolting to evaluate for corrosion would be unwarranted in this situation due to the new condition of the bolting materials.

Justification for Granting Alternative:

"The purpose of the Code required corrective action to remove bolts and visually examine them for degradation, as stated in IWA-5250(a)(2), is to ensure joint integrity. In addition to removing bolts and performing a Visual, VT-3 examination, Section V above [licensee's basis] states alternative methods to ensure joint integrity of bolted connections. These alternative methods have been determined to provide an acceptable level of quality and safety."

Evaluation: In accordance with the 1990 Addenda, if leakage occurs at a bolted connection, one bolt closest to the leakage shall be removed, VT-3 visually examined for corrosion, and evaluated in accordance with IWA-3100. In lieu of this requirement, the licensee has proposed to evaluate the bolting to determine its susceptibility to corrosion. The INEEL staff has reviewed the licensee's submittal and believes that the evaluation process proposed by the licensee provides a sound engineering approach. This evaluation considers a number of parameters, including bolting materials, the potential for corrosion, and visual evidence of corrosion with the bolting in place. If the evaluation cannot confirm the integrity of the joint, the licensee has proposed to remove one bolt nearest the leakage for VT-3 visual examination, and to use the VT-1 acceptance criteria. The INEEL staff agrees with the licensee that the VT-1 acceptance criteria are more appropriate and provide a comprehensive assessment of the structural integrity of the bolt. As a result, significant patterns of degradation will be detected and an acceptable level of quality and safety will be provided.

3.0 CONCLUSION

The INEEL staff has reviewed the licensee's submittal and concludes that the licensee's proposed alternative to the requirements of IWA-5250(a)(2) is a conservative and technically sound engineering approach and will provide an acceptable level of quality and safety for leaking bolted connections. Therefore, it is recommended that the use the licensee's proposed alternative be authorized pursuant to 10 CFR 50.55a(a)(3)(i).

Section 2.0

Catawba Nuclear Station - Unit 1

Location: 4800 Concord Road
York, South Carolina 29745

Commercial Service Date: June 29, 1985

Second Interval Start Date: June 29, 1995

Owner: Duke Energy Corporation
526 South Church St.
Mail Code EC07J
Charlotte, N. C. 28201-1006

Second Inspection Interval

<u>Start Date</u>		<u>End Date</u>	
06/29/1995	06/29/1998	06/29/2002	06/29/2005
1st Period		2nd Period	3rd Period
Refueling Outage 9		Refueling Outage 11	Refueling Outage 14
Refueling Outage 10		Refueling Outage 12	Refueling Outage 15
		Refueling Outage 13	

ANII Review:

Robert M. Hill

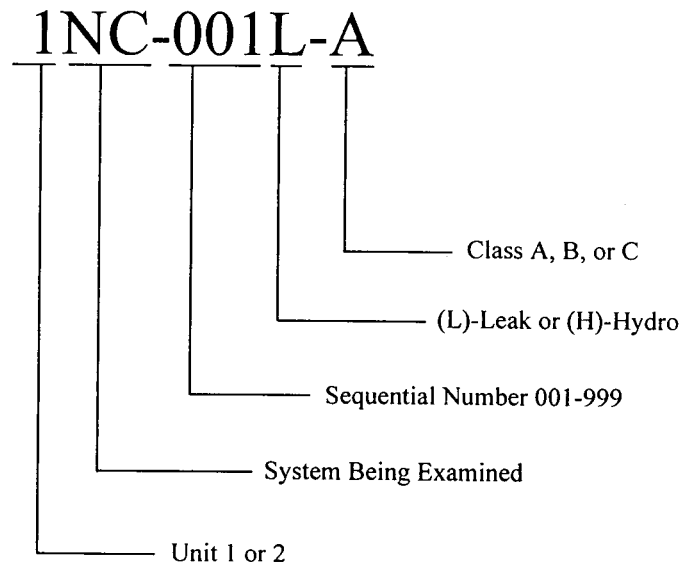
Date

8-19-98

2.1 Catawba Unit 1 - Examination Zone Listing, Associated Flow Diagrams, & Boundary Valves:

The Examination Zone number for each pressure test represents an area of a system that shall receive a VT-2 visual examination at one time. An Examination Zone terminates at a boundary valve, building interface, or component interface and may include several flow diagrams. The Examination Zone includes all pressure retaining components within the scope of the boundary valves/extremity interfaces.

All Catawba Unit 1 Examination Zone numbers have the same format. The following example is for a Class 1 Leakage Test zone:



The following abbreviations are used in the Examination Boundary Valve listing to describe boundary interfaces:

<u>Abbreviation</u>	<u>Boundary Interface</u>
AB WALL	Auxiliary Building Wall
RB WALL	Reactor Building Wall
RWST	Refueling Water Storage Tank
KCST	Component Cooling Surge Tank

The Examination Boundary Valve listing is determined from the system flow diagrams and is shown on the following pages:

Catawba Unit 1**Pressure Testing Boundary Valve Report For Class 'A' Leakage Tests**

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NC-001L-A	CN-1553-1.0	1NC-106	J-13
	CN-1553-1.0	1NC-20	C-11
	CN-1553-1.0	1NC-299	J-8
	CN-1553-1.0	1NC-312	J-8
	CN-1553-1.0	1NC-5	C-3
	CN-1553-1.0	1NC-95	K-3
	CN-1553-1.1	1NC-1	K-3
	CN-1553-1.1	1NC-2	K-4
	CN-1553-1.1	1NC-251B	L-7
	CN-1553-1.1	1NC-253A	K-7
	CN-1553-1.1	1NC-3	K-6
	CN-1553-1.1	1NC-32B	G-4
	CN-1553-1.1	1NC-34A	G-3
	CN-1553-1.1	1NC-36B	G-2
	CN-1554-1.0	1NV-123B	D-9
	CN-1554-1.0	1NV-2A	H-2
	CN-1554-1.0	1NV-33	K-10
	CN-1554-1.0	1NV-37A	L-8
	CN-1554-1.0	1NV-40	K-3
	CN-1554-1.0	1NV-861	L-10
	CN-1554-1.5	1NV-492	J-6
	CN-1554-1.5	1NV-493	H-6
	CN-1554-1.5	1NV-494	F-6
	CN-1554-1.5	1NV-495	D-6
	CN-1561-1.0	1ND-2A	J-13
	CN-1561-1.1	1ND-37A	J-13
	CN-1562-1.0	1NI-351	I-10
	CN-1562-1.0	1NI-352	I-9
	CN-1562-1.0	1NI-353	I-7
	CN-1562-1.0	1NI-354	I-5

Catawba Unit 1**Pressure Testing Boundary Valve Report For Class 'A' Leakage Tests**

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NC-001L-A	CN-1562-1.1	1NI-54A	G-2
	CN-1562-1.1	1NI-65B	G-4
	CN-1562-1.1	1NI-76A	G-7
	CN-1562-1.1	1NI-88B	G-10
	CN-1562-1.2	1NI-124	I-4
	CN-1562-1.2	1NI-125	H-4
	CN-1562-1.2	1NI-128	K-4
	CN-1562-1.2	1NI-129	J-3
	CN-1562-1.2	1NI-156	E-3
	CN-1562-1.2	1NI-159	C-3
	CN-1562-1.3	1NI-165	G-3
	CN-1562-1.3	1NI-167	G-6
	CN-1562-1.3	1NI-169	G-9
	CN-1562-1.3	1NI-171	G-11
	CN-1562-1.3	1NI-175	F-11
	CN-1562-1.3	1NI-176	F-9
	CN-1562-1.3	1NI-180	F-5
	CN-1562-1.3	1NI-181	F-4

Catawba Unit 1**Pressure Testing Boundary Valve Report For Class 'A' Hydro Tests**

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NC-001H-A	CN-1553-1.0	1NC- 94	K-3
	CN-1553-1.0	1NC-13	K-12
	CN-1553-1.0	1NC-19	B-12
	CN-1553-1.0	1NC-4	B-3
	CN-1553-1.0	1NC-299	J-8
	CN-1553-1.0	1NC-312	J-8
	CN-1553-1.1	1NC-1	K-3
	CN-1553-1.1	1NC-2	K-4
	CN-1553-1.1	1NC-250A	L-7
	CN-1553-1.1	1NC-252B	K-7
	CN-1553-1.1	1NC-3	K-6
	CN-1553-1.1	1NC-32B	G-4
	CN-1553-1.1	1NC-34A	G-3
	CN-1553-1.1	1NC-36B	G-2
	CN-1554-1.0	1NV-34	K-11
	CN-1554-1.0	1NV-38	L-11
	CN-1554-1.0	1NV-123B	D-9
	CN-1554-1.0	1NV-2A	H-2
	CN-1554-1.0	1NV-41	K-2
	CN-1554-1.5	1NV-492	J-6
	CN-1554-1.5	1NV-493	H-6
	CN-1554-1.5	1NV-494	F-6
	CN-1554-1.5	1NV-495	D-6
	CN-1561-1.0	1ND-1B	L-13
	CN-1561-1.1	1ND-36B	L-13
	CN-1562-1.0	1NI-15	J-10
	CN-1562-1.0	1NI-17	J-9
	CN-1562-1.0	1NI-19	J-7
	CN-1562-1.0	1NI-21	J-5
	CN-1562-1.1	1NI-54A	G-2

Catawba Unit 1**Pressure Testing Boundary Valve Report For Class 'A' Hydro Tests**

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NC-001H-A	CN-1562-1.1	1NI-65B	G-4
	CN-1562-1.1	1NI-76A	G-7
	CN-1562-1.1	1NI-88B	G-10
	CN-1562-1.2	1NI-126	I-1
	CN-1562-1.2	1NI-134	K-1
	CN-1562-1.2	1NI-157	E-1
	CN-1562-1.2	1NI-160	C-1
	CN-1562-1.3	1NI-165	G-3
	CN-1562-1.3	1NI-167	G-6
	CN-1562-1.3	1NI-169	G-9
	CN-1562-1.3	1NI-171	G-11
	CN-1562-1.3	1NI-175	F-11
	CN-1562-1.3	1NI-176	F-9
	CN-1562-1.3	1NI-180	F-5
	CN-1562-1.3	1NI-181	F-4
	CNM-1201.01-52/7	N/A	N/A
	CNM-1201.01-66	N/A	N/A
	CNM-1201.14-51/3	N/A	N/A
1NC-002H-A	CN-1553-1.0	1NC-106	J-12
	CN-1553-1.0	1NC-13	K-12
	CN-1553-1.0	1NC-19	B-12
	CN-1553-1.0	1NC-20	C-12
	CN-1553-1.0	1NC-4	B-3
	CN-1553-1.0	1NC-5	C-3
	CN-1553-1.0	1NC-94	K-3
	CN-1553-1.0	1NC-95	J-3
1NC-003H-A	CN-1553-1.1	1NC-250A	L-7
	CN-1553-1.1	1NC-251B	L-7
	CN-1553-1.1	1NC-252B	K-7
	CN-1553-1.1	1NC-253A	K-7

Duke Power Company
Catawba Unit 1
 Pressure Testing Boundary Valve Report For Class 'A' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NC-004H-A	CN-1554-1.0	1NV-41	K-2
	CN-1554-1.0	1NV-40	K-3
1NC-005H-A	CN-1554-1.0	1NV-37A	L-8
	CN-1554-1.0	1NV-38	L-11
	CN-1554-1.0	1NV-861	L-10
1NC-006H-A	CN-1554-1.0	1NV-34	K-11
	CN-1554-1.0	1NV-33	K-11
1NC-007H-A	CN-1561-1.0	1ND-1B	L-13
	CN-1561-1.0	1ND-2A	J-13
1NC-008H-A	CN-1561-1.1	1ND-36B	L-13
	CN-1561-1.1	1ND-37A	J-13
1NC-009H-A	CN-1562-1.0	1NI-15	J-10
	CN-1562-1.0	1NI-17	J-9
	CN-1562-1.0	1NI-19	J-7
	CN-1562-1.0	1NI-21	J-5
	CN-1562-1.0	1NI-351	I-10
	CN-1562-1.0	1NI-352	I-9
	CN-1562-1.0	1NI-353	I-7
	CN-1562-1.0	1NI-354	I-5
1NC-010H-A	CN-1562-1.2	1NI-124	I-4
	CN-1562-1.2	1NI-125	H-4
	CN-1562-1.2	1NI-126	I-1
	CN-1562-1.2	1NI-128	K-4
	CN-1562-1.2	1NI-129	J-3
	CN-1562-1.2	1NI-134	K-1
1NC-011H-A	CN-1562-1.2	1NI-156	E-3
	CN-1562-1.2	1NI-157	E-1
	CN-1562-1.2	1NI-159	C-3
	CN-1562-1.2	1NI-160	C-1

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1BB-001L-B	CN-1565-2.6	1WL-A06	K-2
	CN-1565-2.6	1WL-A08	J-2
	CN-1565-2.6	1WL-A10	F-2
	CN-1565-2.6	1WL-A12	H-2
	CN-1572-1.4	1NM-191B	H-2
	CN-1572-1.4	1NM-201A	H-6
	CN-1572-1.4	1NM-211B	H-9
	CN-1572-1.4	1NM-221A	H-12
	CN-1580-1.0	1BB-10B	K-7
	CN-1580-1.0	1BB-147B	K-7
	CN-1580-1.0	1BB-148B	H-7
	CN-1580-1.0	1BB-149B	F-7
	CN-1580-1.0	1BB-150B	C-7
	CN-1580-1.0	1BB-21B	C-7
	CN-1580-1.0	1BB-57B	H-7
	CN-1580-1.0	1BB-61B	F-7
	CN-1584-1.0	SG-1A	L-3
	CN-1584-1.0	SG-1B	L-13
	CN-1584-1.0	SG-1C	L-9
	CN-1584-1.0	SG-1D	L-6
1CA-001L-B	CN-1584-1.0	1BW-1	J-3
	CN-1584-1.0	1BW-10	J-6
	CN-1584-1.0	1BW-17	J-9
	CN-1584-1.0	1BW-26	J-13
	CN-1591-1.1	1CF-31	G-12
	CN-1591-1.1	1CF-40	G-9
	CN-1591-1.1	1CF-49	G-6
	CN-1591-1.1	1CF-58	G-2
	CN-1591-1.1	1CF-92	F-13
	CN-1591-1.1	1CF-94	F-8

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1CA-001L-B	CN-1591-1.1	1CF-96	F-7
	CN-1591-1.1	1CF-98	F-2
	CN-1592-1.1	1CA-132	I-10
	CN-1592-1.1	1CA-133	I-7
	CN-1592-1.1	1CA-134	I-4
	CN-1592-1.1	1CA-135	I-13
	CN-1592-1.1	1CA-185	E-1
	CN-1592-1.1	1CA-186	E-5
	CN-1592-1.1	1CA-187	E-8
	CN-1592-1.1	1CA-188	E-11
	CN-1592-1.1	1CA-37	G-12
	CN-1592-1.1	1CA-41	I-12
	CN-1592-1.1	1CA-45	I-9
	CN-1592-1.1	1CA-49	G-9
	CN-1592-1.1	1CA-53	G-6
	CN-1592-1.1	1CA-57	I-6
	CN-1592-1.1	1CA-61	I-3
	CN-1592-1.1	1CA-65	G-3
	CN-1593-1.0	1SM-1	K-13
	CN-1593-1.0	1SM-3	H-13
	CN-1593-1.0	1SM-5	F-13
	CN-1593-1.0	1SM-7	C-13
	CN-1593-1.0	1SM-70	K-3
	CN-1593-1.0	1SM-71	I-3
	CN-1593-1.0	1SM-72	F-3
	CN-1593-1.0	1SM-73	C-3
	CN-1593-1.1	1SA-2	G-4
	CN-1593-1.1	1SA-5	H-4
	CN-1593-1.7	1SM-102	D-7
	CN-1593-1.7	1SM-103	D-14

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1CA-001L-B	CN-1593-1.7	1SM-104	D-8
	CN-1593-1.7	1SM-105	D-1
	CN-1593-1.7	1SM-74B	E-6
	CN-1593-1.7	1SM-75A	E-13
	CN-1593-1.7	1SM-76B	E-9
	CN-1593-1.7	1SM-77A	E-2
1FW-001L-B	CN-1554-1.2	1NV-481	G-8
	CN-1554-1.7	1NV-252A	K-11
	CN-1554-1.7	1NV-253B	K-11
	CN-1561-1.0	1ND-33	D-2
	CN-1562-1.2	1NI-100B	G-13
	CN-1563-1.0	1NS-20A	H-13
	CN-1563-1.0	1NS-3B	E-13
	CN-1570-1.0	1KF-101B	H-13
	CN-1571-1.0	1FW-28	F-2
	CN-1571-1.0	1FW-32B	J-13
	CN-1571-1.0	1FW-33A	B-11
	CN-1571-1.0	1FW-56	H-2
1FW-002L-B	CN-1571-1.0	AB WALL	E-13
	CN-1571-1.0	RWST	C-12
1ND-001L-B	CN-1561-1.0	1ND-12	I-10
	CN-1561-1.0	1ND-20	F-6
	CN-1561-1.0	1ND-21	E-6
	CN-1561-1.0	1ND-24A	G-5
	CN-1561-1.0	1ND-28A	H-4
	CN-1561-1.0	1ND-31	G-2
	CN-1561-1.0	1ND-33	D-2
	CN-1561-1.0	1ND-35	D-3
	CN-1561-1.0	1ND-69	F-7

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1ND-001L-B	CN-1561-1.0	1ND-7	F-12
	CN-1561-1.0	1ND-77	H-7
	CN-1561-1.0	1ND-8	F-10
	CN-1561-1.0	1ND-90	E-9
	CN-1561-1.0	AB WALL	E-13
	CN-1561-1.1	1ND-65B	E-3
	CN-1562-1.2	1NI-183B	G-4
	CN-1562-1.3	1NI-185A	C-5
	CN-1562-1.3	AB WALL	E-10
	CN-1563-1.0	1NS-18A	J-13
	CN-1563-1.0	1NS-43A	H-5
	CN-1571-1.0	1FW-28	F-2
	CN-1572-1.0	1NM-39	H-12
1ND-002L-B	CN-1561-1.0	1ND-91	D-9
	CN-1561-1.1	1ND-46	H-10
	CN-1561-1.1	1ND-54	F-6
	CN-1561-1.1	1ND-55	F-6
	CN-1561-1.1	1ND-58B	G-5
	CN-1561-1.1	1ND-64	H-2
	CN-1561-1.1	1ND-65B	E-3
	CN-1561-1.1	1ND-66	F-13
	CN-1561-1.1	1ND-71	F-7
	CN-1561-1.1	1ND-78	F-9
	CN-1561-1.1	1ND-79	G-7
	CN-1561-1.1	1ND-84	F-10
	CN-1561-1.1	AB WALL	H-13
	CN-1562-1.2	1NI-136B	D-13
	CN-1562-1.3	AB WALL	E-4
	CN-1562-1.3	1NI-184B	C-10
	CN-1563-1.0	1NS-1B	C-13

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1ND-002L-B	CN-1563-1.0	1NS-38B	F-5
	CN-1571-1.0	1FW-56	H-2
	CN-1572-1.0	1NM-40	I-12
1ND-003L-B	CN-1561-1.0	1ND-2A	J-13
	CN-1561-1.0	RB WALL	H-13
	CN-1561-1.0	1ND-3	I-12
1ND-004L-B	CN-1561-1.1	1ND-37A	J-13
	CN-1561-1.1	RB WALL	H-13
	CN-1561-1.1	1ND-38	I-12
1ND-007L-B	CN-1562-1.3	RB WALL	E-10
	CN-1562-1.3	1NI-478	F-10
	CN-1562-1.3	1NI-175	F-11
	CN-1562-1.3	1NI-176	F-9
1ND-008L-B	CN-1562-1.3	RB WALL	E-4
	CN-1562-1.3	1NI-477	E-4
	CN-1562-1.3	1NI-180	F-5
	CN-1562-1.3	1NI-181	F-4
1NI-002L-B	CN-1562-1.1	1NI-50	K-2
	CN-1562-1.1	1NI-53	H-2
	CN-1562-1.1	1NI-54A	F-2
	CN-1562-1.1	1NI-56	F-3
	CN-1562-1.1	1NI-61	K-5
	CN-1562-1.1	1NI-64	G-4
	CN-1562-1.1	1NI-65B	F-5
	CN-1562-1.1	1NI-67	F-6
	CN-1562-1.1	1NI-72	J-7
	CN-1562-1.1	1NI-75	G-7
	CN-1562-1.1	1NI-76A	F-7
	CN-1562-1.1	1NI-78	F-8
	CN-1562-1.1	1NI-84	J-10

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NI-002L-B	CN-1562-1.1	1NI-87	G-10
	CN-1562-1.1	1NI-88B	F-10
	CN-1562-1.1	1NI-90	F-11
	CN-1572-1.1	1NM-72B	I-6
	CN-1572-1.1	1NM-75B	I-8
	CN-1572-1.1	1NM-78B	I-10
	CN-1572-1.1	1NM-81B	I-11
1NI-004L-B	CN-1562-1.2	1NI-100B	G-13
	CN-1562-1.2	1NI-109	I-11
	CN-1562-1.2	1NI-113	I-9
	CN-1562-1.2	1NI-119	K-6
	CN-1562-1.2	1NI-120B	I-5
	CN-1562-1.2	1NI-121A	J-5
	CN-1562-1.2	1NI-135B	E-13
	CN-1562-1.2	1NI-144A	F-8
	CN-1562-1.2	1NI-147B	G-9
	CN-1562-1.2	1NI-332A	L-12
	CN-1562-1.2	1NI-333B	K-12
	CN-1562-1.2	1NI-118A	H-6
	CN-1562-1.2	1NI-102	H-14
1NI-006L-B	CN-1562-1.2	1NI-135B	E-13
	CN-1562-1.2	1NI-138	D-11
	CN-1562-1.2	1NI-142	D-9
	CN-1562-1.2	1NI-144A	F-8
	CN-1562-1.2	1NI-150B	F-6
	CN-1562-1.2	1NI-151	E-6
	CN-1562-1.2	1NI-152B	D-5
	CN-1562-1.2	1NI-342	D-13
1NS-001L-B	CN-1563-1.0	1NS-18A	J-13
	CN-1563-1.0	1NS-19	K-13

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NI-005H-B	CN-1562-1.2	1NI-142	D-9
	CN-1562-1.2	1NI-144A	F-8
	CN-1562-1.2	1NI-150B	F-6
	CN-1562-1.2	1NI-151	E-6
	CN-1562-1.2	1NI-152B	D-5
	CN-1562-1.2	1NI-342	D-13
1NI-006H-B	CN-1562-1.2	1NI-125	H-3
	CN-1562-1.2	1NI-129	J-3
	CN-1562-1.2	1NI-154B	H-3
	CN-1562-1.2	1NI-183B	G-4
1NI-007H-B	CN-1562-1.2	1NI-121A	J-5
	CN-1562-1.2	1NI-122B	K-4
	CN-1562-1.2	1NI-124	I-4
	CN-1562-1.2	1NI-128	K-4
1NI-008H-B	CN-1562-1.2	1NI-152B	D-5
	CN-1562-1.2	1NI-153A	D-4
	CN-1562-1.2	1NI-156	E-3
	CN-1562-1.2	1NI-159	C-2
1NI-009H-B	CN-1562-1.2	1NI-136B	D-13
	CN-1562-1.2	1NI-342	D-13
1NS-001H-B	CN-1563-1.0	1NS-18A	J-13
	CN-1563-1.0	1NS-19	K-13
	CN-1563-1.0	1NS-20A	H-13
	CN-1563-1.0	1NS-22	I-12
	CN-1563-1.0	1NS-24	J-10
	CN-1563-1.0	1NS-25	H-6
	CN-1563-1.0	1NS-26	J-9
	CN-1563-1.0	1NS-29A	I-5
	CN-1563-1.0	1NS-32A	K-5
	CN-1563-1.0	1NS-50	J-9

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NS-001H-B	CN-1563-1.0	1NS-89	J-7
	CN-1563-1.0	1NS-90	J-7
	CN-1563-1.0	1NS-94	K-8
1NS-002H-B	CN-1563-1.0	1NS-12B	C-5
	CN-1563-1.0	1NS-15B	E-5
	CN-1563-1.0	1NS-1B	C-13
	CN-1563-1.0	1NS-2	B-13
	CN-1563-1.0	1NS-3B	E-13
	CN-1563-1.0	1NS-5	C-12
	CN-1563-1.0	1NS-51	D-8
	CN-1563-1.0	1NS-7	C-10
	CN-1563-1.0	1NS-8	F-6
	CN-1563-1.0	1NS-83	C-7
	CN-1563-1.0	1NS-84	C-7
	CN-1563-1.0	1NS-88	E-8
	CN-1563-1.0	1NS-9	C-9
1NV-001H-B	CN-1554-1.0	RB WALL	B-11
	CN-1554-1.0	1NV-2A	H-2
	CN-1554-1.0	1NV-87	C-8
	CN-1554-1.0	1NV-15B	H-11
	CN-1554-1.0	1NV-124B	D-4
	CN-1554-1.0	1NV-9	I-6
	CN-1554-1.0	1NV-14	G-10
	CN-1554-1.0	1NV-3	H-4
	CN-1554-1.0	1NV-125B	D-2
	CN-1554-1.5	RB WALL	D-4
	CN-1554-1.5	RB WALL	F-4
	CN-1554-1.5	RB WALL	H-4
	CN-1554-1.5	RB WALL	B-11
	CN-1554-1.8	1NV-878	G-12

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NV-001H-B	CN-1554-1.8	1NV-879	G-13
	CN-1554-1.8	1NV-880	E-12
	CN-1554-1.8	1NV-881	E-13
1NV-002H-B	CN-1554-1.7	1NV-483	I-12
	CN-1554-1.7	1NV-256	I-9
	CN-1554-1.7	1NV-265	J-7
	CN-1554-1.7	1NV-269	G-5
	CN-1554-1.7	BLANK FLANGE	H-4
	CN-1554-1.7	1NV-272	I-3
1NV-003H-B	CN-1554-1.7	1NV-486	D-12
	CN-1554-1.7	1NV-276	D-9
	CN-1554-1.7	1NV-285	E-7
	CN-1554-1.7	1NV-289	G-5
	CN-1554-1.7	BLANK FLANGE	F-4
	CN-1554-1.7	1NV-292	D-3
1NV-004H-B	CN-1554-1.2	1NV-316	D-3
	CN-1554-1.2	1NV-325	D-5
	CN-1554-1.2	1NV-320	E-4
	CN-1554-1.2	1NV-321	C-4
1NV-005H-B	CN-1554-1.2	1NV-327	H-2
	CN-1554-1.2	1NV-338	H-6
	CN-1554-1.2	1NV-332	I-5
	CN-1554-1.2	1NV-333	G-5
1NV-006H-B	CN-1554-1.0	AB WALL	B-12
	CN-1554-1.1	1NV-188A	C-5
	CN-1554-1.1	1NV-222	D-6
	CN-1554-1.1	1NV-205	F-4
	CN-1554-1.1	VOL. CONTROL TANK	J-7
	CN-1554-1.2	1NV-240	D-10

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NV-006H-B	CN-1554-1.2	1NV-251	D-12
	CN-1554-1.2	1NV-470	E-12
	CN-1554-1.2	1NV-307	J-8
	CN-1554-1.2	1NV-800	L-2
	CN-1554-1.2	1NV-314B	K-6
	CN-1554-1.2	1NV-327	H-2
	CN-1554-1.2	1NV-338	H-6
	CN-1554-1.2	1NV-316	D-3
	CN-1554-1.2	1NV-325	D-5
	CN-1554-1.2	1NV-340	C-7
	CN-1554-1.4	1NV-428	C-3
	CN-1554-1.5	AB WALL	J-4
	CN-1554-1.5	AB WALL	H-4
	CN-1554-1.5	AB WALL	F-4
	CN-1554-1.5	AB WALL	D-4
	CN-1554-1.6	1NV-193	H-3
	CN-1554-1.6	1NV-194	G-2
	CN-1554-1.6	1NV-195	G-3
	CN-1554-1.6	1NV-210	D-3
	CN-1554-1.6	1NV-812	D-4
	CN-1554-1.6	1NV-810	C-4
	CN-1554-1.6	1NV-212	C-4
	CN-1554-1.6	1NV-213	C-4
	CN-1554-1.6	1NV-214	C-5
	CN-1554-1.6	1NV-811	C-5
	CN-1554-1.7	1NV-483	I-12
	CN-1554-1.7	1NV-235	G-12
	CN-1554-1.7	1NV-236B	F-12
	CN-1554-1.7	1NV-273	E-14
	CN-1554-1.7	1NV-486	D-12

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NV-006H-B	CN-1554-1.7	1NV-813	C-12
	CN-1554-1.7	1NV-269	G-5
	CN-1554-1.7	1NV-289	G-5
	CN-1554-1.7	BLANK FLANGE	H-4
	CN-1554-1.7	BLANK FLANGE	F-4
	CN-1554-1.7	1NV-272	I-3
	CN-1554-1.7	1NV-292	D-3
	CN-1554-1.7	1NV-232	H-11
	CN-1554-1.7	1NV-252A	K-11
	CN-1554-1.7	1NV-253B	K-12
	CN-1556-1.0	1NB-131	B-4
	CN-1562-1.0	1NI-3	D-7
	CN-1562-1.0	1NI-9A	C-9
	CN-1562-1.0	1NI-10B	C-6
	CN-1562-1.2	1NI-332A	L-12
	CN-1562-1.2	1NI-333B	K-12
1SA-001H-B	CN-1593-1.1	1SA-2	G-4
	CN-1593-1.1	1SA-3	G-5
	CN-1593-1.1	1SA-5	H-4
	CN-1593-1.1	1SA-6	H-5

Catawba Unit 1**Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests**

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1CA-001L-C	CN-1592-1.0	1CA-116A	D-8
	CN-1592-1.0	1CA-125	E-13
	CN-1592-1.0	1CA-175	E-7
	CN-1592-1.0	1CA-214	F-12
	CN-1592-1.0	1CA-24	K-9
	CN-1592-1.0	1CA-292	D-7
	CN-1592-1.0	1CA-7A	C-8
	CN-1592-1.0	1CA-68	K-12
	CN-1592-1.1	1CA-35	C-12
	CN-1592-1.1	1CA-47	C-9
	CN-1592-1.1	1CA-51	C-6
	CN-1592-1.1	1CA-63	C-3
1CA-002L-C	CN-1592-1.0	1CA-155	H-5
	CN-1592-1.0	1CA-156	H-6
	CN-1592-1.0	1CA-18B	D-6
	CN-1592-1.0	1CA-34	K-7
	CN-1592-1.0	1CA-70	K-7
	CN-1592-1.0	1CA-96	I-7
	CN-1592-1.0	1CA-9B	C-5
	CN-1592-1.1	1CA-112	L-9
	CN-1592-1.1	1CA-43	K-9
	CN-1592-1.1	1CA-39	K-12
1CA-003L-C	CN-1592-1.0	1CA-101	I-3
	CN-1592-1.0	1CA-11A	C-1
	CN-1592-1.0	1CA-153	H-2
	CN-1592-1.0	1CA-154	H-3
	CN-1592-1.0	1CA-15A	D-2
	CN-1592-1.0	1CA-29	K-3
	CN-1592-1.0	1CA-72	K-4
	CN-1592-1.1	1CA-111	L-6

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1CA-003L-C	CN-1592-1.1	1CA-59	K-3
	CN-1592-1.1	1CA-55	K-6
1DG-001L-C	CN-1609-1.0	1KD-1	K-8
	CN-1609-1.0	1KD-15	J-6
	CN-1609-1.0	1KD-88	K-13
	CN-1609-1.0	1KD-89	J-13
	CN-1609-2.0	1LD-11	I-10
	CN-1609-2.0	1LD-12	I-14
	CN-1609-2.0	1LD-22	C-7
	CN-1609-2.0	1LD-69	C-4
	CN-1609-3.0	1FD-1	L-3
	CN-1609-3.0	1FD-12	K-4
	CN-1609-3.0	1FD-13	I-4
	CN-1609-3.0	1FD-2	I-3
	CN-1609-3.0	1FD-5	K-8
	CN-1609-3.0	1FD-6	I-7
	CN-1609-4.0	1VG-8	I-13
	CN-1609-4.0	1VG-7	I-2
1DG-002L-C	CN-1609-1.0	1KD-91	E-13
	CN-1609-1.0	1KD-92	C-13
	CN-1609-1.0	1KD-16	G-8
	CN-1609-1.0	1KD-30	E-6
	CN-1609-2.0	1LD-126	I-7
	CN-1609-2.0	1LD-127	J-8
	CN-1609-2.2	1LD-42	I-14
	CN-1609-2.2	1LD-52	C-7
	CN-1609-2.2	1LD-70	D-4
	CN-1609-2.2	1LD-41	I-10
	CN-1609-2.2	1LD-129	I-7
	CN-1609-2.2	1LD-130	J-8

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1DG-002L-C	CN-1609-3.1	1FD-41	L-2
	CN-1609-3.1	1FD-42	I-3
	CN-1609-3.1	1FD-45	K-8
	CN-1609-3.1	1FD-46	I-7
	CN-1609-3.1	1FD-52	K-4
	CN-1609-3.1	1FD-53	I-4
	CN-1609-4.1	1VG-52	I-13
	CN-1609-4.1	1VG-51	I-2
1KC-001L-C	CN-1573-1.0	1KC-19	F-2
	CN-1573-1.0	1KC-3A	C-6
	CN-1573-1.0	1KC-62	E-1
	CN-1573-1.0	1KC-64	E-7
	CN-1573-1.0	1KC-37	K-1
	CN-1573-1.0	1KC-2B	C-9
	CN-1573-1.0	1KC-965	G-4
	CN-1573-1.0	1KC-16	G-6
	CN-1573-1.0	1KC-67	I-3
	CN-1573-1.0	1KC-53B	K-8
	CN-1573-1.0	1KC-22	F-6
	CN-1573-1.0	1KC-966	C-4
	CN-1573-1.0	1KC-35	I-2
	CN-1573-1.0	1KC-D3	K-6
	CN-1573-1.0	1KC-230A	K-7
	CN-1573-1.0	1KC-24	G-6
	CN-1573-1.0	1KC-D5	H-7
	CN-1573-1.0	1KC-33	J-3
	CN-1573-1.0	1KC-51A	J-6
	CN-1573-1.0	1KC-21	G-2
	CN-1573-1.1	1KC-107	H-3
	CN-1573-1.1	1KC-118	H-5

Duke Power Company
Catawba Unit 1
 Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1KC-001L-C	CN-1573-1.1	1KC-125	G-6
	CN-1573-1.1	1KC-496	H-3
	CN-1573-1.1	KCST 1B	J-10
	CN-1573-1.2	1KC-130	G-5
	CN-1573-1.2	1KC-133	C-6
	CN-1573-1.2	1KC-134	C-6
	CN-1573-1.2	1KC-139	G-2
	CN-1573-1.2	1KC-142	C-3
	CN-1573-1.2	1KC-143	B-3
	CN-1573-1.2	1KC-153	E-11
	CN-1573-1.2	1KC-154	D-10
	CN-1573-1.2	1KC-160	E-13
	CN-1573-1.2	1KC-161	D-13
	CN-1573-1.2	1KC-C03	F-7
	CN-1573-1.2	1KC-C05	C-7
	CN-1573-1.2	1KC-151	E-11
	CN-1573-1.2	1KC-158	E-13
	CN-1573-1.6	1KC-277	L-7
	CN-1573-1.6	1KC-250	L-9
	CN-1573-1.6	1KC-225	F-8
	CN-1573-1.6	1KC-252	F-7
	CN-1573-1.6	1KC-477	F-4
	CN-1573-1.6	1KC-463	B-2
	CN-1573-2.0	1KC-58	F-4
	CN-1573-2.0	1KC-60	F-4
	CN-1573-2.0	1KC-61	H-4
	CN-1573-2.0	1KC-76	E-6
	CN-1573-2.0	1KC-79	I-6
	CN-1573-2.2	1KC-30	K-2
	CN-1573-2.2	1KC-28	C-2

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1KC-002L-C	CN-1573-1.0	1KC-17	G-9
	CN-1573-1.0	1KC-18B	C-8
	CN-1573-1.0	1KC-25	F-8
	CN-1573-1.0	1KC-28	F-13
	CN-1573-1.0	1KC-228B	K-8
	CN-1573-1.0	1KC-2B	C-9
	CN-1573-1.0	1KC-42	J-12
	CN-1573-1.0	1KC-44	I-13
	CN-1573-1.0	1KC-46	K-14
	CN-1573-1.0	1KC-53B	K-8
	CN-1573-1.0	1KC-87	E-8
	CN-1573-1.0	1KC-89	E-13
	CN-1573-1.0	1KC-92	I-12
	CN-1573-1.0	1KC-967	G-12
	CN-1573-1.0	1KC-968	C-10
	CN-1573-1.0	1KC-D4	K-8
	CN-1573-1.0	1KC-D6	G-7
	CN-1573-1.0	1KC-54B	J-8
	CN-1573-1.0	1KC-30	G-13
	CN-1573-1.0	1KC-27	G-9
	CN-1573-1.1	1KC-111	H-12
	CN-1573-1.1	1KC-119	H-9
	CN-1573-1.1	1KC-127	G-8
	CN-1573-1.1	1KC-499	H-11
	CN-1573-1.1	KCST 1B	J-10
	CN-1573-2.1	1KC-101	E-6
	CN-1573-2.1	1KC-104	I-6
	CN-1573-2.1	1KC-83	F-4
	CN-1573-2.1	1KC-86	H-4
	CN-1573-2.1	1KC-85	F-4

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1KC-002L-C	CN-1573-2.3	1KC-D35	C-2
	CN-1573-2.3	1KC-D32	K-2
1KF-001L-C	CN-1570-1.0	1KF-1	D-9
	CN-1570-1.0	1KF-10	C-5
	CN-1570-1.0	1KF-114	L-5
	CN-1570-1.0	1KF-115	L-6
	CN-1570-1.0	1KF-116	L-7
	CN-1570-1.0	1KF-117	J-7
	CN-1570-1.0	1KF-12	C-4
	CN-1570-1.0	1KF-121	D-4
	CN-1570-1.0	1KF-133	K-5
	CN-1570-1.0	1KF-134	J-6
	CN-1570-1.0	1KF-20	F-2
	CN-1570-1.0	1KF-135	J-5
	CN-1570-1.0	1KF-7	J-8
	CN-1570-1.1	1KF-29	C-2
1KF-002L-C	CN-1570-1.0	1KF-105	I-7
	CN-1570-1.0	1KF-106	H-7
	CN-1570-1.0	1KF-108	H-5
	CN-1570-1.0	1KF-120	E-5
	CN-1570-1.0	1KF-136	H-5
	CN-1570-1.0	1KF-138	J-5
	CN-1570-1.0	1KF-15	E-8
	CN-1570-1.0	1KF-20	E-2
	CN-1570-1.0	1KF-22	I-5
	CN-1570-1.0	1KF-24	G-5
	CN-1570-1.0	1KF-26	F-5
	CN-1554-1.2	1NV-238A	E-8
1NV-001L-C	CN-1554-1.4	1NV-409	K-3
	CN-1554-1.4	1NV-412	H-2

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NV-001L-C	CN-1554-1.4	1NV-418	F-5
	CN-1554-1.4	1NV-419	E-7
	CN-1554-1.4	1NV-422	F-9
	CN-1554-1.4	1NV-434	D-4
	CN-1554-1.4	1NV-435	C-7
	CN-1554-1.4	1NV-445	G-7
	CN-1554-1.4	1NV-446	H-7
	CN-1554-1.4	1NV-447	H-6
	CN-1554-1.4	1NV-997	L-1
	CN-1554-1.4	1NV-998	K-2
	CN-1554-1.4	1NV-A02	J-2
	CN-1554-1.4	1NV-431	E-2
	CN-1554-1.4	1NV-408	J-6
	CN-1554-1.4	1NV-425	C-3
	CN-1554-1.7	1NV-236B	F-11
1RN-001L-C	CN-1574-1.0	1RN-28A	E-3
	CN-1574-1.0	1RN-11A	E-6
	CN-1574-1.0	1RN-909	H-6
	CN-1574-1.0	1RN-15	H-6
	CN-1574-1.0	1RN-844	H-5
	CN-1574-1.0	1RN-936	F-5
1RN-002L-C	CN-1574-1.0	2RN-28A	E-11
	CN-1574-1.0	2RN-11A	E-9
	CN-1574-1.0	2RN-909	H-8
	CN-1574-1.0	2RN-15	H-9
	CN-1574-1.0	2RN-844	H-9
	CN-1574-1.0	2RN-936	F-10
1RN-003L-C	CN-1574-1.2	1RN-38B	F-2
	CN-1574-1.2	1RN-20B	E-4
	CN-1574-1.2	1RN-910	H-6

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1RN-003L-C	CN-1574-1.2	1RN-24	H-4
	CN-1574-1.2	1RN-845	H-4
	CN-1574-1.2	1RN-939	F-3
1RN-004L-C	CN-1574-1.2	2RN-38B	F-13
	CN-1574-1.2	2RN-20B	E-11
	CN-1574-1.2	2RN-845	H-11
	CN-1574-1.2	2RN-24	H-11
	CN-1574-1.2	2RN-910	H-9
	CN-1574-1.2	2RN-939	F-11
1RN-005L-C	CN-1569-1.0	1NW-61B	G-2
	CN-1569-1.0	1NW-8A	G-13
	CN-1573-1.1	1KC-494	H-2
	CN-1573-1.1	1KC-497	H-13
	CN-1573-2.2	1KC-D28	C-2
	CN-1573-2.3	1KC-D35	C-2
	CN-1574-1.0	1RN-28A	E-3
	CN-1574-1.0	1RN-11A	E-6
	CN-1574-1.0	2RN-28A	E-11
	CN-1574-1.0	2RN-11A	E-9
	CN-1574-1.0	1RN-34	B-3
	CN-1574-1.0	1RN-46	E-2
	CN-1574-1.0	2RN-46	E-12
	CN-1574-1.0	1RN-C21	C-4
	CN-1574-1.0	1RN-30A	D-6
	CN-1574-1.0	2RN-30A	D-8
	CN-1574-1.1	2RN-50B	D-11
	CN-1574-1.1	1RN-50B	D-4
	CN-1574-1.2	1RN-38B	F-2
	CN-1574-1.2	1RN-20B	E-4
	CN-1574-1.2	2RN-38B	F-13

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Ins/Furc Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1RN-005L-C	CN-1574-1.2	2RN-20B	E-11
	CN-1574-1.2	1RN-40B	D-4
	CN-1574-1.2	1RN-42	D-3
	CN-1574-1.2	1RN-45	C-2
	CN-1574-1.2	2RN-40B	D-9
	CN-1574-1.2	2RN-42	D-12
	CN-1574-1.2	1RN-C22	C-6
	CN-1574-1.2	1RN-38B	F-2
	CN-1574-1.2	1RN-20B	E-4
	CN-1574-1.2	2RN-38B	F-13
	CN-1574-1.2	2RN-20B	E-11
	CN-1574-1.2	1RN-40B	D-4
	CN-1574-1.2	1RN-42	D-3
	CN-1574-1.2	1RN-45	C-2
	CN-1574-1.2	2RN-40B	D-9
	CN-1574-1.2	2RN-42	D-12
	CN-1574-1.2	1RN-C22	C-6
	CN-1574-1.5	1RN-57A	E-5
	CN-1574-1.5	1RN-58B	E-11
	CN-1574-1.5	1RN-63A	G-8
	CN-1574-1.5	2RN-51A	F-7
	CN-1574-1.5	1RN-51A	D-7
	CN-1574-2.0	1RN-144A	B-8
	CN-1574-2.0	1RN-148A	L-11
	CN-1574-2.0	1RN-78	C-2
	CN-1574-2.1	1RN-250A	D-7
	CN-1574-2.1	1RN-D32	F-6
	CN-1574-2.1	1RN-257	C-8
	CN-1574-2.1	1RN-232A	D-3
	CN-1574-2.1	1RN-C89	C-3

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1RN-005L-C	CN-1574-2.1	1RN-C90	C-2
	CN-1574-2.1	1RN-955	C-2
	CN-1574-2.1	1RN-216	B-2
	CN-1574-2.1	1RN-846A	J-3
	CN-1574-2.1	1RN-250A	D-7
	CN-1574-2.1	1RN-D32	F-6
	CN-1574-2.1	1RN-257	C-8
	CN-1574-2.1	1RN-232A	D-3
	CN-1574-2.1	1RN-C89	C-3
	CN-1574-2.1	1RN-C90	C-2
	CN-1574-2.1	1RN-955	C-2
	CN-1574-2.1	1RN-216	B-2
	CN-1574-2.1	1RN-846A	J-3
	CN-1574-2.4	1RN-225B	B-8
	CN-1574-2.4	1RN-229B	L-11
	CN-1574-2.4	1RN-159	C-2
	CN-1574-2.5	1RN-310B	C-7
	CN-1574-2.5	1RN-D31	D-7
	CN-1574-2.5	1RN-292B	D-2
	CN-1574-2.5	1RN-C91	C-2
	CN-1574-2.5	1RN-C92	C-2
	CN-1574-2.5	1RN-104	C-1
	CN-1574-2.5	1RN-217	B-1
	CN-1574-2.5	1RN-848B	J-2
	CN-2573-1.1	2KC-494	H-2
	CN-2573-1.1	2KC-497	H-13
	CN-2573-2.2	2KC-D28	C-2
	CN-2573-2.3	2KC-D37	C-2
	CN-2574-2.0	2RN-144A	C-5
	CN-2574-2.0	2RN-148A	L-1

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1RN-005L-C	CN-2574-2.0	2RN-78	C-2
	CN-2574-2.0	2RN-494	B-3
	CN-2574-2.1	2RN-232A	D-2
	CN-2574-2.1	2RN-950	C-2
	CN-2574-2.1	2RN-945	C-3
	CN-2574-2.1	2RN-955	C-2
	CN-2574-2.1	2RN-216	B-1
	CN-2574-2.1	2RN-250A	C-7
	CN-2574-2.1	2RN-287A	D-13
	CN-2574-2.1	2RN-D32	E-6
	CN-2574-2.1	2RN-837	L-3
	CN-2574-2.1	2RN-846A	J-2
	CN-2574-2.4	2RN-225B	C-6
	CN-2574-2.4	2RN-159	C-3
	CN-2574-2.4	2RN-493	B-5
	CN-2574-2.4	2RN-836	L-2
	CN-2574-2.5	2RN-848B	J-2
	CN-2574-2.5	2RN-292B	E-2
	CN-2574-2.5	2RN-956	D-2
	CN-2574-2.5	2RN-961	D-3
	CN-2574-2.5	2RN-104	D-2
	CN-2574-2.5	2RN-217	C-2
	CN-2574-2.5	2RN-D31	F-5
	CN-2574-2.5	2RN-310B	E-6
	CN-2574-2.5	2RN-347B	F-13
	CN-2574-2.5	2RNE-59	D-2
	CN-2574-2.5	2RN-838	J-3
1RN-006L-C	CN-1574-1.5	1RN-63A	G-8
	CN-1574-1.5	1RN-58B	E-11
1RN-007L-C	CN-1574-2.0	1RN-144A	B-8

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1RN-007L-C	CN-1574-2.0	1RN-148A	L-11
	CN-1574-2.0	1RN-C65	C-9
	CN-1574-2.0	1RN-C67	H-13
1RN-008L-C	CN-1574-2.1	1RN-232A	D-3
	CN-1574-2.1	1RN-846A	J-3
	CN-1574-2.1	1RN-C51	I-3
	CN-1574-2.1	1RN-C52	I-2
	CN-1574-2.1	1RN-847A	J-2
1RN-009L-C	CN-1574-2.4	1RN-225B	B-8
	CN-1574-2.4	1RN-229B	L-11
	CN-1574-2.4	1RN-C68	C-9
	CN-1574-2.4	1RN-C70	H-13
1RN-010L-C	CN-1574-2.5	1RN-292B	D-2
	CN-1574-2.5	1RN-C53	J-2
	CN-1574-2.5	1RN-C54	J-3
	CN-1574-2.5	1RN-848B	J-2
	CN-1574-2.5	1RN-849B	J-1
1SA-001L-C	CN-1593-1.1	1SA-11	F-6
	CN-1593-1.1	1SA-12	H-10
	CN-1593-1.1	1SA-13	H-10
	CN-1593-1.1	1SA-145	G-10
	CN-1593-1.1	1SA-3	G-5
	CN-1593-1.1	1SA-6	H-5
	CN-1593-1.1	1SA-7	G-5
	CN-1593-1.1	1SA-8	G-6
1YC-001L-C	CN-1578-2.0	1YC-110	D-4
	CN-1578-2.0	1YC-330	C-4
	CN-1578-2.0	1YC-77A	D-12
	CN-1578-2.0	1YC-29	G-9
	CN-1578-2.0	1YC-33	F-7

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2BB-001L-B	CN-2565-2.6	2WL-A06	H-2
	CN-2565-2.6	2WL-A08	G-2
	CN-2565-2.6	2WL-A10	F-2
	CN-2565-2.6	2WL-A12	E-2
	CN-2572-1.4	2NM-191B	H-2
	CN-2572-1.4	2NM-201A	H-6
	CN-2572-1.4	2NM-211B	H-9
	CN-2572-1.4	2NM-221A	H-12
	CN-2580-1.0	2BB-10B	J-6
	CN-2580-1.0	2BB-147B	K-6
	CN-2580-1.0	2BB-148B	I-6
	CN-2580-1.0	2BB-149B	G-6
	CN-2580-1.0	2BB-150B	E-6
	CN-2580-1.0	2BB-21B	D-6
	CN-2580-1.0	2BB-57B	H-6
	CN-2580-1.0	2BB-61B	F-6
2CA-001L-B	CN-2584-1.0	2BW-1	J-3
	CN-2584-1.0	2BW-10	J-6
	CN-2584-1.0	2BW-17	J-9
	CN-2584-1.0	2BW-26	J-13
	CN-2591-1.1	2CF-166	G-13
	CN-2591-1.1	2CF-167	G-9
	CN-2591-1.1	2CF-168	G-6
	CN-2591-1.1	2CF-169	G-2
	CN-2591-1.1	2CF-31	G-12
	CN-2591-1.1	2CF-40	G-9
	CN-2591-1.1	2CF-49	G-6
	CN-2591-1.1	2CF-58	G-2
	CN-2591-1.1	2CF-92	F-13
	CN-2591-1.1	2CF-94	F-8

Catawba Unit 2**Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests**

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2CA-001L-B	CN-2591-1.1	2CF-96	F-7
	CN-2591-1.1	2CF-98	F-2
	CN-2592-1.1	2CA-132	I-10
	CN-2592-1.1	2CA-133	I-7
	CN-2592-1.1	2CA-134	I-4
	CN-2592-1.1	2CA-135	I-13
	CN-2592-1.1	2CA-185	E-1
	CN-2592-1.1	2CA-186	E-5
	CN-2592-1.1	2CA-187	E-8
	CN-2592-1.1	2CA-188	E-11
	CN-2592-1.1	2CA-37	G-12
	CN-2592-1.1	2CA-41	I-12
	CN-2592-1.1	2CA-45	I-9
	CN-2592-1.1	2CA-49	G-9
	CN-2592-1.1	2CA-53	G-6
	CN-2592-1.1	2CA-57	I-6
	CN-2592-1.1	2CA-61	I-3
	CN-2592-1.1	2CA-65	G-3
	CN-2593-1.0	2SM-1	K-13
	CN-2593-1.0	2SM-3	H-13
	CN-2593-1.0	2SM-5	F-13
	CN-2593-1.0	2SM-7	C-13
	CN-2593-1.0	2SM-70	K-3
	CN-2593-1.0	2SM-71	I-3
	CN-2593-1.0	2SM-72	F-3
	CN-2593-1.0	2SM-73	C-3
	CN-2593-1.1	2SA-2	G-4
	CN-2593-1.1	2SA-5	H-4
	CN-2593-1.7	2SM-102	D-7
	CN-2593-1.7	2SM-103	D-14

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2CA-001L-B	CN-2593-1.7	2SM-104	D-8
	CN-2593-1.7	2SM-105	D-1
	CN-2593-1.7	2SM-74B	E-6
	CN-2593-1.7	2SM-75A	E-13
	CN-2593-1.7	2SM-76B	E-9
	CN-2593-1.7	2SM-77A	E-2
2FW-001L-B	CN-2554-1.2	2NV-481	G-8
	CN-2554-1.7	2NV-252A	K-11
	CN-2554-1.7	2NV-253B	K-11
	CN-2561-1.0	2ND-33	E-2
	CN-2562-1.2	2NI-100B	G-13
	CN-2563-1.0	2NS-20A	H-13
	CN-2563-1.0	2NS-3B	E-13
	CN-2570-1.0	2KF-101B	H-13
	CN-2571-1.0	2FW-28	F-2
	CN-2571-1.0	2FW-32B	J-13
	CN-2571-1.0	2FW-33A	B-8
	CN-2571-1.0	2FW-56	H-2
	CN-2571-1.0	AB WALL	E-13
2FW-002L-B	CN-2571-1.0	AB WALL	D-13
	CN-2571-1.0	RWST	C-12
2ND-001L-B	CN-2561-1.0	2ND-12	I-10
	CN-2561-1.0	2ND-20	F-6
	CN-2561-1.0	2ND-21	E-6
	CN-2561-1.0	2ND-24A	G-5
	CN-2561-1.0	2ND-28A	I-4
	CN-2561-1.0	2ND-31	G-2
	CN-2561-1.0	2ND-33	E-2
	CN-2561-1.0	2ND-35	D-3
	CN-2561-1.0	2ND-69	F-7

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2ND-001L-B	CN-2561-1.0	2ND-7	F-12
	CN-2561-1.0	2ND-76	H-7
	CN-2561-1.0	2ND-82	F-10
	CN-2561-1.0	2ND-90	E-9
	CN-2561-1.0	AB WALL	H-13
	CN-2561-1.1	2ND-65B	E-3
	CN-2562-1.2	2NI-183B	G-4
	CN-2562-1.3	2NI-185A	C-5
	CN-2562-1.3	AB WALL	E-10
	CN-2563-1.0	2NS-18A	J-13
	CN-2563-1.0	2NS-43A	H-5
	CN-2571-1.0	2FW-28	F-2
	CN-2572-1.0	2NM-39	H-12
2ND-002L-B	CN-2561-1.0	2ND-91	D-9
	CN-2561-1.1	2ND-46	H-10
	CN-2561-1.1	2ND-54	F-6
	CN-2561-1.1	2ND-55	F-6
	CN-2561-1.1	2ND-58B	G-5
	CN-2561-1.1	2ND-64	H-2
	CN-2561-1.1	2ND-65B	E-3
	CN-2561-1.1	2ND-66	F-13
	CN-2561-1.1	2ND-71	F-7
	CN-2561-1.1	2ND-78	F-9
	CN-2561-1.1	2ND-79	G-7
	CN-2561-1.1	2ND-84	F-10
	CN-2561-1.1	AB WALL	H-13
	CN-2562-1.2	2NI-136B	D-13
	CN-2562-1.3	AB WALL	E-4
	CN-2562-1.3	2NI-184B	C-10
	CN-2563-1.0	2NS-1B	C-13

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2ND-002L-B	CN-2563-1.0	2NS-38B	F-5
	CN-2571-1.0	2FW-56	H-2
	CN-2572-1.0	2NM-40	I-12
2ND-003L-B	CN-2561-1.0	2ND-2A	J-13
	CN-2561-1.0	RB WALL	H-13
	CN-2561-1.0	2ND-3	I-12
2ND-004L-B	CN-2561-1.1	2ND-37A	J-13
	CN-2561-1.1	RB WALL	H-13
	CN-2561-1.1	2ND-38	I-12
2ND-007L-B	CN-2562-1.3	RB WALL	E-10
	CN-2562-1.3	2NI-478	F-10
	CN-2562-1.3	2NI-175	F-11
	CN-2562-1.3	2NI-176	F-9
2ND-008L-B	CN-2562-1.3	RB WALL	E-4
	CN-2562-1.3	2NI-477	E-4
	CN-2562-1.3	2NI-180	F-5
	CN-2562-1.3	2NI-181	F-4
2NI-002L-B	CN-2562-1.1	2NI-50	K-2
	CN-2562-1.1	2NI-53	H-2
	CN-2562-1.1	2NI-54A	F-2
	CN-2562-1.1	2NI-56	F-3
	CN-2562-1.1	2NI-61	K-5
	CN-2562-1.1	2NI-64	G-4
	CN-2562-1.1	2NI-65B	G-4
	CN-2562-1.1	2NI-67	F-6
	CN-2562-1.1	2NI-72	J-7
	CN-2562-1.1	2NI-75	G-7
	CN-2562-1.1	2NI-76A	F-7
	CN-2562-1.1	2NI-78	F-8
	CN-2562-1.1	2NI-84	J-10

Catawba Unit 2**Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests**

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NI-002L-B	CN-2562-1.1	2NI-87	G-10
	CN-2562-1.1	2NI-88B	F-10
	CN-2562-1.1	2NI-90	F-11
	CN-2572-1.1	2NM-72B	I-6
	CN-2572-1.1	2NM-75B	I-8
	CN-2572-1.1	2NM-78B	I-9
	CN-2572-1.1	2NM-81B	I-11
2NI-004L-B	CN-2562-1.2	2NI-100B	G-13
	CN-2562-1.2	2NI-109	I-11
	CN-2562-1.2	2NI-113	I-9
	CN-2562-1.2	2NI-119	K-6
	CN-2562-1.2	2NI-120B	I-5
	CN-2562-1.2	2NI-121A	J-5
	CN-2562-1.2	2NI-135B	E-13
	CN-2562-1.2	2NI-144A	F-8
	CN-2562-1.2	2NI-147B	G-9
	CN-2562-1.2	2NI-118A	H-6
	CN-2562-1.2	2NI-332A	L-12
	CN-2562-1.2	2NI-333B	K-12
	CN-2562-1.2	FLOW RESTR.	I-5
	CN-2562-1.2	2NI-102	F-13
2NI-006L-B	CN-2562-1.2	2NI-135B	E-13
	CN-2562-1.2	2NI-138	D-11
	CN-2562-1.2	2NI-142	D-9
	CN-2562-1.2	2NI-144A	F-8
	CN-2562-1.2	2NI-150B	F-6
	CN-2562-1.2	2NI-151	E-6
	CN-2562-1.2	2NI-152B	D-5
	CN-2562-1.2	2NI-342	D-13
2NS-001L-B	CN-2563-1.0	2NS-18A	J-13

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NS-001L-B	CN-2563-1.0	2NS-19	K-13
	CN-2563-1.0	2NS-20A	H-13
	CN-2563-1.0	2NS-22	I-12
	CN-2563-1.0	2NS-24	J-10
	CN-2563-1.0	2NS-25	H-6
	CN-2563-1.0	2NS-26	J-9
	CN-2563-1.0	2NS-29A	I-5
	CN-2563-1.0	2NS-32A	K-5
	CN-2563-1.0	2NS-50	J-9
	CN-2563-1.0	2NS-89	J-7
	CN-2563-1.0	2NS-90	J-7
	CN-2563-1.0	2NS-94	K-8
2NS-002L-B	CN-2563-1.0	2NS-12B	C-5
	CN-2563-1.0	2NS-15B	E-5
	CN-2563-1.0	2NS-1B	C-13
	CN-2563-1.0	2NS-2	B-13
	CN-2563-1.0	2NS-3B	E-13
	CN-2563-1.0	2NS-5	C-12
	CN-2563-1.0	2NS-51	D-9
	CN-2563-1.0	2NS-7	C-10
	CN-2563-1.0	2NS-8	F-6
	CN-2563-1.0	2NS-83	C-7
	CN-2563-1.0	2NS-84	C-7
	CN-2563-1.0	2NS-88	E-8
	CN-2563-1.0	2NS-9	D-9
2NV-001L-B	CN-2554-1.0	2NV-2A	H-2
	CN-2554-1.0	RB WALL	B-10
	CN-2554-1.0	2NV-15B	H-12
	CN-2554-1.0	2NV-124B	D-3
	CN-2554-1.5	RB WALL	J-4

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NV-001L-B	CN-2554-1.5	RB WALL	H-4
	CN-2554-1.5	RB WALL	F-4
	CN-2554-1.5	RB WALL	D-4
	CN-2554-1.8	2NV-878	G-12
	CN-2554-1.8	2NV-879	G-13
	CN-2554-1.8	2NV-880	E-12
	CN-2554-1.8	2NV-881	E-13
2NV-002L-B	CN-2554-1.7	2NV-483	I-12
	CN-2554-1.7	2NV-269	G-5
	CN-2554-1.7	2NV-272	I-3
	CN-2554-1.7	2NV-271	H-3
	CN-2554-1.7	2NV-256	I-9
	CN-2554-1.7	2NV-265	J-7
2NV-003L-B	CN-2554-1.7	2NV-486	D-12
	CN-2554-1.7	2NV-276	D-9
	CN-2554-1.7	2NV-285	E-7
	CN-2554-1.7	2NV-289	G-5
	CN-2554-1.7	2NV-291	F-3
	CN-2554-1.7	2NV-292	D-3
2NV-004L-B	CN-2554-1.2	2NV-316	D-3
	CN-2554-1.2	2NV-326	D-6
	CN-2554-1.2	2NV-320	E-4
	CN-2554-1.2	2NV-321	C-4
2NV-005L-B	CN-2554-1.2	2NV-327	H-2
	CN-2554-1.2	2NV-338	H-6
	CN-2554-1.2	2NV-333	G-5
2NV-006L-B	CN-1554-1.4	1NV-430	C-2
	CN-1556-1.0	1NB-130	C-4
	CN-2554-1.0	AB WALL	B-11
	CN-2554-1.1	2NV-188A	C-5

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NV-006L-B	CN-2554-1.1	2NV-222	D-6
	CN-2554-1.1	2NV-205	F-4
	CN-2554-1.1	VCT	J-7
	CN-2554-1.2	2NV-240	D-10
	CN-2554-1.2	2NV-251	D-12
	CN-2554-1.2	2NV-470	E-12
	CN-2554-1.2	2NV-307	J-8
	CN-2554-1.2	2NV-800	L-2
	CN-2554-1.2	2NV-314B	K-6
	CN-2554-1.2	2NV-327	H-2
	CN-2554-1.2	2NV-338	H-6
	CN-2554-1.2	2NV-316	D-3
	CN-2554-1.2	2NV-326	D-6
	CN-2554-1.2	2NV-340	C-7
	CN-2554-1.2	2NV-332	I-5
	CN-2554-1.5	AB WALL	J-4
	CN-2554-1.5	AB WALL	H-4
	CN-2554-1.5	AB WALL	F-4
	CN-2554-1.5	AB WALL	D-4
	CN-2554-1.6	2NV-193	H-3
	CN-2554-1.6	2NV-194	F-2
	CN-2554-1.6	2NV-195	F-3
	CN-2554-1.6	2NV-210	D-3
	CN-2554-1.6	2NV-812	D-4
	CN-2554-1.6	2NV-810	C-4
	CN-2554-1.6	2NV-212	C-4
	CN-2554-1.6	2NV-213	C-4
	CN-2554-1.6	2NV-214	C-5
	CN-2554-1.6	2NV-811	C-5
	CN-2554-1.7	2NV-254	K-12

Catawba Unit 2**Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests**

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NV-006L-B	CN-2554-1.7	2NV-483	I-12
	CN-2554-1.7	2NV-233	G-12
	CN-2554-1.7	2NV-234	G-12
	CN-2554-1.7	2NV-486	D-12
	CN-2554-1.7	2NV-273	D-11
	CN-2554-1.7	2NV-813	C-12
	CN-2554-1.7	2NV-269	G-5
	CN-2554-1.7	2NV-271	H-4
	CN-2554-1.7	2NV-291	F-4
	CN-2554-1.7	2NV-292	D-3
	CN-2554-1.7	2NV-272	I-3
	CN-2554-1.7	2NV-289	G-5
	CN-2562-1.0	2NI-3	D-7
	CN-2562-1.0	2NI-9A	C-9
	CN-2562-1.0	2NI-10B	C-6
	CN-2562-1.2	2NI-332A	L-12
	CN-2562-1.2	2NI-333B	K-12

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2BB-001H-B	CN-2565-2.6	2WL-A06	H-2
	CN-2565-2.6	2WL-A08	G-2
	CN-2565-2.6	2WL-A10	F-2
	CN-2565-2.6	2WL-A12	E-2
	CN-2572-1.4	2NM-191B	H-2
	CN-2572-1.4	2NM-201A	H-6
	CN-2572-1.4	2NM-211B	H-9
	CN-2572-1.4	2NM-221A	H-12
	CN-2580-1.0	2BB-10B	J-6
	CN-2580-1.0	2BB-147B	K-6
	CN-2580-1.0	2BB-148B	I-6
	CN-2580-1.0	2BB-149B	G-6
	CN-2580-1.0	2BB-150B	E-6
	CN-2580-1.0	2BB-21B	D-6
	CN-2580-1.0	2BB-57B	H-6
	CN-2580-1.0	2BB-61B	F-6
2CA-001H-B	CN-2584-1.0	2BW-1	J-3
	CN-2584-1.0	2BW-10	J-6
	CN-2584-1.0	2BW-17	J-9
	CN-2584-1.0	2BW-26	J-13
	CN-2591-1.1	2CF-166	G-13
	CN-2591-1.1	2CF-167	G-9
	CN-2591-1.1	2CF-168	G-6
	CN-2591-1.1	2CF-169	G-2
	CN-2591-1.1	2CF-31	G-12
	CN-2591-1.1	2CF-40	G-9
	CN-2591-1.1	2CF-49	G-6
	CN-2591-1.1	2CF-58	G-2
	CN-2591-1.1	2CF-92	F-13
	CN-2591-1.1	2CF-94	F-8

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2CA-001H-B	CN-2591-1.1	2CF-96	F-7
	CN-2591-1.1	2CF-98	F-2
	CN-2592-1.1	2CA-132	I-10
	CN-2592-1.1	2CA-133	I-7
	CN-2592-1.1	2CA-134	I-4
	CN-2592-1.1	2CA-135	I-13
	CN-2592-1.1	2CA-185	E-1
	CN-2592-1.1	2CA-186	E-5
	CN-2592-1.1	2CA-187	E-8
	CN-2592-1.1	2CA-188	E-11
	CN-2592-1.1	2CA-37	G-12
	CN-2592-1.1	2CA-41	I-12
	CN-2592-1.1	2CA-45	I-9
	CN-2592-1.1	2CA-49	G-9
	CN-2592-1.1	2CA-53	G-6
	CN-2592-1.1	2CA-57	I-6
	CN-2592-1.1	2CA-61	I-3
	CN-2592-1.1	2CA-65	G-3
	CN-2593-1.0	2SM-1	K-13
	CN-2593-1.0	2SM-3	H-13
	CN-2593-1.0	2SM-5	F-13
	CN-2593-1.0	2SM-7	C-13
	CN-2593-1.0	2SM-70	K-3
	CN-2593-1.0	2SM-71	I-3
	CN-2593-1.0	2SM-72	F-3
	CN-2593-1.0	2SM-73	C-3
	CN-2593-1.1	2SA-2	G-4
	CN-2593-1.1	2SA-5	H-4
	CN-2593-1.7	2SM-102	D-7
	CN-2593-1.7	2SM-103	D-14

Catawba Unit 2**Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests**

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2CA-001H-B	CN-2593-1.7	2SM-104	D-8
	CN-2593-1.7	2SM-105	D-1
	CN-2593-1.7	2SM-74B	E-6
	CN-2593-1.7	2SM-75A	E-13
	CN-2593-1.7	2SM-76B	E-9
	CN-2593-1.7	2SM-77A	E-2
2FW-001H-B	CN-2554-1.2	2NV-481	G-8
	CN-2554-1.7	2NV-252A	K-11
	CN-2554-1.7	2NV-253B	K-11
	CN-2561-1.0	2ND-33	E-2
	CN-2562-1.2	2NI-100B	G-13
	CN-2563-1.0	2NS-20A	J-13
	CN-2563-1.0	2NS-3B	E-13
	CN-2570-1.0	2KF-101B	H-13
	CN-2571-1.0	2FW-28	F-2
	CN-2571-1.0	2FW-32B	J-13
	CN-2571-1.0	2FW-33A	B-8
	CN-2571-1.0	2FW-56	H-2
	CN-2571-1.0	AB WALL	E-13
2FW-002H-B	CN-2571-1.0	AB WALL	D-13
	CN-2571-1.0	RWST	C-12
2KF-001H-B	CN-2570-1.0	2KF-103A	H-12
	CN-2570-1.0	2KF-101B	H-13
2ND-001H-B	CN-2561-1.0	2ND-12	I-10
	CN-2561-1.0	2ND-20	F-6
	CN-2561-1.0	2ND-21	E-6
	CN-2561-1.0	2ND-24A	G-5
	CN-2561-1.0	2ND-28A	I-4
	CN-2561-1.0	2ND-2A	J-13
	CN-2561-1.0	2ND-3	I-12

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NS-001L-B	CN-1563-1.0	1NS-20A	H-13
	CN-1563-1.0	1NS-22	I-12
	CN-1563-1.0	1NS-24	J-10
	CN-1563-1.0	1NS-25	H-6
	CN-1563-1.0	1NS-26	J-9
	CN-1563-1.0	1NS-29A	I-5
	CN-1563-1.0	1NS-32A	K-5
	CN-1563-1.0	1NS-50	J-9
	CN-1563-1.0	1NS-89	J-7
	CN-1563-1.0	1NS-90	J-7
	CN-1563-1.0	1NS-94	K-8
1NS-002L-B	CN-1563-1.0	1NS-12B	C-5
	CN-1563-1.0	1NS-15B	E-5
	CN-1563-1.0	1NS-1B	C-13
	CN-1563-1.0	1NS-2	B-13
	CN-1563-1.0	1NS-3B	E-13
	CN-1563-1.0	1NS-5	C-12
	CN-1563-1.0	1NS-51	D-8
	CN-1563-1.0	1NS-7	C-10
	CN-1563-1.0	1NS-8	F-6
	CN-1563-1.0	1NS-83	C-7
	CN-1563-1.0	1NS-84	C-7
	CN-1563-1.0	1NS-88	E-8
	CN-1563-1.0	1NS-9	C-9
1NV-001L-B	CN-1554-1.0	RB WALL	B-11
	CN-1554-1.0	1NV-2A	H-2
	CN-1554-1.0	1NV-15B	H-11
	CN-1554-1.0	1NV-124B	D-4
	CN-1554-1.0	1NV-87	C-8
	CN-1554-1.0	1NV-9	I-6

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NV-001L-B	CN-1554-1.0	1NV-14	G-10
	CN-1554-1.0	1NV-3	H-4
	CN-1554-1.0	1NV-125B	D-2
	CN-1554-1.5	RB WALL	D-4
	CN-1554-1.5	RB WALL	F-4
	CN-1554-1.5	RB WALL	H-4
	CN-1554-1.5	RB WALL	J-4
	CN-1554-1.8	1NV-878	G-12
	CN-1554-1.8	1NV-879	G-13
	CN-1554-1.8	1NV-880	E-12
	CN-1554-1.8	1NV-881	E-13
1NV-002L-B	CN-1554-1.7	1NV-256	I-9
	CN-1554-1.7	1NV-483	I-12
	CN-1554-1.7	1NV-269	G-5
	CN-1554-1.7	BLANK FLANGE	H-4
	CN-1554-1.7	1NV-272	I-3
	CN-1554-1.7	1NV-265	J-7
1NV-003L-B	CN-1554-1.7	1NV-486	D-12
	CN-1554-1.7	1NV-276	D-9
	CN-1554-1.7	1NV-285	E-7
	CN-1554-1.7	1NV-289	G-5
	CN-1554-1.7	BLANK FLANGE	F-4
	CN-1554-1.7	1NV-292	D-3
1NV-004L-B	CN-1554-1.2	1NV-316	D-3
	CN-1554-1.2	1NV-325	D-5
	CN-1554-1.2	1NV-320	E-4
	CN-1554-1.2	1NV-321	C-4
1NV-005L-B	CN-1554-1.2	1NV-327	H-2
	CN-1554-1.2	1NV-338	H-6
	CN-1554-1.2	1NV-332	I-5

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NV-005L-B	CN-1554-1.2	1NV-333	G-5
1NV-006L-B	CN-1554-1.0	AB WALL	B-12
	CN-1554-1.1	1NV-188A	C-5
	CN-1554-1.1	1NV-222	D-6
	CN-1554-1.1	1NV-205	F-4
	CN-1554-1.1	VOL. CONTROL TANK	J-7
	CN-1554-1.2	1NV-240	D-10
	CN-1554-1.2	1NV-251	D-12
	CN-1554-1.2	1NV-470	E-12
	CN-1554-1.2	1NV-307	J-8
	CN-1554-1.2	1NV-800	L-2
	CN-1554-1.2	1NV-314B	K-6
	CN-1554-1.2	1NV-327	H-2
	CN-1554-1.2	1NV-338	H-6
	CN-1554-1.2	1NV-316	D-3
	CN-1554-1.2	1NV-325	D-5
	CN-1554-1.2	1NV-340	C-7
	CN-1554-1.4	1NV-428	C-3
	CN-1554-1.5	AB WALL	J-4
	CN-1554-1.5	AB WALL	H-4
	CN-1554-1.5	AB WALL	F-4
	CN-1554-1.5	AB WALL	D-4
	CN-1554-1.6	1NV-193	H-3
	CN-1554-1.6	1NV-194	G-2
	CN-1554-1.6	1NV-195	G-3
	CN-1554-1.6	1NV-210	D-3
	CN-1554-1.6	1NV-812	D-4
	CN-1554-1.6	1NV-810	C-4
	CN-1554-1.6	1NV-212	C-4

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NV-006L-B	CN-1554-1.6	1NV-213	C-4
	CN-1554-1.6	1NV-214	C-5
	CN-1554-1.6	1NV-811	C-5
	CN-1554-1.7	1NV-254	K-12
	CN-1554-1.7	1NV-483	I-12
	CN-1554-1.7	1NV-233	G-12
	CN-1554-1.7	1NV-273	E-14
	CN-1554-1.7	1NV-486	D-12
	CN-1554-1.7	1NV-813	C-12
	CN-1554-1.7	1NV-269	G-5
	CN-1554-1.7	1NV-289	G-5
	CN-1554-1.7	BLANK FLANGE	H-4
	CN-1554-1.7	BLANK FLANGE	F-4
	CN-1554-1.7	1NV-272	I-3
	CN-1554-1.7	1NV-292	D-3
	CN-1554-1.7	1NV-234	G-12
	CN-1556-1.0	1NB-131	B-4
	CN-1562-1.0	1NI-3	D-7
	CN-1562-1.0	1NI-9A	C-9
	CN-1562-1.0	1NI-10B	C-6
	CN-1562-1.2	1NI-332A	L-12
	CN-1562-1.2	1NI-333B	K-12

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1BB-001H-B	CN-1565-2.6	1WL-A06	K-2
	CN-1565-2.6	1WL-A08	J-2
	CN-1565-2.6	1WL-A10	F-2
	CN-1565-2.6	1WL-A12	H-2
	CN-1572-1.4	1NM-191B	H-2
	CN-1572-1.4	1NM-201A	H-6
	CN-1572-1.4	1NM-211B	H-9
	CN-1572-1.4	1NM-221A	H-12
	CN-1580-1.0	1BB-10B	K-7
	CN-1580-1.0	1BB-147B	K-7
	CN-1580-1.0	1BB-148B	H-7
	CN-1580-1.0	1BB-149B	F-7
	CN-1580-1.0	1BB-150B	C-7
	CN-1580-1.0	1BB-21B	C-7
	CN-1580-1.0	1BB-57B	H-7
	CN-1580-1.0	1BB-61B	F-7
	CN-1584-1.0	SG-1A	L-3
	CN-1584-1.0	SG-1B	L-13
	CN-1584-1.0	SG-1C	L-9
	CN-1584-1.0	SG-1D	L-6
1CA-001H-B	CN-1584-1.0	1BW-1	J-3
	CN-1584-1.0	1BW-10	J-6
	CN-1584-1.0	1BW-17	J-9
	CN-1584-1.0	1BW-26	J-13
	CN-1591-1.1	1CF-31	G-12
	CN-1591-1.1	1CF-40	G-9
	CN-1591-1.1	1CF-49	G-6
	CN-1591-1.1	1CF-58	G-2
	CN-1591-1.1	1CF-92	F-13
	CN-1591-1.1	1CF-94	F-8

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1CA-001H-B	CN-1591-1.1	1CF-96	F-7
	CN-1591-1.1	1CF-98	F-2
	CN-1592-1.1	1CA-132	I-10
	CN-1592-1.1	1CA-133	I-7
	CN-1592-1.1	1CA-134	I-4
	CN-1592-1.1	1CA-135	I-13
	CN-1592-1.1	1CA-185	E-1
	CN-1592-1.1	1CA-186	E-5
	CN-1592-1.1	1CA-187	E-8
	CN-1592-1.1	1CA-188	E-11
	CN-1592-1.1	1CA-37	G-12
	CN-1592-1.1	1CA-41	I-12
	CN-1592-1.1	1CA-45	I-9
	CN-1592-1.1	1CA-49	G-9
	CN-1592-1.1	1CA-53	G-6
	CN-1592-1.1	1CA-57	I-6
	CN-1592-1.1	1CA-61	I-3
	CN-1592-1.1	1CA-65	G-3
	CN-1593-1.0	1SM-1	K-13
	CN-1593-1.0	1SM-3	H-13
	CN-1593-1.0	1SM-5	F-13
	CN-1593-1.0	1SM-7	C-13
	CN-1593-1.0	1SM-70	K-3
	CN-1593-1.0	1SM-71	I-3
	CN-1593-1.0	1SM-72	F-3
	CN-1593-1.0	1SM-73	C-3
	CN-1593-1.1	1SA-2	G-4
	CN-1593-1.1	1SA-5	H-4
	CN-1593-1.7	1SM-102	D-7
	CN-1593-1.7	1SM-103	D-14

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1CA-001H-B	CN-1593-1.7	1SM-104	D-8
	CN-1593-1.7	1SM-105	D-1
	CN-1593-1.7	1SM-74B	E-6
	CN-1593-1.7	1SM-75A	E-13
	CN-1593-1.7	1SM-76B	E-9
	CN-1593-1.7	1SM-77A	E-2
1FW-001H-B	CN-1554-1.2	1NV-481	G-8
	CN-1554-1.7	1NV-252A	K-11
	CN-1554-1.7	1NV-253B	K-11
	CN-1561-1.0	1ND-33	D-2
	CN-1562-1.2	1NI-100B	G-13
	CN-1563-1.0	1NS-20A	H-13
	CN-1563-1.0	1NS-3B	E-13
	CN-1570-1.0	1KF-101B	H-13
	CN-1571-1.0	1FW-28	F-2
	CN-1571-1.0	1FW-32B	J-13
	CN-1571-1.0	1FW-33A	B-11
	CN-1571-1.0	1FW-56	H-2
1FW-002H-B	CN-1571-1.0	AB WALL	E-13
	CN-1571-1.0	RWST	C-12
1KF-001H-B	CN-1570-1.0	1KF-103A	H-12
	CN-1570-1.0	1KF-101B	H-13
1ND-001H-B	CN-1561-1.0	1ND-12	I-10
	CN-1561-1.0	1ND-20	F-6
	CN-1561-1.0	1ND-21	E-6
	CN-1561-1.0	1ND-24A	G-5
	CN-1561-1.0	1ND-28A	H-4
	CN-1561-1.0	1ND-2A	J-13
	CN-1561-1.0	1ND-3	I-12

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1ND-001H-B	CN-1561-1.0	1ND-31	G-2
	CN-1561-1.0	1ND-33	D-2
	CN-1561-1.0	1ND-35	D-3
	CN-1561-1.0	1ND-69	F-7
	CN-1561-1.0	1ND-7	F-12
	CN-1561-1.0	1ND-77	H-7
	CN-1561-1.0	1ND-8	F-10
	CN-1561-1.0	1ND-90	E-9
	CN-1561-1.1	1ND-65B	E-3
	CN-1562-1.2	1NI-183B	G-4
	CN-1562-1.3	1NI-175	F-11
	CN-1562-1.3	1NI-176	F-9
	CN-1562-1.3	1NI-185A	C-5
	CN-1562-1.3	1NI-478	F-10
	CN-1563-1.0	1NS-18A	J-13
	CN-1563-1.0	1NS-43A	H-5
	CN-1571-1.0	1FW-28	F-2
	CN-1572-1.0	1NM-39	H-12
1ND-002H-B	CN-1561-1.0	1ND-91	D-9
	CN-1561-1.1	1ND-37A	J-13
	CN-1561-1.1	1ND-38	I-12
	CN-1561-1.1	1ND-46	H-10
	CN-1561-1.1	1ND-54	F-6
	CN-1561-1.1	1ND-55	F-6
	CN-1561-1.1	1ND-58B	G-5
	CN-1561-1.1	1ND-64	H-2
	CN-1561-1.1	1ND-65B	E-3
	CN-1561-1.1	1ND-66	F-13
	CN-1561-1.1	1ND-71	F-7
	CN-1561-1.1	1ND-78	F-9

Catawba Unit 1**Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests**

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1ND-002H-B	CN-1561-1.1	1ND-79	G-7
	CN-1561-1.1	1ND-84	F-10
	CN-1562-1.2	1NI-136B	D-13
	CN-1562-1.3	1NI-180	F-5
	CN-1562-1.3	1NI-181	F-4
	CN-1562-1.3	1NI-184B	C-10
	CN-1562-1.3	1NI-477	E-4
	CN-1563-1.0	1NS-1B	C-13
	CN-1563-1.0	1NS-38B	F-5
	CN-1571-1.0	1FW-56	H-2
	CN-1572-1.0	1NM-40	I-12
1ND-003H-B	CN-1554-1.0	1NV-857	J-9
	CN-1561-1.0	1ND-90	E-9
	CN-1561-1.0	1ND-91	E-8
1ND-004H-B	CN-1554-1.7	1NV-813	C-12
	CN-1561-1.0	1ND-28A	H-4
1NI-001H-B	CN-1562-1.1	1NI-50	K-2
	CN-1562-1.1	1NI-53	H-2
	CN-1562-1.1	1NI-54A	F-2
	CN-1562-1.1	1NI-56	F-3
	CN-1562-1.1	1NI-61	K-5
	CN-1562-1.1	1NI-64	G-4
	CN-1562-1.1	1NI-65B	F-5
	CN-1562-1.1	1NI-67	F-6
	CN-1562-1.1	1NI-72	J-7
	CN-1562-1.1	1NI-75	G-7
	CN-1562-1.1	1NI-76A	F-7
	CN-1562-1.1	1NI-78	F-8
	CN-1562-1.1	1NI-84	J-10
	CN-1562-1.1	1NI-87	G-10

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NI-001H-B	CN-1562-1.1	1NI-88B	F-10
	CN-1562-1.1	1NI-90	F-11
	CN-1572-1.1	1NM-82A	E-9
	CN-1572-1.1	1NM-69	G-9
1NI-002H-B	CN-1562-1.1	1NI-95A	F-12
	CN-1562-1.1	1NI-96B	H-12
	CN-1562-1.1	1NI-471	F-13
	CN-1562-1.2	1NI-120B	I-5
1NI-003H-B	CN-1562-1.2	1NI-100B	G-13
	CN-1562-1.2	1NI-109	I-11
	CN-1562-1.2	1NI-113	I-9
	CN-1562-1.2	1NI-119	K-6
	CN-1562-1.2	1NI-120B	I-5
	CN-1562-1.2	1NI-121A	J-5
	CN-1562-1.2	1NI-135B	E-13
	CN-1562-1.2	1NI-144A	F-8
	CN-1562-1.2	1NI-147B	G-9
	CN-1562-1.2	1NI-150	F-6
	CN-1562-1.2	1NI-332A	L-12
	CN-1562-1.2	1NI-333B	K-12
	CN-1562-1.3	AB WALL	J-7
	CN-1562-1.3	1NI-161	K-7
1NI-004H-B	CN-1562-1.3	1NI-163	I-8
	CN-1562-1.3	1NI-165	G-3
	CN-1562-1.3	1NI-167	G-5
	CN-1562-1.3	1NI-169	G-9
	CN-1562-1.3	1NI-171	G-11
	CN-1562-1.3	RB WALL	B-11
1NI-005H-B	CN-1562-1.2	1NI-135B	E-13
	CN-1562-1.2	1NI-138	D-11

Duke Power Company
Catawba Unit 2
 Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2ND-001H-B	CN-2561-1.0	2ND-31	G-2
	CN-2561-1.0	2ND-33	E-2
	CN-2561-1.0	2ND-35	D-3
	CN-2561-1.0	2ND-69	F-7
	CN-2561-1.0	2ND-7	F-12
	CN-2561-1.0	2ND-76	H-7
	CN-2561-1.0	2ND-82	F-10
	CN-2561-1.0	2ND-90	E-9
	CN-2561-1.1	2ND-65B	E-3
	CN-2562-1.2	2NI-183B	G-4
	CN-2562-1.3	2NI-173A	E-10
	CN-2562-1.3	2NI-175	F-11
	CN-2562-1.3	2NI-176	F-9
	CN-2562-1.3	2NI-185A	C-5
	CN-2562-1.3	2NI-478	F-10
	CN-2563-1.0	2NS-18A	J-13
	CN-2563-1.0	2NS-43A	H-5
	CN-2571-1.0	2FW-28	F-2
	CN-2572-1.0	2NM-39	H-12
2ND-002H-B	CN-2561-1.0	2ND-91	D-9
	CN-2561-1.1	2ND-37A	J-13
	CN-2561-1.1	2ND-38	I-12
	CN-2561-1.1	2ND-46	H-10
	CN-2561-1.1	2ND-54	F-6
	CN-2561-1.1	2ND-55	F-6
	CN-2561-1.1	2ND-58B	G-5
	CN-2561-1.1	2ND-64	H-2
	CN-2561-1.1	2ND-65B	E-3
	CN-2561-1.1	2ND-66	F-13
	CN-2561-1.1	2ND-71	F-7

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2ND-002H-B	CN-2561-1.1	2ND-78	F-9
	CN-2561-1.1	2ND-79	G-7
	CN-2561-1.1	2ND-84	F-10
	CN-2562-1.2	2NI-136B	D-13
	CN-2562-1.3	2NI-178B	D-4
	CN-2562-1.3	2NI-180	F-5
	CN-2562-1.3	2NI-181	F-4
	CN-2562-1.3	2NI-184B	C-10
	CN-2562-1.3	2NI-477	E-4
	CN-2563-1.0	2NS-1B	C-13
	CN-2563-1.0	2NS-38B	F-5
	CN-2571-1.0	2FW-56	H-2
	CN-2572-1.0	2NM-40	I-12
2ND-003H-B	CN-2554-1.0	2NV-857	J-9
	CN-2561-1.0	2ND-90	E-9
	CN-2561-1.0	2ND-91	E-8
2ND-004H-B	CN-2554-1.7	2NV-813	C-12
	CN-2561-1.0	2ND-28A	I-4
2NI-001H-B	CN-2562-1.1	2NI-50	K-2
	CN-2562-1.1	2NI-53	H-2
	CN-2562-1.1	2NI-54A	F-2
	CN-2562-1.1	2NI-56	F-3
	CN-2562-1.1	2NI-61	K-5
	CN-2562-1.1	2NI-64	G-4
	CN-2562-1.1	2NI-65B	G-4
	CN-2562-1.1	2NI-67	F-6
	CN-2562-1.1	2NI-72	J-7
	CN-2562-1.1	2NI-75	G-7
	CN-2562-1.1	2NI-76A	F-7
	CN-2562-1.1	2NI-78	F-8

Duke Power Company
Catawba Unit 2
 Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NI-001H-B	CN-2562-1.1	2NI-84	J-10
	CN-2562-1.1	2NI-87	G-10
	CN-2562-1.1	2NI-88B	F-10
	CN-2562-1.1	2NI-90	F-11
	CN-2572-1.1	2NM-82A	E-9
	CN-2572-1.1	2NM-69	G-9
2NI-002H-B	CN-2562-1.1	2NI-95A	F-12
	CN-2562-1.1	2NI-96B	G-12
	CN-2562-1.1	2NI-471	F-13
	CN-2562-1.2	2NI-120B	I-5
2NI-003H-B	CN-2562-1.2	2NI-100B	G-13
	CN-2562-1.2	2NI-109	I-11
	CN-2562-1.2	2NI-113	I-9
	CN-2562-1.2	2NI-119	K-6
	CN-2562-1.2	2NI-120B	I-5
	CN-2562-1.2	2NI-121A	J-5
	CN-2562-1.2	2NI-135B	E-13
	CN-2562-1.2	2NI-144A	F-8
	CN-2562-1.2	2NI-147B	G-9
	CN-2562-1.2	2NI-150	F-6
	CN-2562-1.2	2NI-332A	L-12
	CN-2562-1.2	2NI-333B	K-12
	CN-2562-1.3	AB WALL	J-7
	CN-2562-1.3	2NI-161	K-7
2NI-004H-B	CN-2562-1.3	2NI-163	I-8
	CN-2562-1.3	2NI-165	G-3
	CN-2562-1.3	2NI-167	G-5
	CN-2562-1.3	2NI-169	G-9
	CN-2562-1.3	2NI-171	G-11
	CN-2562-1.3	RB WALL	J-7

Duke Power Company
Catawba Unit 2
 Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NI-005H-B	CN-2562-1.2	2NI-135B	E-13
	CN-2562-1.2	2NI-138	D-11
	CN-2562-1.2	2NI-142	D-9
	CN-2562-1.2	2NI-144A	F-8
	CN-2562-1.2	2NI-150B	F-6
	CN-2562-1.2	2NI-151	E-6
	CN-2562-1.2	2NI-152B	D-5
	CN-2562-1.2	2NI-342	D-13
2NI-006H-B	CN-2562-1.2	2NI-125	H-3
	CN-2562-1.2	2NI-129	J-3
	CN-2562-1.2	2NI-154B	H-3
	CN-2562-1.2	2NI-183B	G-4
2NI-007H-B	CN-2562-1.2	2NI-121A	J-5
	CN-2562-1.2	2NI-122B	K-4
	CN-2562-1.2	2NI-124	I-4
	CN-2562-1.2	2NI-128	K-4
2NI-008H-B	CN-2562-1.2	2NI-152B	D-5
	CN-2562-1.2	2NI-153A	D-4
	CN-2562-1.2	2NI-156	E-3
	CN-2562-1.2	2NI-159	C-2
2NI-009H-B	CN-2562-1.2	2NI-136B	D-13
	CN-2562-1.2	2NI-342	D-13
2NS-001H-B	CN-2563-1.0	2NS-18A	J-13
	CN-2563-1.0	2NS-19	K-13
	CN-2563-1.0	2NS-20A	H-13
	CN-2563-1.0	2NS-22	I-12
	CN-2563-1.0	2NS-24	J-10
	CN-2563-1.0	2NS-25	H-6
	CN-2563-1.0	2NS-26	J-9
	CN-2563-1.0	2NS-29A	I-5

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NS-001H-B	CN-2563-1.0	2NS-32A	K-5
	CN-2563-1.0	2NS-50	J-9
	CN-2563-1.0	2NS-89	J-7
	CN-2563-1.0	2NS-90	J-7
	CN-2563-1.0	2NS-94	K-8
2NS-002H-B	CN-2563-1.0	2NS-12B	C-5
	CN-2563-1.0	2NS-15B	E-5
	CN-2563-1.0	2NS-1B	C-13
	CN-2563-1.0	2NS-2	B-13
	CN-2563-1.0	2NS-3B	E-13
	CN-2563-1.0	2NS-5	C-12
	CN-2563-1.0	2NS-51	D-9
	CN-2563-1.0	2NS-7	C-10
	CN-2563-1.0	2NS-8	F-6
	CN-2563-1.0	2NS-83	C-7
	CN-2563-1.0	2NS-84	C-7
	CN-2563-1.0	2NS-88	E-8
	CN-2563-1.0	2NS-9	B-9
2NV-001H-B	CN-2554-1.0	2NV-123B	D-9
	CN-2554-1.0	2NV-2A	H-2
	CN-2554-1.0	RB WALL	B-10
	CN-2554-1.0	RB WALL	H-11
	CN-2554-1.5	RB WALL	J-4
	CN-2554-1.5	RB WALL	H-4
	CN-2554-1.5	RB WALL	F-4
	CN-2554-1.5	RB WALL	D-4
	CN-2554-1.8	2NV-878	G-12
	CN-2554-1.8	2NV-879	G-13
	CN-2554-1.8	2NV-880	E-12
	CN-2554-1.8	2NV-881	E-13

Catawba Unit 2**Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests**

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NV-002H-B	CN-1554-1.4	1NV-430	C-2
	CN-1556-1.0	1NB-130	C-3
	CN-2554-1.0	AB WALL	B-11
	CN-2554-1.0	AB WALL	H-11
	CN-2554-1.1	2NV-176	G-8
	CN-2554-1.1	2NV-181A	J-10
	CN-2554-1.1	2NV-186A	C-9
	CN-2554-1.1	2NV-205	G-4
	CN-2554-1.1	2NV-222	E-6
	CN-2554-1.2	2NV-333	G-4
	CN-2554-1.2	2NV-240	D-10
	CN-2554-1.2	2NV-251	D-12
	CN-2554-1.2	2NV-307	J-8
	CN-2554-1.2	2NV-470	E-12
	CN-2554-1.2	2NV-314B	K-6
	CN-2554-1.2	2NV-320	E-4
	CN-2554-1.2	2NV-321	C-4
	CN-2554-1.2	2NV-332	I-4
	CN-2554-1.2	2NV-340	C-7
	CN-2554-1.2	2NV-482	G-9
	CN-2554-1.2	2NV-800	L-2
	CN-2554-1.2	2NV-825	F-12
	CN-2554-1.3	2NV-341	E-4
	CN-2554-1.3	2NV-344	C-5
	CN-2554-1.3	2NV-345	D-2
	CN-2554-1.3	2NV-347	C-2
	CN-2554-1.3	2NV-351	G-2
	CN-2554-1.5	AB WALL	J-4
	CN-2554-1.5	AB WALL	H-4
	CN-2554-1.5	AB WALL	F-4

Catawba Unit 2**Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests**

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NV-002H-B	CN-2554-1.5	AB WALL	D-4
	CN-2554-1.6	2NV-135	K-4
	CN-2554-1.6	2NV-145	J-9
	CN-2554-1.6	2NV-151	F-13
	CN-2554-1.6	2NV-152	F-12
	CN-2554-1.6	2NV-155	D-12
	CN-2554-1.6	2NV-157	B-12
	CN-2554-1.6	2NV-158	C-14
	CN-2554-1.6	2NV-163	D-11
	CN-2554-1.6	2NV-164	D-9
	CN-2554-1.6	2NV-169	C-9
	CN-2554-1.6	2NV-193	H-3
	CN-2554-1.6	2NV-194	F-2
	CN-2554-1.6	2NV-195	F-3
	CN-2554-1.6	2NV-210	B-3
	CN-2554-1.6	2NV-805	J-7
	CN-2554-1.6	2NV-812	D-5
	CN-2554-1.7	2NV-483	I-12
	CN-2554-1.7	2NV-269	G-5
	CN-2554-1.7	2NV-272	I-3
	CN-2554-1.7	2NV-271	H-3
	CN-2554-1.7	2NV-256	I-9
	CN-2554-1.7	2NV-265	J-7
	CN-2562-1.0	2NI-351	I-11
	CN-2562-1.0	2NI-352	I-9
	CN-2562-1.0	2NI-353	I-7
	CN-2562-1.0	2NI-354	I-5
	CN-2562-1.2	2NI-332A	L-12
	CN-2562-1.2	2NI-333B	K-12
2NV-004H-B	CN-2554-1.2	2NV-316	D-3

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NV-004H-B	CN-2554-1.2	2NV-326	D-6
	CN-2554-1.2	2NV-320	E-4
	CN-2554-1.2	2NV-321	C-4
2NV-005H-B	CN-2554-1.2	2NV-327	H-2
	CN-2554-1.2	2NV-338	H-6
	CN-2554-1.2	2NV-332	I-5
	CN-2554-1.2	2NV-333	G-5
2NV-006H-B	CN-1554-1.4	1NV-430	C-2
	CN-1556-1.0	1NB-130	C-4
	CN-2554-1.0	AB WALL	B-11
	CN-2554-1.1	2NV-188A	C-5
	CN-2554-1.1	2NV-222	D-6
	CN-2554-1.1	2NV-205	F-4
	CN-2554-1.1	VCT	J-7
	CN-2554-1.2	2NV-240	D-10
	CN-2554-1.2	2NV-251	D-12
	CN-2554-1.2	2NV-470	E-12
	CN-2554-1.2	2NV-307	J-8
	CN-2554-1.2	2NV-800	L-2
	CN-2554-1.2	2NV-314B	K-6
	CN-2554-1.2	2NV-327	H-2
	CN-2554-1.2	2NV-338	H-6
	CN-2554-1.2	2NV-316	D-3
	CN-2554-1.2	2NV-326	D-6
	CN-2554-1.2	2NV-340	C-7
	CN-2554-1.5	AB WALL	J-4
	CN-2554-1.5	AB WALL	H-4
	CN-2554-1.5	AB WALL	F-4
	CN-2554-1.5	AB WALL	D-4
	CN-2554-1.6	2NV-193	H-3

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NV-006H-B	CN-2554-1.6	2NV-194	F-2
	CN-2554-1.6	2NV-195	F-3
	CN-2554-1.6	2NV-210	D-3
	CN-2554-1.6	2NV-812	D-4
	CN-2554-1.6	2NV-810	C-4
	CN-2554-1.6	2NV-212	C-4
	CN-2554-1.6	2NV-213	C-4
	CN-2554-1.6	2NV-214	C-5
	CN-2554-1.6	2NV-811	C-5
	CN-2554-1.7	2NV-252A	K-11
	CN-2554-1.7	2NV-253B	K-12
	CN-2554-1.7	2NV-483	I-12
	CN-2554-1.7	2NV-231	H-12
	CN-2554-1.7	2NV-232	H-11
	CN-2554-1.7	2NV-235	G-11
	CN-2554-1.7	2NV-236B	F-12
	CN-2554-1.7	2NV-486	D-12
	CN-2554-1.7	2NV-273	D-11
	CN-2554-1.7	2NV-813	C-12
	CN-2554-1.7	2NV-269	G-5
	CN-2554-1.7	2NV-289	G-5
	CN-2554-1.7	2NV-271	H-4
	CN-2554-1.7	2NV-291	F-4
	CN-2554-1.7	2NV-292	D-3
	CN-2554-1.7	2NV-272	I-3
	CN-2562-1.0	2NI-3	D-7
	CN-2562-1.0	2NI-9A	C-9
	CN-2562-1.0	2NI-10B	C-6
	CN-2562-1.2	2NI-332A	L-12
	CN-2562-1.2	2NI-333B	K-12

Catawba Unit 2**Pressure Testing Boundary Valve Report For Class 'B' Hydro Tests**

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2SA-001H-B	CN-2593-1.1	2SA-2	G-4
	CN-2593-1.1	2SA-3	G-5
	CN-2593-1.1	2SA-5	H-4
	CN-2593-1.1	2SA-6	H-5

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1YC-001L-C	CN-1578-2.1	1YC-165	J-10
	CN-1578-2.1	1YC-166	J-12
	CN-1578-2.1	1YC-164	J-7
	CN-1578-2.1	1YC-163	K-4
	CN-1578-2.4	1YC-340	F-2
1YC-002L-C	CN-1578-2.2	1YC-333	D-4
	CN-1578-2.2	1YC-334	C-4
	CN-1578-2.2	1YC-151	F-7
	CN-1578-2.2	1YC-84	G-9
	CN-1578-2.2	1YC-121B	D-12
	CN-1578-2.3	1YC-233	J-4
	CN-1578-2.3	1YC-234	J-6
	CN-1578-2.3	1YC-235	J-10
	CN-1578-2.3	1YC-236	J-13
	CN-1578-2.5	1YC-1	F-2

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1CA-001H-C	CN-1592-1.0	1CA-116A	D-8
	CN-1592-1.0	1CA-125	E-13
	CN-1592-1.0	1CA-175	D-7
	CN-1592-1.0	1CA-214	F-12
	CN-1592-1.0	1CA-24	K-9
	CN-1592-1.0	1CA-67	J-10
	CN-1592-1.0	1CA-7A	C-8
	CN-1592-1.0	1CA-85B	D-7
	CN-1592-1.1	1CA-37	G-12
	CN-1592-1.1	1CA-49	G-9
	CN-1592-1.1	1CA-53	G-6
	CN-1592-1.1	1CA-65	G-3
1CA-002H-C	CN-1592-1.0	1CA-155	H-5
	CN-1592-1.0	1CA-156	H-6
	CN-1592-1.0	1CA-18B	D-6
	CN-1592-1.0	1CA-34	K-7
	CN-1592-1.0	1CA-69	K-7
	CN-1592-1.0	1CA-96	I-7
	CN-1592-1.0	1CA-9B	C-5
	CN-1592-1.1	1CA-111	L-6
	CN-1592-1.1	1CA-45	I-9
	CN-1592-1.1	1CA-41	I-12
1CA-003H-C	CN-1592-1.0	1CA-101	I-3
	CN-1592-1.0	1CA-11A	C-1
	CN-1592-1.0	1CA-153	H-2
	CN-1592-1.0	1CA-154	H-3
	CN-1592-1.0	1CA-15A	D-2
	CN-1592-1.0	1CA-29	K-3
	CN-1592-1.0	1CA-71	J-4
	CN-1592-1.1	1CA-111	L-6

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1CA-003H-C	CN-1592-1.1	1CA-61	I-3
	CN-1592-1.1	1CA-57	I-6
1DG-001H-C	CN-1609-1.0	1KD-1	K-8
	CN-1609-1.0	1KD-15	J-6
	CN-1609-1.0	1KD-88	K-13
	CN-1609-1.0	1KD-89	J-13
	CN-1609-2.0	1LD-11	I-10
	CN-1609-2.0	1LD-12	I-14
	CN-1609-2.0	1LD-69	C-4
	CN-1609-2.0	1LD-22	C-7
	CN-1609-3.0	1FD-1	L-3
	CN-1609-3.0	1FD-12	K-4
	CN-1609-3.0	1FD-13	I-4
	CN-1609-3.0	1FD-2	I-3
	CN-1609-3.0	1FD-5	K-8
	CN-1609-3.0	1FD-6	I-7
	CN-1609-4.0	1VG-8	I-13
	CN-1609-4.0	1VG-7	I-2
1DG-002H-C	CN-1609-1.0	1KD-91	E-13
	CN-1609-1.0	1KD-92	C-13
	CN-1609-1.0	1KD-16	G-8
	CN-1609-1.0	1KD-30	E-6
	CN-1609-2.2	1LD-42	I-14
	CN-1609-2.2	1LD-52	C-7
	CN-1609-2.2	1LD-70	D-4
	CN-1609-2.2	1LD-41	I-10
	CN-1609-3.1	1FD-41	L-2
	CN-1609-3.1	1FD-42	I-3
	CN-1609-3.1	1FD-45	K-8
	CN-1609-3.1	1FD-46	I-7

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1DG-002H-C	CN-1609-3.1	1FD-52	K-4
	CN-1609-3.1	1FD-53	I-4
	CN-1609-4.1	1VG-52	I-13
	CN-1609-4.1	1VG-51	I-2
1KC-001H-C	CN-1573-1.0	1KC-16	G-6
	CN-1573-1.0	1KC-19	F-2
	CN-1573-1.0	1KC-22	F-6
	CN-1573-1.0	1KC-230A	K-7
	CN-1573-1.0	1KC-2B	C-9
	CN-1573-1.0	1KC-33	J-3
	CN-1573-1.0	1KC-35	I-2
	CN-1573-1.0	1KC-37	K-1
	CN-1573-1.0	1KC-3A	C-6
	CN-1573-1.0	1KC-53B	K-8
	CN-1573-1.0	1KC-62	E-1
	CN-1573-1.0	1KC-64	E-7
	CN-1573-1.0	1KC-67	I-3
	CN-1573-1.0	1KC-965	G-4
	CN-1573-1.0	1KC-966	C-4
	CN-1573-1.0	1KC-A8	J-6
	CN-1573-1.0	1KC-D4	K-8
	CN-1573-1.0	1KC-D5	H-7
	CN-1573-1.1	1KC-107	H-3
	CN-1573-1.1	1KC-118	H-5
	CN-1573-1.1	1KC-125	G-6
	CN-1573-1.1	1KC-496	H-3
	CN-1573-1.1	KCST 1B	J-10
	CN-1573-1.2	1KC-130	G-5
	CN-1573-1.2	1KC-133	C-6
	CN-1573-1.2	1KC-134	C-6

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1KC-001H-C	CN-1573-1.2	1KC-139	G-2
	CN-1573-1.2	1KC-142	C-3
	CN-1573-1.2	1KC-143	B-3
	CN-1573-1.2	1KC-153	E-11
	CN-1573-1.2	1KC-154	D-10
	CN-1573-1.2	1KC-160	E-13
	CN-1573-1.2	1KC-161	D-13
	CN-1573-1.2	1KC-C03	F-7
	CN-1573-1.2	1KC-C05	C-7
	CN-1573-1.2	1KC-151	E-11
	CN-1573-1.2	1KC-158	E-13
	CN-1573-1.6	1KC-277	L-7
	CN-1573-1.6	1KC-250	L-9
	CN-1573-1.6	1KC-225	F-8
	CN-1573-1.6	1KC-252	F-7
	CN-1573-1.6	1KC-477	F-4
	CN-1573-1.6	1KC-463	B-2
	CN-1573-2.0	1KC-58	F-4
	CN-1573-2.0	1KC-60	F-4
	CN-1573-2.0	1KC-61	H-4
	CN-1573-2.0	1KC-76	E-6
	CN-1573-2.0	1KC-79	I-6
	CN-1573-2.2	1KC-30	K-2
	CN-1573-2.2	1KC-28	C-2
1KC-002H-C	CN-1573-1.0	1KC-17	G-9
	CN-1573-1.0	1KC-18B	C-8
	CN-1573-1.0	1KC-25	F-8
	CN-1573-1.0	1KC-28	F-13
	CN-1573-1.0	1KC-228B	K-8
	CN-1573-1.0	1KC-2B	C-9

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1KC-002H-C	CN-1573-1.0	1KC-42	J-12
	CN-1573-1.0	1KC-44	I-13
	CN-1573-1.0	1KC-46	K-14
	CN-1573-1.0	1KC-53B	K-8
	CN-1573-1.0	1KC-87	E-8
	CN-1573-1.0	1KC-89	E-13
	CN-1573-1.0	1KC-92	I-12
	CN-1573-1.0	1KC-967	G-12
	CN-1573-1.0	1KC-968	C-10
	CN-1573-1.0	1KC-D4	K-8
	CN-1573-1.0	1KC-D6	G-7
	CN-1573-1.1	1KC-111	H-12
	CN-1573-1.1	1KC-119	H-9
	CN-1573-1.1	1KC-127	G-8
	CN-1573-1.1	1KC-499	H-11
	CN-1573-1.1	KCST-1B	J-10
	CN-1573-2.1	1KC-101	E-6
	CN-1573-2.1	1KC-104	I-6
	CN-1573-2.1	1KC-83	F-4
	CN-1573-2.1	1KC-86	H-4
	CN-1573-2.3	1KC-D35	C-2
	CN-1573-2.3	1KC-D32	K-2
1KF-001H-C	CN-1570-1.0	1KF-1	D-9
	CN-1570-1.0	1KF-10	C-5
	CN-1570-1.0	1KF-114	L-5
	CN-1570-1.0	1KF-115	L-6
	CN-1570-1.0	1KF-116	L-7
	CN-1570-1.0	1KF-117	J-7
	CN-1570-1.0	1KF-12	C-4
	CN-1570-1.0	1KF-121	D-4

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1KF-001H-C	CN-1570-1.0	1KF-133	K-5
	CN-1570-1.0	1KF-134	J-6
	CN-1570-1.0	1KF-20	F-2
	CN-1570-1.0	1KF-135	J-5
	CN-1570-1.0	1KF-7	J-8
	CN-1570-1.1	1KF-29	C-2
1KF-002H-C	CN-1570-1.0	1KF-105	I-7
	CN-1570-1.0	1KF-106	H-7
	CN-1570-1.0	1KF-108	H-5
	CN-1570-1.0	1KF-120	E-5
	CN-1570-1.0	1KF-136	H-5
	CN-1570-1.0	1KF-138	J-5
	CN-1570-1.0	1KF-15	E-8
	CN-1570-1.0	1KF-20	E-2
	CN-1570-1.0	1KF-22	I-5
	CN-1570-1.0	1KF-24	G-5
	CN-1570-1.0	1KF-26	F-5
1NV-001H-C	CN-1554-1.2	1NV-238A	E-8
	CN-1554-1.4	1NV-409	K-3
	CN-1554-1.4	1NV-412	H-2
	CN-1554-1.4	1NV-418	F-5
	CN-1554-1.4	1NV-419	E-7
	CN-1554-1.4	1NV-422	F-9
	CN-1554-1.4	1NV-434	D-4
	CN-1554-1.4	1NV-435	C-7
	CN-1554-1.4	1NV-445	G-7
	CN-1554-1.4	1NV-446	H-7
	CN-1554-1.4	1NV-447	H-6
	CN-1554-1.4	1NV-997	L-1
	CN-1554-1.4	1NV-998	K-2

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1NV-001H-C	CN-1554-1.4	1NV-A02	J-2
	CN-1554-1.4	1NV-431	E-2
	CN-1554-1.4	1NV-408	J-6
	CN-1554-1.4	1NV-425	C-3
	CN-1554-1.7	1NV-236B	F-11
1RN-001H-C	CN-1574-1.0	1RN-28A	E-3
	CN-1574-1.0	1RN-11A	E-6
	CN-1574-1.0	1RN-909	H-6
	CN-1574-1.0	1RN-15	H-6
	CN-1574-1.0	1RN-844	H-5
1RN-002H-C	CN-1574-1.0	2RN-28A	E-11
	CN-1574-1.0	2RN-11A	E-9
	CN-1574-1.0	2RN-909	H-8
	CN-1574-1.0	2RN-15	H-9
	CN-1574-1.0	2RN-844	H-9
1RN-003H-C	CN-1574-1.2	1RN-38B	F-2
	CN-1574-1.2	1RN-20B	E-4
	CN-1574-1.2	1RN-910	H-6
	CN-1574-1.2	1RN-24	H-4
	CN-1574-1.2	1RN-845	H-4
1RN-004H-C	CN-1574-1.2	2RN-38B	F-13
	CN-1574-1.2	2RN-20B	E-11
	CN-1574-1.2	2RN-845	H-11
	CN-1574-1.2	2RN-24	H-11
	CN-1574-1.2	2RN-910	H-9
1RN-005H-C	CN-1569-1.0	1NW-61B	G-2
	CN-1569-1.0	1NW-8A	G-13
	CN-1573-1.1	1KC-494	H-2
	CN-1573-1.1	1KC-497	H-13
	CN-1573-2.2	1KC-D28	C-2

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1RN-005H-C	CN-1573-2.3	1KC-D35	C-2
	CN-1574-1.0	1RN-28A	E-3
	CN-1574-1.0	1RN-11A	E-11
	CN-1574-1.0	2RN-28A	E-11
	CN-1574-1.0	2RN-11A	E-9
	CN-1574-1.0	1RN-34	B-3
	CN-1574-1.0	1RN-46	E-2
	CN-1574-1.0	2RN-46	E-12
	CN-1574-1.0	1RN-C21	C-4
	CN-1574-1.0	1RN-30A	D-6
	CN-1574-1.0	2RN-30A	D-8
	CN-1574-1.1	2RN-50B	D-11
	CN-1574-1.1	1RN-50B	D-4
	CN-1574-1.2	1RN-38B	F-2
	CN-1574-1.2	1RN-20B	E-4
	CN-1574-1.2	2RN-38B	F-13
	CN-1574-1.2	2RN-20B	E-11
	CN-1574-1.2	1RN-40B	D-4
	CN-1574-1.2	1RN-42	D-3
	CN-1574-1.2	1RN-45	C-2
	CN-1574-1.2	2RN-40B	D-9
	CN-1574-1.2	2RN-42	D-12
	CN-1574-1.2	1RN-C22	C-6
	CN-1574-1.5	1RN-57A	E-5
	CN-1574-1.5	1RN-58B	E-11
	CN-1574-1.5	1RN-63A	G-8
	CN-1574-1.5	2RN-51A	F-7
	CN-1574-1.5	1RN-51A	D-7
	CN-1574-2.0	1RN-144A	B-8
	CN-1574-2.0	1RN-148A	L-11

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1RN-005H-C	CN-1574-2.0	1RN-78	C-2
	CN-1574-2.1	1RN-250A	D-7
	CN-1574-2.1	1RN-D32	F-6
	CN-1574-2.1	1RN-257	C-8
	CN-1574-2.1	1RN-232A	D-3
	CN-1574-2.1	1RN-C89	C-3
	CN-1574-2.1	1RN-C90	C-2
	CN-1574-2.1	1RN-955	C-2
	CN-1574-2.1	1RN-216	B-2
	CN-1574-2.1	1RN-846A	J-3
	CN-1574-2.1	1RN-847A	J-2
	CN-1574-2.4	1RN-225B	B-8
	CN-1574-2.4	1RN-229B	L-11
	CN-1574-2.4	1RN-159	C-2
	CN-1574-2.5	1RN-310B	C-7
	CN-1574-2.5	1RN-D31	D-7
	CN-1574-2.5	1RN-292B	D-2
	CN-1574-2.5	1RN-C91	C-2
	CN-1574-2.5	1RN-C92	C-2
	CN-1574-2.5	1RN-104	C-1
	CN-1574-2.5	1RN-217	B-1
	CN-1574-2.5	1RN-848B	J-2
	CN-1574-2.5	1RN-849B	J-1
	CN-2573-1.1	2KC-494	H-2
	CN-2573-1.1	2KC-497	H-13
	CN-2573-2.2	2KC-D28	C-2
	CN-2573-2.3	2KC-D37	C-2
	CN-2574-2.0	2RN-144A	C-5
	CN-2574-2.0	2RN-148A	L-1
	CN-2574-2.0	2RN-78	C-2

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1RN-005H-C	CN-2574-2.0	2RN-494	B-3
	CN-2574-2.1	2RN-232A	D-2
	CN-2574-2.1	2RN-950	C-2
	CN-2574-2.1	2RN-945	C-3
	CN-2574-2.1	2RN-955	C-2
	CN-2574-2.1	2RN-216	B-1
	CN-2574-2.1	2RN-250A	C-7
	CN-2574-2.1	2RN-287A	D-13
	CN-2574-2.1	2RN-D32	E-6
	CN-2574-2.1	2RN-837	L-3
	CN-2574-2.1	2RN-846A	J-2
	CN-2574-2.4	2RN-225B	C-6
	CN-2574-2.4	2RN-159	C-3
	CN-2574-2.4	2RN-493	B-5
	CN-2574-2.4	2RN-836	L-2
	CN-2574-2.5	2RN-848B	J-2
	CN-2574-2.5	2RN-292B	E-2
	CN-2574-2.5	2RN-956	D-2
	CN-2574-2.5	2RN-961	D-3
	CN-2574-2.5	2RN-104	D-2
	CN-2574-2.5	2RN-217	C-2
	CN-2574-2.5	2RN-D31	F-5
	CN-2574-2.5	2RN-310B	E-6
	CN-2574-2.5	2RN-347B	F-13
	CN-2574-2.5	2RNE-59	D-2
	CN-2574-2.5	2RN-838	J-3
1RN-006H-C	CN-1574-1.5	1RN- 63A	G-8
	CN-1574-1.5	1RN-58B	E-11
1RN-007H-C	CN-1574-2.0	1RN-144A	B-8
	CN-1574-2.0	1RN-148A	L-11

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1RN-008H-C	CN-1574-2.1	1RN-232A	D-3
	CN-1574-2.1	1RN-846A	J-3
	CN-1574-2.1	1RN-C51	I-3
	CN-1574-2.1	1RN-C52	I-2
	CN-1574-2.1	1RN-847A	J-1
1RN-009H-C	CN-1574-2.4	1RN-225B	B-8
	CN-1574-2.4	1RN-229B	L-11
1RN-010H-C	CN-1574-2.5	1RN-292B	D-2
	CN-1574-2.5	1RN-C53	J-2
	CN-1574-2.5	1RN-C54	J-3
	CN-1574-2.5	1RN-848B	J-2
	CN-1574-2.5	1RN-849B	J-1
1RN-011H-C	CN-1574-2.1	1RN-250A	D-7
	CN-1592-1.0	1CA-183	D-8
	CN-1592-1.0	1CA-116A	D-7
	CN-1592-1.0	1CA-15A	D-2
1RN-012H-C	CN-1574-2.5	1RN-310B	C-7
	CN-1592-1.0	1CA-184	C-7
	CN-1592-1.0	1CA-18B	D-6
	CN-1592-1.0	1CA-85B	D-6
1SA-001H-C	CN-1593-1.1	1SA-11	F-6
	CN-1593-1.1	1SA-12	H-10
	CN-1593-1.1	1SA-13	H-10
	CN-1593-1.1	1SA-145	G-10
	CN-1593-1.1	1SA-3	G-5
	CN-1593-1.1	1SA-6	H-5
	CN-1593-1.1	1SA-7	G-5
	CN-1593-1.1	1SA-8	G-6
1WL-001H-C	CN-1565-2.2	1WL-443	J-8
	CN-1565-2.2	1WL-830	H-4

Catawba Unit 1

Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
1WL-001H-C	CN-1565-2.2	1WL-832	H-5
	CN-1565-2.2	1WL-838	D-8
	CN-1565-2.2	1WL-840	D-10
	CN-1565-2.2	1WL-845	K-8
	CN-1565-2.2	1WL-847	K-7
	CN-1565-2.2	1WL-848	K-8
	CN-1565-2.2	1WL-A84	I-9
	CN-1565-2.2	1WL-D66	J-7
	CN-1565-2.2	1WL-894	I-8
1YC-001H-C	CN-1578-2.0	1YC-110	D-4
	CN-1578-2.0	1YC-330	C-4
	CN-1578-2.0	1YC-77A	D-12
	CN-1578-2.0	1YC-29	G-9
	CN-1578-2.0	1YC-33	F-7
	CN-1578-2.1	1YC-165	J-10
	CN-1578-2.1	1YC-166	J-12
	CN-1578-2.1	1YC-164	J-7
	CN-1578-2.1	1YC-163	K-4
	CN-1578-2.4	1YC-340	F-2
	CN-1578-2.2	1YC-333	D-4
1YC-002H-C	CN-1578-2.2	1YC-334	C-4
	CN-1578-2.2	1YC-151	F-7
	CN-1578-2.2	1YC-84	G-9
	CN-1578-2.2	1YC-121B	D-12
	CN-1578-2.3	1YC-233	J-4
	CN-1578-2.3	1YC-234	J-6
	CN-1578-2.3	1YC-235	J-10
	CN-1578-2.3	1YC-236	J-13
	CN-1578-2.5	1YC-1	F-2

2.2 Catawba Unit 1 - Class 2 Containment Penetrations Examined In Accordance With 10 CFR Part 50, Appendix J:

The following listing identifies the Class 2 containment penetrations that are examined in accordance with Appendix J, as allowed by Code Case N-522, and shall not be subjected to system pressure testing:

Penetration Number	Flow Diagram	Drawing Coordinate
M-212	CN-1553-1.1	K-10
M-216	CN-1553-1.1	I-12
M-327	CN-1553-1.3	K-8
M-329	CN-1553-1.3	D-7
M-348	CN-1565-2.0	J-4
M-345	CN-1565-2.0	I-8
M-228	CN-1554-1.8	F-9
M-259	CN-1556-2.0	G-5
M-373	CN-1558-2.0	G-14
M-372	CN-1558-2.0	L-11
M-332	CN-1559-1.0	E-7
M-346	CN-1559-1.0	E-4
M-331	CN-1562-1.1	L-9
M-221	CN-1565-2.1	I-7
M-374	CN-1565-2.4	I-7
M-359	CN-1565-2.6	J-11
M-356	CN-1568-1.0	E-12
M-235	CN-1572-1.0	K-5
M-310	CN-1572-1.0	K-9
M-386	CN-1585-1.0	H-2
M-204	CN-1585-1.0	J-11

Penetration Number	Flow Diagram	Drawing Coordinate
M-316	CN-1599-2.2	E-7
M-361	CN-1599-2.2	D-2
M-337	CN-1601-3.1	E-5
M-220	CN-1605-1.1	H-8
M-219	CN-1605-2.1	G-11
M-215	CN-1605-3.2	H-7
M-240	CN-1574-2.8	E-13
M-385	CN-1574-2.8	G-4

2.3 Catawba Unit 1 - Schedules for Examination:

Pressure testing is performed on Class 1 systems each refueling outage and performed on Class 2 and 3 systems once each inspection period. The sequence of component examinations established in the first inspection interval needs to be repeated in successive inspection intervals (reference Section 1.7 of this plan for more detail).

The following information shows the schedule for each Examination Zone:

1st Period	2nd Period	3rd Period
Refueling Outage 9	Refueling Outage 11	Refueling Outage 14
Refueling Outage 10	Refueling Outage 12	Refueling Outage 15
	Refueling Outage 13	

Zone Number	Period 1	Period 2	Period 3	Remarks
1NC-001L-A	See Remarks	See Remarks	See Remarks	Examine in refueling outages ³ 9, 10, 11, 12, 13, & 14
1NC-001H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 15
1NC-002H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 15
1NC-003H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 15
1NC-004H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 15
1NC-005H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 15
1NC-006H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 15
1NC-007H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 15
1NC-008H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 15
1NC-009H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 15
1NC-010H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 15
1NC-011H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 15
1BB-001L-B	X	X		

³ 1NC-001L-A was examined as B15.050.001 during refueling outage #9.

Zone Number	Period 1	Period 2	Period 3	Remarks
1BB-001H-B			X	
1CA-001L-B	X	X		
1CA-001H-B			X	
1CA-001L-C	X	X		
1CA-001H-C			X	
1CA-002L-C	X	X		
1CA-002H-C			X	
1CA-003L-C	X	X		
1CA-003H-C			X	
1DG-001L-C	X	X		
1DG-001H-C			X	
1DG-002L-C	X	X		
1DG-002H-C			X	
1FW-001L-B	X	X		
1FW-001H-B			X	
1FW-002L-B	X	X		
1FW-002H-B			X	
1KC-001L-C	X	X		
1KC-001H-C			X	
1KC-002L-C	X	X		
1KC-002H-C			X	
1KF-001H-B			X	

Zone Number	Period 1	Period 2	Period 3	Remarks
1KF-001L-C	X	X		
1KF-001H-C			X	
1KF-002L-C	X	X		
1KF-002H-C			X	
1ND-001L-B	X	X		
1ND-001H-B			X	
1ND-002L-B	X	X		
1ND-002H-B			X	
1ND-003L-B	X	X		
1ND-003H-B			X	
1ND-004L-B	X	X		
1ND-004H-B			X	
1ND-007L-B	X	X		
1ND-008L-B	X	X		
1NI-001H-B			X	
1NI-002L-B	X	X		
1NI-002H-B			X	
1NI-003H-B			X	
1NI-004L-B	X	X		
1NI-004H-B			X	
1NI-005H-B			X	
1NI-006L-B	X	X		
1NI-006H-B			X	
1NI-007H-B			X	
1NI-008H-B			X	

Zone Number	Period 1	Period 2	Period 3	Remarks
1NI-009H-B			X	
1NS-001L-B	X	X		
1NS-001H-B			X	
1NS-002L-B	X	X		
1NS-002H-B			X	
1NV-001L-B	X	X		
1NV-001H-B			X	
1NV-001L-C	X	X		
1NV-001H-C			X	
1NV-002L-B	X	X		
1NV-002H-B			X	
1NV-003L-B	X	X		
1NV-003H-B			X	
1NV-004L-B	X	X		
1NV-004H-B			X	
1NV-005L-B	X	X		
1NV-005H-B			X	
1NV-006L-B	X	X		
1NV-006H-B			X	
1RN-001L-C	X	X		
1RN-001H-C			X	
1RN-002L-C	X	X		
1RN-002H-C			X	
1RN-003L-C	X	X		
1RN-003H-C			X	

Zone Number	Period 1	Period 2	Period 3	Remarks
1RN-004L-C	X	X		
1RN-004H-C			X	
1RN-005L-C	X	X		
1RN-005H-C			X	
1RN-006L-C	X	X		
1RN-006H-C			X	
1RN-007L-C	X	X		
1RN-007H-C		X		
1RN-008L-C	X	X		
1RN-008H-C			X	
1RN-009L-C	X	X		
1RN-009H-C			X	
1RN-010L-C	X	X		
1RN-010H-C			X	
1RN-011H-C			X	
1RN-012H-C			X	
1SA-001H-B			X	
1SA-001L-C	X	X		
1SA-001H-C			X	
1WL-001H-C			X	
1YC-001L-C	X	X		
1YC-001H-C			X	
1YC-002L-C	X	X		
1YC-002H-C			X	

2.4 Catawba Unit 1 - Flow Diagram and System Listing:

The following is a listing of the pressure testing systems, flow diagrams, flow diagram revision, and the ASME Section XI classes that identify the Examination Zones for Catawba Unit 1. The flow diagram revision number provides a baseline for the development of the Inservice Inspection Pressure Testing Plan and will not be updated as each flow diagram is revised.

System	Flow Diagram	Flow Diagram Revision	Class 1	Class 2	Class 3
Reactor Coolant (NC)	CN-1553-1.0	24	X		
Reactor Coolant (NC)	CN-1553-1.1	15	X	X	
Chemical & Volume Control (NV)	CN-1554-1.0	20	X	X	
Chemical & Volume Control (NV)	CN-1554-1.1	11		X	
Chemical & Volume Control (NV)	CN-1554-1.2	17		X	X
Chemical & Volume Control (NV)	CN-1554-1.3	13		X	X
Chemical & Volume Control (NV)	CN-1554-1.4	16		X	X
Chemical & Volume Control (NV)	CN-1554-1.5	8	X	X	
Chemical & Volume Control (NV)	CN-1554-1.6	14		X	X
Chemical & Volume Control (NV)	CN-1554-1.7	12		X	X
Chemical & Volume Control (NV)	CN-1554-1.8	3		X	
Chemical & Volume Control (NV)	CN-1556-1.0	9		X	
Residual Heat Removal (ND)	CN-1561-1.0	13	X	X	
Residual Heat Removal (ND)	CN-1561-1.1	9	X	X	
Safety Injection (NI)	CN-1562-1.0	8	X	X	
Safety Injection (NI)	CN-1562-1.1	15	X	X	
Safety Injection (NI)	CN-1562-1.2	11	X	X	
Safety Injection (NI)	CN-1562-1.3	10	X	X	
Containment Spray (NS)	CN-1563-1.0	14		X	
Liquid Radwaste (WL)	CN-1565-2.2	24			X

System	Flow Diagram	Flow Diagram Revision	Class 1	Class 2	Class 3
Liquid Radwaste (WL)	CN-1565-2.6	8		X	
Containment Valve Injection Water (NW)	CN-1569-1.0	10		X	X
Spent Fuel Cooling System (KF)	CN-1570-1.0	15		X	X
Spent Fuel Cooling System (KF)	CN-1570-1.1	5			X
Refueling Water (FW)	CN-1571-1.0	16		X	
Nuclear Sampling (NM)	CN-1572-1.0	19		X	
Nuclear Sampling (NM)	CN-1572-1.1	5		X	
Nuclear Sampling (NM)	CN-1572-1.4	16		X	
Component Cooling System (KC)	CN-1573-1.0	22			X
Component Cooling System (KC)	CN-1573-1.1	14			X
Component Cooling System (KC)	CN-1573-1.2	13			X
Component Cooling System (KC)	CN-1573-1.6	7			X
Component Cooling System (KC)	CN-1573-2.0	6			X
Component Cooling System (KC)	CN-1573-2.1	7			X
Component Cooling System (KC)	CN-1573-2.2	1			X
Component Cooling System (KC)	CN-1573-2.3	1			X
Nuclear Service Water System (RN)	CN-1574-1.0	34			X
Nuclear Service Water System (RN)	CN-1574-1.1	20			X
Nuclear Service Water System (RN)	CN-1574-1.2	28			X
Nuclear Service Water System (RN)	CN-1574-1.5	0			X
Nuclear Service Water System (RN)	CN-1574-2.0	24			X
Nuclear Service Water System (RN)	CN-1574-2.1	27			X
Nuclear Service Water System (RN)	CN-1574-2.4	19			X
Nuclear Service Water System (RN)	CN-1574-2.5	26			X
Control Area Chilled Water System (YC)	CN-1578-2.0	7			X
Control Area Chilled Water System (YC)	CN-1578-2.1	7			X

System	Flow Diagram	Flow Diagram Revision	Class 1	Class 2	Class 3
Control Area Chilled Water System (YC)	CN-1578-2.2	6			X
Control Area Chilled Water System (YC)	CN-1578-2.3	5			X
Control Area Chilled Water System (YC)	CN-1578-2.4	7			X
Control Area Chilled Water System (YC)	CN-1578-2.5	6			X
Steam Generator Blowdown (BB)	CN-1580-1.0	19		X	
Steam Generator Wet Layup Recirc. (BW)	CN-1584-1.0	7		X	
Feedwater (CF)	CN-1591-1.1	20		X	
Auxiliary Feedwater (CA)	CN-1592-1.0	19			X
Auxiliary Feedwater (CA)	CN-1592-1.1	16		X	X
Main Steam (SM)	CN-1593-1.0	15		X	
Main Steam to Aux. Equip. (SA)	CN-1593-1.1	17		X	X
Main Steam (SM)	CN-1593-1.7	8		X	
Diesel Generator (KD)	CN-1609-1.0	11			X
Diesel Generator (LD)	CN-1609-2.0	15			X
Diesel Generator (LD)	CN-1609-2.2	15			X
Diesel Generator (FD)	CN-1609-3.0	17			X
Diesel Generator (FD)	CN-1609-3.1	15			X
Diesel Generator (VG)	CN-1609-4.0	14			X
Diesel Generator (VG)	CN-1609-4.1	10			X
Component Cooling System (KC)	CN-2573-1.1	9			X
Component Cooling System (KC)	CN-2573-2.2	1			X
Component Cooling System (KC)	CN-2573-2.3	1			X
Nuclear Service Water (RN)	CN-2574-2.0	14			X
Nuclear Service Water (RN)	CN-2574-2.1	19			X
Nuclear Service Water (RN)	CN-2574-2.4	11			X

System	Flow Diagram	Flow Diagram Revision	Class 1	Class 2	Class 3
Nuclear Service Water (RN)	CN-2574-2.5	19			X
Closure Head Penetration	CNM-1201.1.52-7	N/A	X		
Pressurizer Heater Penetration	CNM-1201.1.66	N/A	X		
Bottom Mounted Instrumentation	CNM-1201.14-51-3	N/A	X		

Section 3.0

Catawba Nuclear Station - Unit 2

Location: 4800 Concord Road
York, South Carolina 29745

Commercial Service Date: August 19, 1986

Second Interval Start Date: August 19, 1996

Owner: Duke Energy Corporation
526 South Church St.
Mail Code EC07J
Charlotte, N. C. 28201-1006

Second Inspection Interval

<u>Start Date</u>		<u>End Date</u>	
08/19/1996	08/19/1999	08/19/2003	08/19/2006
1st Period		2nd Period	3rd Period
Refueling Outage 8		Refueling Outage 10	Refueling Outage 13
Refueling Outage 9		Refueling Outage 11	Refueling Outage 14
		Refueling Outage 12	

ANII Review:

Robert McGinnis

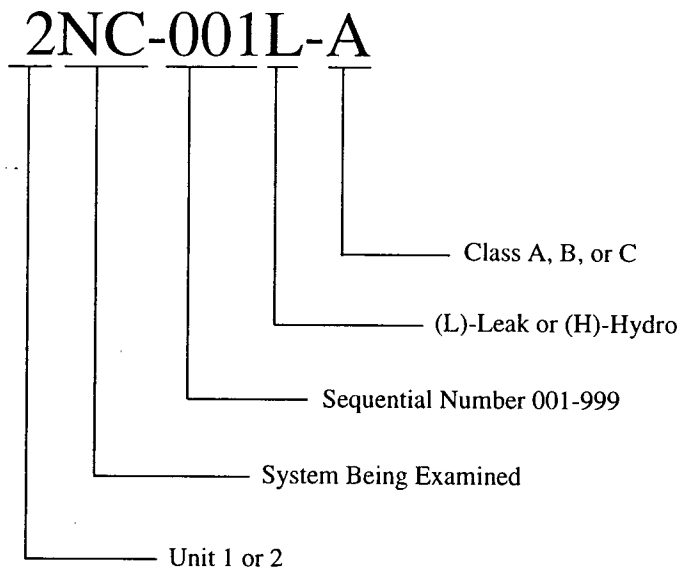
Date

8-19-98

3.1 Catawba Unit 2 - Examination Zone Listing, Associated Flow Diagrams, & Boundary Valves:

The Examination Zone number for each pressure test represents an area of a system that shall receive a VT-2 visual examination at one time. An Examination Zone terminates at a boundary valve, building interface, or component interface and may include several flow diagrams. The Examination Zone includes all pressure retaining components within the scope of the boundary valves/extremity interfaces.

All Catawba Unit 2 Examination Zone numbers have the same format. The following example is for a Class A Leakage Test zone:



The following abbreviations are used in the Examination Boundary Valve listing to describe boundary interfaces:

<u>Abbreviation</u>	<u>Boundary Interface</u>
AB WALL	Auxiliary Building Wall
RB WALL	Reactor Building Wall
RWST	Refueling Water Storage Tank
KCST	Component Cooling Surge Tank

The Examination Boundary Valve listing is determined from the system flow diagrams and is shown on the following pages:

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'A' Leakage Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NC-001L-A	CN-2553-1.0	2NC-106	J-13
	CN-2553-1.0	2NC-20	C-11
	CN-2553-1.0	2NC-299	J-8
	CN-2553-1.0	2NC-312	J-8
	CN-2553-1.0	2NC-5	C-3
	CN-2553-1.0	2NC-95	K-3
	CN-2553-1.1	2NC-1	K-3
	CN-2553-1.1	2NC-2	K-4
	CN-2553-1.1	2NC-251B	L-7
	CN-2553-1.1	2NC-253A	K-7
	CN-2553-1.1	2NC-3	K-6
	CN-2553-1.1	2NC-32B	G-4
	CN-2553-1.1	2NC-34A	G-3
	CN-2553-1.1	2NC-36B	G-2
	CN-2554-1.0	2NV-123B	D-9
	CN-2554-1.0	2NV-2A	H-2
	CN-2554-1.0	2NV-33	K-10
	CN-2554-1.0	2NV-37A	L-7
	CN-2554-1.0	2NV-40	K-3
	CN-2554-1.0	2NV-861	L-9
	CN-2554-1.5	2NV-492	J-6
	CN-2554-1.5	2NV-493	H-6
	CN-2554-1.5	2NV-494	F-6
	CN-2554-1.5	2NV-495	D-6
	CN-2561-1.0	2ND-2A	J-13
	CN-2561-1.1	2ND-37A	J-13
	CN-2562-1.0	2NI-351	I-11
	CN-2562-1.0	2NI-352	I-9
	CN-2562-1.0	2NI-353	I-7
	CN-2562-1.0	2NI-354	I-5

Duke Power Company
Catawba Unit 2
 Pressure Testing Boundary Valve Report For Class 'A' Leakage Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NC-001L-A	CN-2562-1.1	2NI-54A	G-2
	CN-2562-1.1	2NI-65B	G-4
	CN-2562-1.1	2NI-76A	G-7
	CN-2562-1.1	2NI-88B	G-10
	CN-2562-1.2	2NI-124	I-4
	CN-2562-1.2	2NI-125	H-4
	CN-2562-1.2	2NI-128	K-4
	CN-2562-1.2	2NI-129	J-3
	CN-2562-1.2	2NI-156	E-3
	CN-2562-1.2	2NI-159	C-3
	CN-2562-1.3	2NI-165	G-3
	CN-2562-1.3	2NI-167	G-6
	CN-2562-1.3	2NI-169	G-9
	CN-2562-1.3	2NI-171	G-11
	CN-2562-1.3	2NI-175	F-11
	CN-2562-1.3	2NI-176	F-9
	CN-2562-1.3	2NI-180	F-5
	CN-2562-1.3	2NI-181	F-4

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'A' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NC-001H-A	CN-2553-1.0	2NC- 94	K-3
	CN-2553-1.0	2NC-13	K-12
	CN-2553-1.0	2NC-19	B-12
	CN-2553-1.0	2NC-4	B-3
	CN-2553-1.0	2NC-299	J-8
	CN-2553-1.0	2NC-312	J-8
	CN-2553-1.1	2NC-1	K-3
	CN-2553-1.1	2NC-2	K-4
	CN-2553-1.1	2NC-250A	L-7
	CN-2553-1.1	2NC-252B	K-7
	CN-2553-1.1	2NC-3	K-6
	CN-2553-1.1	2NC-32B	G-4
	CN-2553-1.1	2NC-34A	G-3
	CN-2553-1.1	2NC-36B	G-2
	CN-2554-1.0	2NV-34	K-11
	CN-2554-1.0	2NV-38	L-11
	CN-2554-1.0	2NV-123B	D-9
	CN-2554-1.0	2NV-2A	H-2
	CN-2554-1.0	2NV-41	K-2
	CN-2554-1.5	2NV-492	J-6
	CN-2554-1.5	2NV-493	H-6
	CN-2554-1.5	2NV-494	F-6
	CN-2554-1.5	2NV-495	D-6
	CN-2561-1.0	2ND-1B	L-13
	CN-2561-1.1	2ND-36B	L-13
	CN-2562-1.0	2NI-15	I-10
	CN-2562-1.0	2NI-17	I-9
	CN-2562-1.0	2NI-19	I-7
	CN-2562-1.0	2NI-21	I-5
	CN-2562-1.1	2NI-54A	G-2

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'A' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NC-001H-A	CN-2562-1.1	2NI-65B	G-4
	CN-2562-1.1	2NI-76A	G-7
	CN-2562-1.1	2NI-88B	G-10
	CN-2562-1.2	2NI-126	I-1
	CN-2562-1.2	2NI-134	K-1
	CN-2562-1.2	2NI-157	E-1
	CN-2562-1.2	2NI-160	C-1
	CN-2562-1.3	2NI-165	G-3
	CN-2562-1.3	2NI-167	G-6
	CN-2562-1.3	2NI-169	G-9
	CN-2562-1.3	2NI-171	G-11
	CN-2562-1.3	2NI-175	F-11
	CN-2562-1.3	2NI-176	F-9
	CN-2562-1.3	2NI-180	F-5
	CN-2562-1.3	2NI-181	F-4
2NC-002H-A	CNM-1201.01-66	N/A	
	CNM-1201.14-51/3	N/A	
	CNM-2201.01-74/7	N/A	
2NC-002H-A	CN-2553-1.0	2NC-106	J-12
	CN-2553-1.0	2NC-13	K-12
	CN-2553-1.0	2NC-19	B-12
	CN-2553-1.0	2NC-20	C-12
	CN-2553-1.0	2NC-299	J-8
	CN-2553-1.0	2NC-312	J-9
	CN-2553-1.0	2NC-4	B-3
	CN-2553-1.0	2NC-5	C-3
	CN-2553-1.0	2NC-94	K-3
	CN-2553-1.0	2NC-95	J-3
2NC-003H-A	CN-2553-1.1	2NC-250A	L-7
	CN-2553-1.1	2NC-251B	L-7

Duke Power Company
Catawba Unit 2
 Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2CA-001L-C	CN-2592-1.0	2CA-116A	D-8
	CN-2592-1.0	2CA-125	E-13
	CN-2592-1.0	2CA-174	E-8
	CN-2592-1.0	2CA-214	F-12
	CN-2592-1.0	2CA-24	K-9
	CN-2592-1.0	2CA-68	K-10
	CN-2592-1.0	2CA-7A	C-8
	CN-2592-1.0	2CA-85B	D-7
	CN-2592-1.1	2CA-35	C-12
	CN-2592-1.1	2CA-47	C-9
	CN-2592-1.1	2CA-51	C-6
	CN-2592-1.1	2CA-63	C-3
2CA-002L-C	CN-2592-1.0	2CA-155	H-5
	CN-2592-1.0	2CA-156	H-6
	CN-2592-1.0	2CA-18B	D-6
	CN-2592-1.0	2CA-34	K-7
	CN-2592-1.0	2CA-70	K-8
	CN-2592-1.0	2CA-96	I-7
	CN-2592-1.0	2CA-9B	C-5
	CN-2592-1.1	2CA-112	L-9
	CN-2592-1.1	2CA-39	K-12
	CN-2592-1.1	2CA-43	K-9
2CA-003L-C	CN-2592-1.0	2CA-101	I-3
	CN-2592-1.0	2CA-11A	C-1
	CN-2592-1.0	2CA-153	H-2
	CN-2592-1.0	2CA-154	H-3
	CN-2592-1.0	2CA-15A	D-2
	CN-2592-1.0	2CA-29	K-3
	CN-2592-1.0	2CA-72	K-4
	CN-2592-1.1	2CA-111	L-6

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2CA-003L-C	CN-2592-1.1	2CA-55	K-6
	CN-2592-1.1	2CA-59	K-3
2DG-001L-C	CN-2609-1.0	2KD-1	K-8
	CN-2609-1.0	2KD-15	J-6
	CN-2609-1.0	2KD-88	K-13
	CN-2609-1.0	2KD-89	J-13
	CN-2609-2.0	2LD-11	I-10
	CN-2609-2.0	2LD-12	I-14
	CN-2609-2.0	2LD-22	C-7
	CN-2609-2.0	2LD-69	C-4
	CN-2609-2.0	2LD-142	I-7
	CN-2609-2.0	2LD-143	I-8
	CN-2609-3.0	2FD-1	L-3
	CN-2609-3.0	2FD-12	K-4
	CN-2609-3.0	2FD-13	I-4
	CN-2609-3.0	2FD-2	I-3
	CN-2609-3.0	2FD-5	K-8
	CN-2609-3.0	2FD-6	I-7
	CN-2609-4.0	2VG-8	I-13
	CN-2609-4.0	2VG-7	I-2
2DG-002L-C	CN-2609-1.0	2KD-91	E-13
	CN-2609-1.0	2KD-92	C-13
	CN-2609-1.0	2KD-16	G-8
	CN-2609-2.2	2LD-42	I-14
	CN-2609-2.2	2LD-52	C-7
	CN-2609-2.2	2LD-70	D-4
	CN-2609-2.2	2LD-41	I-10
	CN-2609-2.2	2LD-145	I-7
	CN-2609-2.2	2LD-146	I-8
	CN-2609-3.1	2FD-41	L-2

Duke Power Company
Catawba Unit 2
 Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2DG-002L-C	CN-2609-3.1	2FD-42	I-3
	CN-2609-3.1	2FD-45	K-8
	CN-2609-3.1	2FD-46	I-7
	CN-2609-3.1	2FD-52	K-4
	CN-2609-3.1	2FD-53	I-4
	CN-2609-4.1	2VG-52	K-13
	CN-2609-4.1	2VG-51	J-2
2KC-001L-C	CN-1573-1.6	1KC-227	G-8
	CN-1573-1.6	1KC-249	L-9
	CN-1573-1.6	1KC-254	G-7
	CN-1573-1.6	1KC-276	L-6
	CN-1573-1.6	1KC-466	B-3
	CN-1573-1.6	1KC-475	F-3
	CN-2573-1.0	2KC-19	F-2
	CN-2573-1.0	2KC-3A	C-6
	CN-2573-1.0	2KC-62	E-1
	CN-2573-1.0	2KC-64	E-7
	CN-2573-1.0	2KC-37	K-1
	CN-2573-1.0	2KC-2B	C-9
	CN-2573-1.0	2KC-965	G-4
	CN-2573-1.0	2KC-16	G-6
	CN-2573-1.0	2KC-67	I-3
	CN-2573-1.0	2KC-53B	K-8
	CN-2573-1.0	2KC-22	F-6
	CN-2573-1.0	2KC-966	D-4
	CN-2573-1.0	2KC-35	I-2
	CN-2573-1.0	2KC-A8	J-6
	CN-2573-1.0	2KC-230A	K-7
	CN-2573-1.0	2KC-D4	L-8
	CN-2573-1.0	2KC-D5	H-9

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2KC-001L-C	CN-2573-1.0	2KC-33	J-3
	CN-2573-1.0	2KC-21	G-2
	CN-2573-1.0	2KC-24	G-6
	CN-2573-1.0	2KCFE5730	K-4
	CN-2573-1.1	2KC-107	H-3
	CN-2573-1.1	2KC-118	H-5
	CN-2573-1.1	2KC-125	G-6
	CN-2573-1.1	2KC-496	H-3
	CN-2573-1.1	KCST 2B	J-10
	CN-2573-1.2	2KC-130	G-5
	CN-2573-1.2	2KC-133	C-6
	CN-2573-1.2	2KC-134	C-6
	CN-2573-1.2	2KC-139	G-2
	CN-2573-1.2	2KC-142	C-3
	CN-2573-1.2	2KC-143	B-3
	CN-2573-1.2	2KC-153	E-11
	CN-2573-1.2	2KC-154	D-11
	CN-2573-1.2	2KC-160	E-13
	CN-2573-1.2	2KC-161	D-13
	CN-2573-1.2	2KC-C03	G-8
	CN-2573-1.2	2KC-C05	C-8
	CN-2573-1.2	2KC-151	E-11
	CN-2573-1.2	2KC-158	E-13
	CN-2573-2.0	2KC-58	G-4
	CN-2573-2.0	2KC-60	G-4
	CN-2573-2.0	2KC-61	I-4
	CN-2573-2.0	2KC-76	F-7
	CN-2573-2.0	2KC-79	I-7
	CN-2573-2.2	2KC-30	K-2
	CN-2573-2.2	2KC-28	C-2

Duke Power Company
Catawba Unit 2
 Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2KC-002L-C	CN-2573-1.0	2KC-17	G-9
	CN-2573-1.0	2KC-18B	C-9
	CN-2573-1.0	2KC-25	F-8
	CN-2573-1.0	2KC-28	F-13
	CN-2573-1.0	2KC-228B	K-8
	CN-2573-1.0	2KC-2B	C-9
	CN-2573-1.0	2KC-42	J-12
	CN-2573-1.0	2KC-44	I-13
	CN-2573-1.0	2KC-46	K-14
	CN-2573-1.0	2KC-53B	K-8
	CN-2573-1.0	2KC-87	E-8
	CN-2573-1.0	2KC-89	E-13
	CN-2573-1.0	2KC-92	I-12
	CN-2573-1.0	2KC-967	G-11
	CN-2573-1.0	2KC-968	B-11
	CN-2573-1.0	2KC-D4	L-8
	CN-2573-1.0	2KC-D6	I-9
	CN-2573-1.0	2KC-27	G-9
	CN-2573-1.0	2KC-30	G-13
	CN-2573-1.0	2KC-54B	J-9
	CN-2573-1.0	2KCFE5740	K-11
	CN-2573-1.1	2KC-111	H-12
	CN-2573-1.1	2KC-119	H-9
	CN-2573-1.1	2KC-127	G-8
	CN-2573-1.1	2KC-499	H-11
	CN-2573-1.1	KCST 2B	J-10
	CN-2573-2.1	2KC-101	F-7
	CN-2573-2.1	2KC-104	I-7
	CN-2573-2.1	2KC-83	G-4
	CN-2573-2.1	2KC-86	I-4

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2KC-002L-C	CN-2573-2.1	2KC-85	G-5
	CN-2573-2.3	2KC-D37	C-2
	CN-2573-2.3	2KC-D39	K-2
2KF-001L-C	CN-2570-1.0	2KF-1	D-9
	CN-2570-1.0	2KF-10	C-5
	CN-2570-1.0	2KF-114	L-5
	CN-2570-1.0	2KF-115	L-6
	CN-2570-1.0	2KF-116	L-7
	CN-2570-1.0	2KF-117	J-7
	CN-2570-1.0	2KF-12	C-4
	CN-2570-1.0	2KF-121	D-4
	CN-2570-1.0	2KF-133	K-5
	CN-2570-1.0	2KF-134	J-6
	CN-2570-1.0	2KF-20	F-2
	CN-2570-1.0	2KF-135	J-6
	CN-2570-1.0	2KF-7	J-8
	CN-2570-1.1	2KF-29	C-2
2KF-002L-C	CN-2570-1.0	2KF-105	I-7
	CN-2570-1.0	2KF-106	H-7
	CN-2570-1.0	2KF-108	H-5
	CN-2570-1.0	2KF-109	H-6
	CN-2570-1.0	2KF-120	E-5
	CN-2570-1.0	2KF-136	H-5
	CN-2570-1.0	2KF-138	J-6
	CN-2570-1.0	2KF-15	E-9
	CN-2570-1.0	2KF-20	E-2
	CN-2570-1.0	2KF-22	I-8
	CN-2570-1.0	2KF-24	G-5
	CN-2570-1.0	2KF-26	F-5
2NV-001L-C	CN-1554-1.4	1NV-432	B-2

Duke Power Company
Catawba Unit 2
 Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NV-001L-C	CN-1554-1.4	1NV-407	L-8
	CN-2554-1.2	2NV-238A	E-8
	CN-2554-1.3	2NV-355	I-12
	CN-2554-1.3	2NV-359	I-13
	CN-2554-1.3	2NV-360	H-10
	CN-2554-1.3	2NV-367	J-5
	CN-2554-1.3	2NV-369	H-3
	CN-2554-1.3	2NV-370	I-4
	CN-2554-1.3	2NV-374	I-2
	CN-2554-1.3	2NV-375	H-7
	CN-2554-1.3	2NV-382	D-9
	CN-2554-1.3	2NV-384	C-8
	CN-2554-1.3	2NV-385	C-9
	CN-2554-1.3	2NV-389	B-9
	CN-2554-1.3	2NV-391	E-8
	CN-2554-1.3	2NV-392	F-10
	CN-2554-1.3	2NV-395	A-7
	CN-2554-1.3	2NV-399	F-9
	CN-2554-1.3	2NV-401	D-6
	CN-2554-1.3	2NV-489	J-10
	CN-2554-1.3	2NV-393	B-11
	CN-2554-1.3	2NV-341	E-4
	CN-2554-1.3	2NV-351	G-2
	CN-2554-1.4	2NV-409	K-3
	CN-2554-1.4	2NV-412	H-2
	CN-2554-1.4	2NV-418	F-5
	CN-2554-1.4	2NV-419	E-7
	CN-2554-1.4	2NV-422	F-9
	CN-2554-1.4	2NV-434	D-4
	CN-2554-1.4	2NV-435	C-7

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NV-001L-C	CN-2554-1.4	2NV-445	G-7
	CN-2554-1.4	2NV-446	H-7
	CN-2554-1.4	2NV-447	H-6
	CN-2554-1.4	2NV-997	L-1
	CN-2554-1.4	2NV-998	K-2
	CN-2554-1.4	2NV-A02	K-2
	CN-2554-1.6	2NV-155	D-12
	CN-2554-1.6	2NV-153A	E-12
	CN-2554-1.7	2NV-236B	F-11
2RN-001L-C	CN-2569-1.0	2NW-8A	G-13
	CN-2574-2.0	2RN-144A	C-5
	CN-2574-2.0	2RN-148A	L-1
	CN-2574-2.0	2RN-494	B-3
	CN-2574-2.0	2RN-C65	C-7
	CN-2574-2.0	2RN-C67	K-9
2RN-002L-C	CN-1574-1.1	1RN-17	J-9
	CN-2574-2.1	2RN-216	B-1
	CN-2574-2.1	2RN-846A	J-2
	CN-2574-2.1	2RN-847A	J-1
	CN-2574-2.1	2RN-945	C-3
	CN-2574-2.1	2RN-950	C-1
	CN-2574-2.1	2RN-955	C-2
	CN-2574-2.1	2RN-C51	I-3
	CN-2574-2.1	2RN-C52	I-2
2RN-003L-C	CN-1574-1.5	1RN-59	E-7
	CN-2574-2.1	2RN-287A	D-13
2RN-004L-C	CN-1574-1.5	1RN-62	F-10
	CN-2569-1.0	2NW-61B	G-2
	CN-2574-2.4	2RN-225B	C-6

Catawba Unit 2**Pressure Testing Boundary Valve Report For Class 'C' Ins/Func Tests**

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2RN-004L-C	CN-2574-2.4	2RN-493	B-5
	CN-2574-2.4	2RN-C68	C-7
	CN-2574-2.4	2RN-C70	K-9
2RN-005L-C	CN-1574-1.1	1RN-16	J-6
	CN-2574-2.5	2RN-104	D-2
	CN-2574-2.5	2RN-217	C-2
	CN-2574-2.5	2RN-848B	J-2
	CN-2574-2.5	2RN-849B	J-2
	CN-2574-2.5	2RN-956	D-2
	CN-2574-2.5	2RN-961	D-3
	CN-2574-2.5	2RN-C53	I-2
	CN-2574-2.5	2RN-C54	I-3
	CN-2574-2.5	2RNE-59	D-2
2RN-006L-C	CN-1574-1.5	1RN-61	E-10
	CN-2574-2.5	2RN-347B	F-13
2SA-001L-C	CN-2593-1.1	2SA-11	F-6
	CN-2593-1.1	2SA-12	H-10
	CN-2593-1.1	2SA-13	H-10
	CN-2593-1.1	AUX FDW PUMP	G-13
	CN-2593-1.1	2SA-3	G-5
	CN-2593-1.1	2SA-6	H-5
	CN-2593-1.1	2SA-7	G-5
	CN-2593-1.1	2SA-8	G-6

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2CA-001H-C	CN-2592-1.0	2CA-116A	D-8
	CN-2592-1.0	2CA-125	E-13
	CN-2592-1.0	2CA-174	E-8
	CN-2592-1.0	2CA-214	F-12
	CN-2592-1.0	2CA-24	K-9
	CN-2592-1.0	2CA-67	J-10
	CN-2592-1.0	2CA-7A	C-8
	CN-2592-1.0	2CA-85B	D-7
	CN-2592-1.1	2CA-37	G-12
	CN-2592-1.1	2CA-49	G-9
	CN-2592-1.1	2CA-53	G-6
	CN-2592-1.1	2CA-65	G-3
2CA-002H-C	CN-2592-1.0	2CA-155	H-5
	CN-2592-1.0	2CA-156	H-6
	CN-2592-1.0	2CA-18B	D-6
	CN-2592-1.0	2CA-34	K-7
	CN-2592-1.0	2CA-69	K-7
	CN-2592-1.0	2CA-96	I-7
	CN-2592-1.0	2CA-9B	C-5
	CN-2592-1.1	2CA-111	L-6
	CN-2592-1.1	2CA-45	I-9
	CN-2592-1.1	2CA-41	I-12
2CA-003H-C	CN-2592-1.0	2CA-101	I-3
	CN-2592-1.0	2CA-11A	C-1
	CN-2592-1.0	2CA-153	H-2
	CN-2592-1.0	2CA-154	H-3
	CN-2592-1.0	2CA-15A	D-2
	CN-2592-1.0	2CA-29	K-3
	CN-2592-1.0	2CA-71	J-4
	CN-2592-1.1	2CA-111	L-6

Duke Power Company
Catawba Unit 2
 Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2CA-003H-C	CN-2592-1.1	2CA-61	I-3
	CN-2592-1.1	2CA-57	I-6
2DG-001H-C	CN-2609-1.0	2KD-1	K-8
	CN-2609-1.0	2KD-15	J-6
	CN-2609-1.0	2KD-88	K-13
	CN-2609-1.0	2KD-89	J-13
	CN-2609-2.0	2LD-11	I-10
	CN-2609-2.0	2LD-12	I-14
	CN-2609-2.0	2LD-69	C-4
	CN-2609-2.0	2LD-22	C-7
	CN-2609-2.0	2LD-142	I-7
	CN-2609-2.0	2LD-143	I-8
	CN-2609-3.0	2FD-1	L-3
	CN-2609-3.0	2FD-12	K-4
	CN-2609-3.0	2FD-13	I-4
	CN-2609-3.0	2FD-2	I-3
	CN-2609-3.0	2FD-5	K-8
	CN-2609-3.0	2FD-6	I-7
	CN-2609-4.0	2VG-8	I-13
	CN-2609-4.0	2VG-7	I-2
2DG-002H-C	CN-2609-1.0	2KD-91	E-13
	CN-2609-1.0	2KD-92	C-13
	CN-2609-1.0	2KD-16	G-8
	CN-2609-2.2	2LD-42	I-14
	CN-2609-2.2	2LD-52	C-7
	CN-2609-2.2	2LD-70	D-4
	CN-2609-2.2	2LD-41	I-10
	CN-2609-2.2	2LD-145	I-7
	CN-2609-2.2	2LD-146	I-8
	CN-2609-3.1	2FD-41	L-2

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2DG-002H-C	CN-2609-3.1	2FD-42	I-3
	CN-2609-3.1	2FD-45	K-8
	CN-2609-3.1	2FD-46	I-7
	CN-2609-3.1	2FD-52	K-4
	CN-2609-3.1	2FD-53	I-4
	CN-2609-4.1	2VG-52	K-13
	CN-2609-4.1	2VG-51	J-2
2KC-001H-C	CN-1573-1.6	1KC-227	G-8
	CN-1573-1.6	1KC-249	L-9
	CN-1573-1.6	1KC-254	G-7
	CN-1573-1.6	1KC-276	L-6
	CN-1573-1.6	1KC-466	B-3
	CN-1573-1.6	1KC-475	F-3
	CN-2573-1.0	2KC-16	G-6
	CN-2573-1.0	2KC-19	F-2
	CN-2573-1.0	2KC-22	F-6
	CN-2573-1.0	2KC-230A	K-7
	CN-2573-1.0	2KC-2B	C-9
	CN-2573-1.0	2KC-33	J-3
	CN-2573-1.0	2KC-35	I-2
	CN-2573-1.0	2KC-37	K-1
	CN-2573-1.0	2KC-3A	C-6
	CN-2573-1.0	2KC-53B	K-8
	CN-2573-1.0	2KC-62	E-1
	CN-2573-1.0	2KC-64	E-7
	CN-2573-1.0	2KC-67	I-3
	CN-2573-1.0	2KC-965	G-4
	CN-2573-1.0	2KC-966	D-4
	CN-2573-1.0	2KC-A8	J-6
	CN-2573-1.0	2KC-D4	L-8

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2KC-001H-C	CN-2573-1.0	2KC-D5	H-9
	CN-2573-1.1	2KC-107	H-3
	CN-2573-1.1	2KC-118	H-5
	CN-2573-1.1	2KC-125	G-6
	CN-2573-1.1	2KC-496	H-3
	CN-2573-1.1	KCST 2B	J-10
	CN-2573-1.2	2KC-130	G-5
	CN-2573-1.2	2KC-133	C-6
	CN-2573-1.2	2KC-134	C-6
	CN-2573-1.2	2KC-139	G-2
	CN-2573-1.2	2KC-142	C-3
	CN-2573-1.2	2KC-143	B-3
	CN-2573-1.2	2KC-153	E-11
	CN-2573-1.2	2KC-154	D-11
	CN-2573-1.2	2KC-160	E-13
	CN-2573-1.2	2KC-161	D-13
	CN-2573-1.2	2KC-C03	G-8
	CN-2573-1.2	2KC-C05	C-8
	CN-2573-1.2	2KC-151	E-11
	CN-2573-1.2	2KC-158	E-13
	CN-2573-2.0	2KC-58	G-4
	CN-2573-2.0	2KC-60	G-4
	CN-2573-2.0	2KC-61	I-4
	CN-2573-2.0	2KC-76	F-7
	CN-2573-2.0	2KC-79	I-7
	CN-2573-2.2	2KC-30	K-2
	CN-2573-2.2	2KC-28	C-2
2KC-002H-C	CN-2573-1.0	2KC-17	G-9
	CN-2573-1.0	2KC-18B	C-9
	CN-2573-1.0	2KC-25	F-8

Duke Power Company
Catawba Unit 2
 Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2KC-002H-C	CN-2573-1.0	2KC-28	F-13
	CN-2573-1.0	2KC-228B	K-8
	CN-2573-1.0	2KC-2B	C-9
	CN-2573-1.0	2KC-42	J-12
	CN-2573-1.0	2KC-44	I-13
	CN-2573-1.0	2KC-46	K-14
	CN-2573-1.0	2KC-53B	K-8
	CN-2573-1.0	2KC-87	E-8
	CN-2573-1.0	2KC-89	E-13
	CN-2573-1.0	2KC-92	I-12
	CN-2573-1.0	2KC-967	G-11
	CN-2573-1.0	2KC-968	D-11
	CN-2573-1.0	2KC-D4	L-8
	CN-2573-1.0	2KC-D6	I-9
	CN-2573-1.1	2KC-111	H-12
	CN-2573-1.1	2KC-119	H-9
	CN-2573-1.1	2KC-127	G-8
	CN-2573-1.1	2KC-499	H-11
	CN-2573-1.1	KCST-2B	J-10
	CN-2573-2.1	2KC-101	F-7
	CN-2573-2.1	2KC-104	I-7
	CN-2573-2.1	2KC-83	G-4
	CN-2573-2.1	2KC-86	I-4
	CN-2573-2.3	2KC-D37	C-2
	CN-2573-2.3	2KC-D39	K-2
2KF-001H-C	CN-2570-1.0	2KF-1	D-9
	CN-2570-1.0	2KF-10	C-5
	CN-2570-1.0	2KF-114	L-5
	CN-2570-1.0	2KF-115	L-6
	CN-2570-1.0	2KF-116	L-7

Catawba Unit 2**Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests**

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2KF-001H-C	CN-2570-1.0	2KF-117	J-7
	CN-2570-1.0	2KF-12	C-4
	CN-2570-1.0	2KF-121	D-4
	CN-2570-1.0	2KF-133	K-5
	CN-2570-1.0	2KF-134	J-6
	CN-2570-1.0	2KF-20	F-2
	CN-2570-1.0	2KF-135	J-6
	CN-2570-1.0	2KF-7	J-8
	CN-2570-1.1	1KF-29	C-2
2KF-002H-C	CN-2570-1.0	2KF-105	I-7
	CN-2570-1.0	2KF-106	H-7
	CN-2570-1.0	2KF-108	H-5
	CN-2570-1.0	2KF-109	H-6
	CN-2570-1.0	2KF-120	E-5
	CN-2570-1.0	2KF-136	H-5
	CN-2570-1.0	2KF-138	J-6
	CN-2570-1.0	2KF-15	E-9
	CN-2570-1.0	2KF-20	E-2
	CN-2570-1.0	2KF-22	I-8
	CN-2570-1.0	2KF-24	G-5
	CN-2570-1.0	2KF-26	F-5
2NV-001H-C	CN-1554-1.4	1NV-432	B-2
	CN-1554-1.4	1NV-407	L-8
	CN-2554-1.2	2NV-238A	D-11
	CN-2554-1.3	2NV-355	I-12
	CN-2554-1.3	2NV-359	I-13
	CN-2554-1.3	2NV-360	H-10
	CN-2554-1.3	2NV-367	J-5
	CN-2554-1.3	2NV-369	H-3
	CN-2554-1.3	2NV-370	I-4

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NV-001H-C	CN-2554-1.3	2NV-374	I-2
	CN-2554-1.3	2NV-375	H-7
	CN-2554-1.3	2NV-382	D-9
	CN-2554-1.3	2NV-384	C-8
	CN-2554-1.3	2NV-385	C-9
	CN-2554-1.3	2NV-389	B-9
	CN-2554-1.3	2NV-391	E-8
	CN-2554-1.3	2NV-392	F-10
	CN-2554-1.3	2NV-395	A-7
	CN-2554-1.3	2NV-399	F-9
	CN-2554-1.3	2NV-401	D-6
	CN-2554-1.3	2NV-489	J-10
	CN-2554-1.3	2NV-393	B-11
	CN-2554-1.3	2NV-341	E-4
	CN-2554-1.3	2NV-351	G-2
	CN-2554-1.4	2NV-409	K-3
	CN-2554-1.4	2NV-412	H-2
	CN-2554-1.4	2NV-418	F-5
	CN-2554-1.4	2NV-419	E-7
	CN-2554-1.4	2NV-422	F-9
	CN-2554-1.4	2NV-434	D-4
	CN-2554-1.4	2NV-435	C-7
	CN-2554-1.4	2NV-445	G-7
	CN-2554-1.4	2NV-446	H-7
	CN-2554-1.4	2NV-447	H-6
	CN-2554-1.4	2NV-997	L-1
	CN-2554-1.4	2NV-998	K-2
	CN-2554-1.4	2NV-A02	K-2
	CN-2554-1.6	2NV-155	D-12
	CN-2554-1.6	2NV-153A	E-12

Duke Power Company
Catawba Unit 2
 Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NV-001H-C	CN-2554-1.7	2NV-236B	F-11
2RN-001H-C	CN-2569-1.0	2NW-8A	G-13
	CN-2574-2.0	2RN-144A	C-5
	CN-2574-2.0	2RN-148A	L-1
	CN-2574-2.0	2RN-494	B-3
	CN-2574-2.0	2RN-C65	C-7
	CN-2574-2.0	2RN-C67	K-9
2RN-002H-C	CN-1574-1.1	1RN-17	J-9
	CN-2574-2.1	2RN-216	B-1
	CN-2574-2.1	2RN-846A	J-2
	CN-2574-2.1	2RN-847A	J-1
	CN-2574-2.1	2RN-945	C-3
	CN-2574-2.1	2RN-950	C-1
	CN-2574-2.1	2RN-955	C-2
	CN-2574-2.1	2RN-C51	I-3
	CN-2574-2.1	2RN-C52	I-2
2RN-003H-C	CN-1574-1.5	1RN-59	E-7
	CN-2574-2.1	2RN-287A	D-13
2RN-004H-C	CN-1574-1.5	1RN-62	F-10
	CN-2569-1.0	2NW-61B	G-2
	CN-2574-2.4	2RN-225B	C-6
	CN-2574-2.4	2RN-493	B-5
	CN-2574-2.4	2RN-C68	C-7
	CN-2574-2.4	2RN-C70	K-9
2RN-005H-C	CN-1574-1.1	1RN-16	J-6
	CN-2574-2.5	2RN-104	D-2
	CN-2574-2.5	2RN-217	C-2
	CN-2574-2.5	2RN-848B	J-2
	CN-2574-2.5	2RN-849B	J-2

Catawba Unit 2**Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests**

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2RN-005H-C	CN-2574-2.5	2RN-956	D-2
	CN-2574-2.5	2RN-961	D-3
	CN-2574-2.5	2RN-C53	I-2
	CN-2574-2.5	2RN-C54	I-3
	CN-2574-2.5	2RNE-59	D-2
2RN-006H-C	CN-1574-1.5	1RN-61	E-10
	CN-2574-2.5	2RN-347B	F-13
2RN-007H-C	CN-2574-2.1	2RN-250A	C-7
	CN-2574-2.1	2CA-15A	D-2
	CN-2592-1.0	2CA-116A	D-8
	CN-2592-1.0	2CA-183	D-7
2RN-008H-C	CN-2574-2.5	2RN-310B	E-6
	CN-2592-1.0	2CA-184	D-6
	CN-2592-1.0	2CA-18B	D-6
	CN-2592-1.0	2CA-85B	D-7
2SA-001H-C	CN-2593-1.1	2SA-11	F-6
	CN-2593-1.1	2SA-12	H-10
	CN-2593-1.1	2SA-13	H-10
	CN-2593-1.1	AUX FDW PUMP	G-13
	CN-2593-1.1	2SA-3	G-5
	CN-2593-1.1	2SA-6	H-5
	CN-2593-1.1	2SA-7	G-5
	CN-2593-1.1	2SA-8	G-6
2WL-001H-C	CN-2565-2.2	2WL-443	G-9
	CN-2565-2.2	2WL-830	D-8
	CN-2565-2.2	2WL-832	D-10
	CN-2565-2.2	2WL-838	E-4
	CN-2565-2.2	2WL-840	D-6
	CN-2565-2.2	2WL-845	I-9
	CN-2565-2.2	2WL-847	J-9

Duke Power Company
Catawba Unit 2
Pressure Testing Boundary Valve Report For Class 'C' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2WL-001H-C	CN-2565-2.2	2WL-848	J-8
	CN-2565-2.2	2WL-A84	F-10
	CN-2565-2.2	2WL-E32	J-7
	CN-2565-2.2	2WL-894	E-9

3.2 Catawba Unit 2 - Class 2 Containment Penetrations Examined In Accordance With 10 CFR Part 50, Appendix J:

The following listing identifies the Class 2 containment penetrations that are examined in accordance with Appendix J, as allowed by Code Case N-522, and shall not be subjected to system pressure testing:

Penetration Number	Flow Diagram	Drawing Coordinate
M-212	CN-2553-1.1	K-10
M-216	CN-2553-1.1	I-12
M-327	CN-2553-1.3	K-8
M-329	CN-2553-1.3	D-7
M-348	CN-2565-2.0	J-4
M-345	CN-2565-2.0	I-8
M-228	CN-2554-1.8	F-9
M-259	CN-2556-2.0	G-5
M-373	CN-2558-2.0	G-14
M-372	CN-2558-2.0	L-11
M-332	CN-2559-1.0	E-7
M-346	CN-2559-1.0	E-4
M-331	CN-2562-1.1	L-9
M-221	CN-2565-2.1	I-7
M-374	CN-2565-2.4	I-7
M-359	CN-2565-2.6	G-11
M-356	CN-2568-1.0	I-8
M-235	CN-2572-1.0	K-5
M-310	CN-2572-1.0	K-9
M-386	CN-2585-1.0	H-2
M-204	CN-2585-1.0	J-11

Penetration Number	Flow Diagram	Drawing Coordinate
M-316	CN-1599-2.1	E-3
M-361	CN-1599-2.1	H-5
M-337	CN-1601-3.1	E-10
M-220	CN-2605-1.5	H-7
M-219	CN-1605-2.1	G-4
M-215	CN-2605-3.2	H-7
M-355	CN-2573-1.3	F-2
M-321	CN-2573-1.3	L-6
M-217	CN-2573-1.3	K-13
M-218	CN-2573-1.3	D-13
M-328	CN-2573-1.3	D-12
M-376	CN-2573-1.3	B-9
M-323	CN-2573-1.5	I-3
M-230	CN-2574-2.2	C-7
M-385	CN-2574-2.7	D-4
M-358	CN-2571-1.0	K-4
M-377	CN-2571-1.0	L-6

3.3 Catawba Unit 2 - Schedules for Examination:

Pressure testing is performed on Class 1 systems each refueling outage and performed on Class 2 and 3 systems once each inspection period. The sequence of component examinations established in the first inspection interval needs to be repeated in successive inspection intervals (reference Section 1.7 of this plan for more detail).

The following information shows the schedule for each Examination Zone:

1st Period	2nd Period	3rd Period
Refueling Outage 8	Refueling Outage 10	Refueling Outage 13
Refueling Outage 9	Refueling Outage 11	Refueling Outage 14
	Refueling Outage 12	

Zone Number	Period 1	Period 2	Period 3	Remarks
2NC-001L-A	See Remarks	See Remarks	See Remarks	Examine in refueling outages 8, 9, 10, 11, 12 & 13
2NC-001H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 14
2NC-002H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 14
2NC-003H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 14
2NC-004H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 14
2NC-005H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 14
2NC-006H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 14
2NC-007H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 14
2NC-008H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 14
2NC-009H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 14
2NC-010H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 14
2NC-011H-A	See Remarks	See Remarks	See Remarks	Examine in refueling outage 14
2BB-001L-B	X	X		
2BB-001H-B			X	

Zone Number	Period 1	Period 2	Period 3	Remarks
2CA-001L-B	X	X		
2CA-001H-B			X	
2CA-001L-C	X	X	X	Reference Section 1.7 of this plan
2CA-001H-C		X	X	Reference Section 1.7 of this plan
2CA-002L-C	X	X		
2CA-002H-C			X	
2CA-003L-C	X	X		
2CA-003H-C			X	
2DG-001L-C	X	X	X	Reference Section 1.7 of this plan
2DG-001H-C		X	X	Reference Section 1.7 of this plan
2DG-002L-C	X	X		
2DG-002H-C			X	
2FW-001L-B	X	X		
2FW-001H-B			X	
2FW-002L-B	X	X		
2FW-002H-B			X	
2KC-001L-C	X	X	X	Reference Section 1.7 of this plan
2KC-001H-C		X	X	Reference Section 1.7 of this plan
2KC-002L-C	X	X	X	Reference Section 1.7 of this plan
2KC-002H-C		X	X	Reference Section 1.7 of this plan
2KF-001L-B	X	X	X	Reference Section 1.7 of this plan
2KF-001H-B		X	X	Reference Section 1.7 of this plan

Zone Number	Period 1	Period 2	Period 3	Remarks
2KF-001L-C	X	X		
2KF-001H-C			X	
2KF-002L-C	X	X		
2KF-002H-C			X	
2ND-001L-B	X	X	X	Reference Section 1.7 of this plan
2ND-001H-B		X	X	Reference Section 1.7 of this plan
2ND-002L-B	X	X	X	Reference Section 1.7 of this plan
2ND-002H-B		X	X	Reference Section 1.7 of this plan
2ND-003L-B	X	X		
2ND-003H-B			X	
2ND-004L-B	X	X		
2ND-004H-B			X	
2ND-005L-B	X	X		
2ND-006L-B	X	X		
2NI-001L-B	X	X		
2NI-001H-B			X	
2NI-002L-B	X	X		
2NI-002H-B			X	
2NI-003L-B	X	X		
2NI-003H-B			X	
2NI-004L-B	X	X		
2NI-004H-B			X	
2NI-005L-B	X	X		
2NI-005H-B			X	

Zone Number	Period 1	Period 2	Period 3	Remarks
2NI-006L-B	X	X		
2NI-006H-B			X	
2NI-007L-B	X	X		
2NI-007H-B			X	
2NI-008H-B			X	
2NI-009H-B			X	
2NS-001L-B	X	X		
2NS-001H-B			X	
2NS-002L-B	X	X		
2NS-002H-B			X	
2NV-001L-B	X	X		
2NV-001H-B			X	
2NV-001L-C	X	X	X	Reference Section 1.7 of this plan
2NV-001H-C		X	X	Reference Section 1.7 of this plan
2NV-002L-B	X	X		
2NV-002H-B			X	
2RN-001L-C	X	X	X	Reference Section 1.7 of this plan
2RN-001H-C		X	X	Reference Section 1.7 of this plan
2RN-002L-C	X	X	X	Reference Section 1.7 of this plan
2RN-002H-C		X	X	Reference Section 1.7 of this plan
2RN-003L-C	X	X	X	Reference Section 1.7 of this plan
2RN-003H-C		X	X	Reference Section 1.7 of this plan

Zone Number	Period 1	Period 2	Period 3	Remarks
2RN-004L-C	X	X	X	Reference Section 1.7 of this plan
2RN-004H-C		X	X	Reference Section 1.7 of this plan
2RN-005L-C	X	X	X	Reference Section 1.7 of this plan
2RN-005H-C		X	X	Reference Section 1.7 of this plan
2RN-006L-C	X	X	X	Reference Section 1.7 of this plan
2RN-006H-C		X	X	Reference Section 1.7 of this plan
2RN-007H-C		X		
2RN-008H-C			X	
2SA-001H-B			X	
2SA-001L-C	X	X		
2SA-001H-C			X	
2WL-001L-C	X	X	X	Reference Section 1.7 of this plan
2WL-001H-C		X	X	Reference Section 1.7 of this plan

3.4 Catawba Unit 2 - Flow Diagram and System Listing:

The following is a listing of the pressure testing systems, flow diagrams, flow diagram revision, and the ASME Section XI classes that identify the Examination Zones for Catawba Unit 2. The flow diagram revision number provides a baseline for the development of the Inservice Inspection Pressure Testing Plan and will not be updated as each flow diagram is revised.

System	Flow Diagram	Flow Diagram Revision	Class 1	Class 2	Class 3
Reactor Coolant (NC)	CN-2553-1.0	17	X		
Reactor Coolant (NC)	CN-2553-1.1	12	X	X	
Chemical & Volume Control (NV)	CN-2554-1.0	10	X	X	
Chemical & Volume Control (NV)	CN-2554-1.1	6		X	
Chemical & Volume Control (NV)	CN-2554-1.2	10		X	X
Chemical & Volume Control (NV)	CN-2554-1.3	8		X	X
Chemical & Volume Control (NV)	CN-2554-1.4	7		X	X
Chemical & Volume Control (NV)	CN-2554-1.5	9	X	X	
Chemical & Volume Control (NV)	CN-2554-1.6	9		X	X
Chemical & Volume Control (NV)	CN-2554-1.7	10		X	X
Chemical & Volume Control (NV)	CN-2554-1.8	4		X	
Residual Heat Removal (ND)	CN-2561-1.0	8	X	X	
Residual Heat Removal (ND)	CN-2561-1.1	7	X	X	
Safety Injection (NI)	CN-2562-1.0	7	X	X	
Safety Injection (NI)	CN-2562-1.1	15	X	X	
Safety Injection (NI)	CN-2562-1.2	15	X	X	
Safety Injection (NI)	CN-2562-1.3	9	X	X	
Containment Spray (NS)	CN-2563-1.0	10		X	
Liquid Radwaste (WL)	CN-2565-2.2	21			X

System	Flow Diagram	Flow Diagram Revision	Class 1	Class 2	Class 3
Liquid Radwaste (WL)	CN-2565-2.6	2		X	
Containment Valve Injection Water (NW)	CN-2569-1.0	12		X	X
Spent Fuel Cooling System (KF)	CN-2570-1.0	8		X	X
Spent Fuel Cooling System (KF)	CN-2570-1.1	6			X
Refueling Water (FW)	CN-2571-1.0	10		X	
Nuclear Sampling (NM)	CN-2572-1.0	8		X	
Nuclear Sampling (NM)	CN-2572-1.1	3		X	
Nuclear Sampling (NM)	CN-2572-1.4	8		X	
Component Cooling System (KC)	CN-2573-1.0	17			X
Component Cooling System (KC)	CN-2573-1.1	9			X
Component Cooling System (KC)	CN-2573-1.2	10			X
Component Cooling System (KC)	CN-2573-2.0	5			X
Component Cooling System (KC)	CN-2573-2.1	5			X
Component Cooling System (KC)	CN-2573-2.2	1			X
Component Cooling System (KC)	CN-2573-2.3	1			X
Nuclear Service Water System (RN)	CN-2574-2.0	14			X
Nuclear Service Water System (RN)	CN-2574-2.1	18			X
Nuclear Service Water System (RN)	CN-2574-2.2	9			X
Nuclear Service Water System (RN)	CN-2574-2.4	11			X
Nuclear Service Water System (RN)	CN-2574-2.5	18			X
Steam Generator Blowdown (BB)	CN-2580-1.0	19		X	
Steam Generator Wet Layup Recirc. (BW)	CN-2584-1.0	5		X	
Feedwater (CF)	CN-2591-1.1	21		X	
Auxiliary Feedwater (CA)	CN-2592-1.0	16			X

System	Flow Diagram	Flow Diagram Revision	Class 1	Class 2	Class 3
Auxiliary Feedwater (CA)	CN-2592-1.1	20		X	X
Main Steam (SM)	CN-2593-1.0	17		X	
Main Steam to Aux. Equip. (SA)	CN-2593-1.1	12		X	X
Main Steam (SM)	CN-2593-1.7	8		X	
Diesel Generator (KD)	CN-2609-1.0	9			X
Diesel Generator (LD)	CN-2609-2.0	13			X
Diesel Generator (LD)	CN-2609-2.2	13			X
Diesel Generator (FD)	CN-2609-3.0	11			X
Diesel Generator (FD)	CN-2609-3.1	9			X
Diesel Generator (VG)	CN-2609-4.0	10			X
Diesel Generator (VG)	CN-2609-4.1	12			X
Chemical & Volume Control (NV)	CN-1554-1.4	15			X
Boron Recycle	CN-1556-1.0	9		X	
Waste Gas (WG)	CN-1567-1.0	11		X	
Component Cooling System (KC)	CN-1573-1.6	7			X
Closure Head Penetration	CNM-2201.1.74-7	N/A	X		
Pressurizer Heater Penetration	CNM-1201.1.66	N/A	X		
Bottom Mounted Instrumentation	CNM-1201.14-51-3	N/A	X		

Section 4.0

McGuire Nuclear Station - Unit 1

In The Course of Preparation

Section 5.0

McGuire Nuclear Station - Unit 2

In The Course of Preparation

Section 6.0

Oconee Nuclear Station - Unit 1

In The Course of Preparation

Section 7.0

Oconee Nuclear Station - Unit 2

In The Course of Preparation

Section 8.0

Oconee Unit 3 and Keowee Hydro Units 1 & 2

In The Course of Preparation

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'A' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NC-003H-A	CN-2553-1.1	2NC-252B	K-7
	CN-2553-1.1	2NC-253A	K-7
2NC-004H-A	CN-2554-1.0	2NV-41	K-2
	CN-2554-1.0	2NV-40	K-3
2NC-005H-A	CN-2554-1.0	2NV-37A	L-7
	CN-2554-1.0	2NV-38	L-11
	CN-2554-1.0	2NV-861	L-9
2NC-006H-A	CN-2554-1.0	2NV-34	K-11
	CN-2554-1.0	2NV-33	K-10
2NC-007H-A	CN-2561-1.0	2ND-1B	L-13
	CN-2561-1.0	2ND-2A	J-13
2NC-008H-A	CN-2561-1.1	2ND-36B	L-13
	CN-2561-1.1	2ND-37A	J-13
2NC-009H-A	CN-2562-1.0	2NI-15	I-11
	CN-2562-1.0	2NI-17	I-9
	CN-2562-1.0	2NI-19	I-7
	CN-2562-1.0	2NI-21	I-5
	CN-2562-1.0	2NI-351	I-11
	CN-2562-1.0	2NI-352	I-9
	CN-2562-1.0	2NI-353	I-7
	CN-2562-1.0	2NI-354	I-5
2NC-010H-A	CN-2562-1.2	2NI-124	I-4
	CN-2562-1.2	2NI-125	I-4
	CN-2562-1.2	2NI-126	I-1
	CN-2562-1.2	2NI-128	K-4
	CN-2562-1.2	2NI-129	J-3
	CN-2562-1.2	2NI-134	K-1
2NC-011H-A	CN-2562-1.2	2NI-156	E-3
	CN-2562-1.2	2NI-157	E-1

Catawba Unit 2

Pressure Testing Boundary Valve Report For Class 'A' Hydro Tests

Zone Number	Flow Drawing	Boundary Valve	Drawing Coord
2NC-011H-A	CN-2562-1.2	2NI-159	C-3
	CN-2562-1.2	2NI-160	C-1