

INSERVICE INSPECTION REPORT

Project # 50-287
Report # 9903160339
Date 3/10/99

DUKE POWER COMPANY OCONEE NUCLEAR STATION UNIT 3 SEVENTEENTH REFUELING OUTAGE



A Duke Energy Company

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INSERVICE INSPECTION REPORT

Duke Power Company Oconee Nuclear Station Unit Fourteenth Refueling Outage



INSERVICE INSPECTION REPORT
UNIT 3 OCONEE 1998 REFUELING
OUTAGE 17

Location: Hwy. 130/183, Seneca, South Carolina 29679

NRC Docket No. 50-287

Commercial Service Date: December 16, 1974

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

Revision 0

Prepared By: Larry C. Keith Date 2-16-99
Reviewed By: R. C. Rame Date 2/16/99
Approved By: R. Kevin Rhyme Date 2/16/99

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FORM NIS-1 OWNER'S DATA REPORT FOR INSERVICE INSPECTIONS

As required by the Provisions of the ASME Code Rules

1. Owner: Duke Energy Corporation, 526 S. Church St., Charlotte, NC 28201-1006
(Name and Address of Owner)

2. Plant: Oconee Nuclear Station, Highway 130/183, Seneca, SC 29679
(Name and Address of Plant)

3. Plant Unit: 3 4. Owner Certificate of Authorization (if required) N/A

5. Commercial Service Date: 12/16/74 6. National Board Number for Unit N/A

7. Components Inspected:

Component or Appurtenance	Manufacturer Installer	Manufacturer Installer Serial No.	State or Province No.	National Board No.
	See Section 1.1 in the Attached Report			

Note: Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) size is 8 1/2 in. x 11 in., (2) information in items 1 through 6 on this data report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-1 (Back)

8. Examination Dates March 15, 1997 to December 19, 1998
9. Inspection Period Identification: Second Period of the Third Interval
10. Inspection Interval Identification: Third Inservice Inspection Interval
11. Applicable Edition of Section XI 1989 Addenda None
12. Date/Revision of Inspection Plan: April 7, 1998 / Revision 4
13. Abstract of Examinations and Test. Include a list of examinations and tests and a statement concerning status of work required for the Inspection Plan. See Sections 3.0 and 4.0
14. Abstract of Results of Examination and Tests. See Section 5.0
15. Abstract of Corrective Measures. See Section 8.0

We certify that a) the statements made in this report are correct b) the examinations and tests meet the Inspection Plan as required by the ASME Code, Section XI, and c) corrective measures taken conform to the rules of the ASME Code, Section XI.

Certificate of Authorization No. (if applicable) NA Expiration Date NA

Date Feb. 16, 19 99 Signed Duke Energy Corp. By R. Kevin Rhyno
Owner

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State of Province of N. C. employed by *The HSBI&I Co. of Hartford CN have inspected the components described in this Owners' Report during the period 3-15-97 to 12-19-98, and state that to the best of my knowledge and belief, the Owner has performed examinations and tests and taken corrective measures described in the Owners' Report in accordance with the Inspection Plan and as required by the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations, test, and corrective measures described in this Owners' Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection

MB Chapman Commissions NC914
Inspector's Signature National Board, State, Province, and Endorsements

Date 3-2 19 99

* The Hartford Steam Boiler Inspection & Insurance Co.
200 Ashford Center North
Suite 300
Atlanta, GA. 30338

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and Insurance Company (ANII)
c/o M. B. Chapman
Oconee Nuclear Station

4

D. E. LaBarge
Project Manager
Office of NRR
USNRC
Washington, DC 20555

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1.0 General Information

This report describes the Inservice Inspection of Duke Energy Corporation's Oconee Nuclear Station, Unit 3, during the 1998 Refueling Outage (also referred to as Outage 17). Outage 17 is the first outage in the second inspection period of the third ten year interval.

Included in this report are the final Inservice Inspection Plan, the inspection results for each item, a summary for each category of examination and corrective action taken when unacceptable conditions were found. In addition, there is a section included for repairs and replacements required since March 15, 1997.

1.1 Identification Numbers

Item	Manufacturer or Installer	Manufacturer or Installer Serial No.	State or Province No.	National Board No.
Reactor Vessel	Babcock & Wilcox	620-0009-51-52	N/A	N-125
Steam Generator A	Babcock & Wilcox	620-0009-55-1	N/A	N-127
Steam Generator B	Babcock & Wilcox	620-0009-55	N/A	N-128
Pressurizer	Babcock & Wilcox	620-0009-59	N/A	N-126
Main Steam System	Duke Energy	NA	NA	NA
Auxiliary Steam System	Duke Energy	NA	NA	NA
Feedwater System	Duke Energy	NA	NA	NA
Emergency Feedwater System	Duke Energy	NA	NA	NA
Steam Generator Flush System	Duke Energy	NA	NA	NA
Condensate System	Duke Energy	NA	NA	NA
Vents and Exhaust System	Duke Energy	NA	NA	NA
Condenser Circulating Water	Duke Energy	NA	NA	NA
High Pressure Service Water System	Duke Energy	NA	NA	NA

Low Pressure Service Water System	Duke Energy	NA	NA	NA
Reactor Coolant System	Duke Energy	NA	NA	NA
High Pressure Injection System	Duke Energy	NA	NA	NA
Low Pressure Injection System	Duke Energy	NA	NA	NA
Reactor Building Spray System	Duke Energy	NA	NA	NA
Component Cooling System	Duke Energy	NA	NA	NA
Spent Fuel Cooling System	Duke Energy	NA	NA	NA
Vents - Reactor Building Components	Duke Energy	NA	NA	NA
Drains - Reactor Building Components	Duke Energy	NA	NA	NA

1.2 Authorized Nuclear Inservice Inspector(s)

Name: M. B. Chapman

Employer: The Hartford Steam Boiler Inspection & Insurance Company

Business Address: The Hartford Steam Boiler Inspection & Insurance Co.
200 Ashford Center North
Suite 300
Atlanta, GA 30338

2.0 Summary of Inservice Inspections

The information shown below provides an abstract of ASME Section XI Class 1, Class 2, and Augmented Items scheduled and examined during Outage 17 at Oconee Nuclear Station Unit 3.

2.1 *Class 1 Inspection*

Examination Category B-A Pressure Retaining Welds in Reactor Vessel

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
B01.010	Shell Welds	
B01.011	Circumferential	0
B01.012	Longitudinal	NA
B01.020	Head Welds	
B01.021	Circumferential	0
B01.022	Meridional	NA
B01.030	Shell to Flange Welds	0
B01.040	Head to Flange Welds	0
B01.050	Repair Welds	
B01.051	Beltline Region	N/A
TOTALS		0

Examination Category B-B

Pressure Retaining Welds in Vessels Other than Reactor Vessels

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
	Pressurizer	
B02.010	Shell to Head Welds	
B02.011	Circumferential	0
B02.012	Longitudinal	0
B02.020	Head Welds	
B02.021	Circumferential	NA
B02.022	Meridional	NA
	Steam Generator (Primary Side)	
B02.030	Head Welds	
B02.031	Circumferential	1
B02.032	Meridional	N/A
B02.040	Tubesheet to Head Weld	1
	Heat Exchangers (Primary Side) -- Head	
B02.050	Head Welds	
B02.051	Circumferential	NA
B02.052	Meridional	NA
	Heat Exchangers (Primary Side) -- Shell	
B02.060	Tubesheet to Head Welds	1
B02.070	Longitudinal Welds	NA
B02.080	Tubesheet-to-Shell Welds	NA
TOTALS		3

Examination Category B-D

**Full Penetration Welds of Nozzles in Vessels
Inspection Program B**

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
	Reactor Vessel	
B03.090	Nozzle-to-Vessel Welds	0
B03.100	Nozzle Inside Radius Section	0
	Pressurizer	
B03.110	Nozzle-to-Vessel Welds	4
B03.120	Nozzle Inside Radius Section	4
	Steam Generators (Primary Side)	
B03.130	Nozzle-to-Vessel Welds	2
B03.140	Nozzle Inside Radius Section	2
	Heat Exchangers (Primary Side)	
B03.150	Nozzle-to-Vessel Welds	2
B03.160	Nozzle Inside Radius Section	Request for Relief ONS-009
TOTALS		14

**Examination Category B-E Pressure Retaining Partial Penetration
Welds in Vessels**

REFERENCE SECTION 11.0 OF THIS REPORT

Examination Category B-F Pressure Retaining Dissimilar Metal Welds

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
	<i>Reactor Vessel</i>	
B05.010	Nominal Pipe Size 4" or Larger Nozzle-to-Safe End Butt Welds	0
B05.020	Nominal Pipe Size Less Than 4" Nozzle-to-Safe End Butt Weld	NA
B05.030	Nozzle-to-Safe End Socket Welds	NA
	<i>Pressurizer</i>	
B05.040	Nominal Pipe Size 4" or Larger Nozzle-to-Safe End Butt Welds	0
B05.050	Nominal Pipe Size Less Than 4" Nozzle-to-Safe End Butt Welds	3
B05.060	Nozzle-to-Safe End Socket Welds	NA
	<i>Steam Generators</i>	
B05.070	Nominal Pipe Size 4" or Larger Nozzle-to-Safe End Butt Welds	NA
B05.080	Nominal Pipe Size Less Than 4" Nozzle-to-Safe End Butt Welds	NA
B05.090	Nozzle-to-Safe End Socket Welds	NA

Examination Category B-F (Continued)

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
	Heat Exchangers	
B05.100	Nominal Pipe Size 4" or Larger Nozzle-to-Safe End Butt Welds	NA
B05.110	Nominal Pipe Size Less Than 4" Nozzle-to-Safe End Butt Welds	NA
B05.120	Nozzle-to-Safe End Socket Welds	NA
	Piping	
B05.130	Nominal Pipe Size 4" or Larger Dissimilar Metal Butt Welds	1
B05.140	Nominal Pipe Size Less Than 4" Dissimilar Metal Butt Welds	1
B05.150	Dissimilar Metal Socket Welds	NA
TOTALS		5

Examination Category B-G-1

Pressure Retaining Bolting, Greater Than 2" in Diameter

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
	Reactor Vessel	
B06.010	Closure Head Nuts	0
B06.020	Closure Studs, (in place)	NA
B06.030	Closure Studs, (when removed)	0
B06.040	Threads in Flange	0
B06.050	Closure Washers, Bushings	0
	Pressurizer	
B06.060	Bolts and Studs	0
B06.070	Flange Surface, (when connection disassembled)	0
B06.080	Nuts , Bushings and Washers	0
	Steam Generators	
B06.090	Bolts and Studs	NA
B06.100	Flange Surface, (when connection disassembled)	NA
B06.110	Nuts , Bushings and Washers	NA
	Heat Exchangers	
B06.120	Bolts and Studs	NA
B06.130	Flange Surface, (when connection disassembled)	NA
B06.140	Nuts , Bushings and Washers	NA

Examination Category B-G-1 (Continued)

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
	Piping	
B06.150	Bolts and Studs	NA
B06.160	Flange Surface, (when connection disassembled)	NA
B06.170	Nuts , Bushings and Washers	NA
	Pumps	
B06.180	Bolts and Studs	0
B06.190	Flange Surface, (when connection disassembled)	1
B06.200	Nuts , Bushings and Washers	0
	Valves	
B06.210	Bolts and Studs	NA
B06.220	Flange Surface, (when connection disassembled)	NA
B06.230	Nuts , Bushings and Washers	NA
TOTALS		1

Examination Category B-G-2

Pressure Retaining Bolting, 2" and
Less in Diameter

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
	Reactor Vessel	
B07.010	Bolts, Studs, and Nuts	NA
	Pressurizer	
B07.020	Bolts, Studs, and Nuts	0
	Steam Generators	
B07.030	Bolts, Studs, and Nuts	1
	Heat Exchangers	
B07.040	Bolts, Studs, and Nuts	NA
	Piping	
B07.050	Bolts, Studs, and Nuts	0
	Pumps	
B07.060	Bolts, Studs, and Nuts	NA
	Valves	
B07.070	Bolts, Studs, and Nuts	1
	CRD Housings	
B07.080	Bolts, Studs, and Nuts In CRD Housing When Disassembled	2
TOTALS		4

Examination Category B-H Integral Attachments for Vessels

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
	Reactor Vessel	
B08.010	Integrally Welded Attachments	NA
	Pressurizer	
B08.020	Integrally Welded Attachments	NA
	Steam Generators	
B08.030	Integrally Welded Attachments	NA
	Heat Exchangers	
B08.040	Integrally Welded Attachments	NA
TOTALS		NA

Examination Category B-J Pressure Retaining Welds in Piping

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
B09.010	Nominal Pipe Size 4" or Larger	
B09.011	Circumferential Welds	6
B09.012	Longitudinal Welds ¹	0
B09.020	Nominal Pipe Size Less Than 4"	
B09.021	Circumferential Welds	6
B09.022	Longitudinal Welds ¹	NA

¹ Longitudinal welds in Examination Category B-J that intersect circumferential welds are examined per Code Case N-524.

Examination Category B-J (Continued)

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
B09.030	Branch Pipe Connection Welds	
B09.031	Nominal Pipe Size 4" or Larger	0
B09.032	Less Than Nominal Pipe Size 4"	1
B09.040	Socket Welds	1
TOTALS		14

Examination Category B-K-1 Integral Attachments for Piping, Pumps and Valves

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
	Piping	
B10.010	Integrally Welded Attachments	NA
	Pumps	
B10.020	Integrally Welded Attachments	NA
	Valves	
B10.030	Integrally Welded Attachments	NA
TOTALS		NA

Examination Category B-L-1, B-M-1 Pressure Retaining Welds in
Pump Casings and Valve Bodies

B-L-2, B-M-2 Pump Casings and Valve Bodies

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
	Pumps	
B12.010	Pump Casing Welds (B-L-1)	1
B12.020	Pump Casing (B-L-2) (when disassembled for Maintenance, Repair or Volumetric Examination)	1
	Valves	
B12.030	Valves, Nominal Pipe Size Less Than 4" Valve Body Welds (B-M-1)	NA
B12.040	Valves, Nominal Pipe Size 4" or Larger Valve Body Welds (B-M-1)	NA
B12.050	Valve Body, Exceeding 4" Nominal Pipe Size (B-M-2)	0
TOTALS		2

Examination Category B-N-1 Interior of Reactor Vessel

B-N-2 Integrally Welded Core Support Structures and Interior Attachments to Reactor Vessels

B-N-3 Removable Core Support Structures

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
	Reactor Vessel	
B13.010	Vessel Interior (B-N-1)	0
	Reactor Vessel (PWR)	
B13.050	Interior Attachments Within The Beltline Region (B-N-2)	NA
B13.060	Interior Attachments Beyond The Beltline Region (B-N-2)	NA
B13.070	Core Support Structure (B-N-3)	0
TOTALS		0

Examination Category B-O Pressure Retaining Welds in Control Rod Housings

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
	Reactor Vessel	
B14.010	Welds in CRD Housing	4
TOTALS		4

Examination Category B-P All Pressure Retaining Components

REFERENCE SECTION 11.0 OF THIS REPORT

Examination Category B-Q Steam Generator Tubing²

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
B16.010	Steam Generator Tubing in Straight Tube Design	NA
B16.020	Steam Generator Tubing in U-Tube Design	NA
TOTALS		NA

Examination Category F-A Class 1 Component Supports

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
F1.010	Class 1 Piping Supports Reference Section 4.0 of this report	4
F1.040	Class 1 Supports Other Than Piping Reference Section 4.0 of this report	0
F1.050	Class 1 Snubbers	26
TOTALS		30

² Steam Generator Tubing is examined and documented by Steam Generator Maintenance Group of the Nuclear Services Division as required by the Station Technical Specifications and is not included in this report.

2.2 Class 2 Inspections

Examination Category C-A Pressure Retaining Welds in Pressure Vessel

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
C01.010	Shell Circumferential Welds	0
C01.020	Head Circumferential Welds	0
C01.030	Tubesheet to Shell Weld	1
TOTALS		1

Examination Category C-B Pressure Retaining Nozzle Welds in Vessels

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
C02.010	Nozzles in Vessels $\leq 1/2$ " Nominal Thickness	
C02.011	Nozzle-to-Shell (or Head) Weld	0
C02.020	Nozzles Without Reinforcing Plate In Vessels $> 1/2$ " Nominal Thickness	
C02.021	Nozzle-to-Shell (or Head) Weld	0
C02.022	Nozzle Inside Radius Section	0
C02.030	Nozzles With Reinforcing Plate in Vessels $> 1/2$ " Nominal Thickness	

Examination Category C-B (Continued)

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
C02.031	Reinforcing Plate Welds to Nozzle and Vessel	0
C02.032	Nozzle-to-Shell (or Head) Welds When Inside of Vessel Is Accessible	0
C02.033	Nozzle-to-Shell (or Head) Welds When Inside of Vessel Is Inaccessible	0
TOTALS		0

Examination Category C-C Integral Attachments For Vessels, Piping, Pumps and Valves

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
	Pressure Vessels	
C03.010	Integrally Welded Attachments	2
	Piping	
C03.020	Integrally Welded Attachments	7
	Pumps	
C03.030	Integrally Welded Attachments	0
	Valves	
C03.040	Integrally Welded Attachments	NA
TOTALS		9

Examination Category C-D

Pressure Retaining Bolting Greater Than 2"
in Diameter

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
	<i>Pressure Vessels</i>	
C04.010	Bolts and Studs	NA
	<i>Piping</i>	
C04.020	Bolts and Studs	NA
	<i>Pumps</i>	
C04.030	Bolts and Studs	1
	<i>Valves</i>	
C04.040	Bolts and Studs	0
<i>TOTALS</i>		1

**Examination Category C-F-1 Pressure Retaining Welds in Austenitic
Stainless Steel or High Alloy Piping**

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
C05.010	Piping Welds $\geq 3/8$ " Nominal Wall Thickness for Piping > Nominal Pipe Size 4"	
C05.011	Circumferential Weld	2
C05.012	Longitudinal Welds ³	NA
C05.020	Piping Welds $> 1/5$ " Nominal Wall Thickness for Piping \geq Nominal Pipe Size 2" and \leq Nominal Pipe Size 4"	
C05.021	Circumferential Welds	10
C05.022	Longitudinal Welds ³	NA
C05.030	Socket Welds	1
C05.040	Pipe Branch Connections of Branch Piping \geq Nominal Pipe Size 2"	
C05.041	Circumferential Weld	1
C05.042	Longitudinal Weld ³	NA
TOTALS		14

³ Longitudinal welds in Examination Categories C-F-1 and C-F-2 that intersect circumferential welds are examined per Code Case N-524.

Examination Category C-F-2 Pressure Retaining Welds in Carbon or Low Alloy Steel Piping

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
C05.050	Piping Welds $\geq \frac{3}{8}$ " Nominal Wall Thickness for Piping > Nominal Pipe Size 4"	
C05.051	Circumferential Weld	6
C05.052	Longitudinal Weld ³	NA
C05.060	Piping Welds $> \frac{1}{5}$ " Nominal Wall Thickness for Piping \geq Nominal Pipe Size 2" and \leq Nominal Pipe Size 4"	
C05.061	Circumferential Weld	NA
C05.062	Longitudinal Weld ³	NA
C05.070	Socket Welds	NA
C05.080	Pipe Branch Connections of Branch Piping \geq Nominal Pipe Size 2"	
C05.081	Circumferential Weld	1
C05.082	Longitudinal Weld ³	NA
TOTALS		7

³ Longitudinal welds in Examination Categories C-F-1 and C-F-2 that intersect circumferential welds are examined per Code Case N-524.

Examination Category C-G Pressure Retaining Welds in Pumps and Valves

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
	Pumps	
C06.010	Pump Casing Welds	NA
	Valves	
C06.020	Valve Body Welds	0
TOTALS		0

Examination Category C-H All Pressure Retaining Components

REFERENCE SECTION 11.0 OF THIS REPORT

Examination Category F-A Class 2 Component Supports

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
F1.020	Class 2 Piping Supports Reference Section 4.0 of this report	15
F1.040	Class 2 Supports Other Than Piping Reference Section 4.0 of this report	1
F1.050	Class 2 Snubbers Reference Section 4.0 of this report	35
TOTALS		51

2.3 Augmented Inspections

<i>Item Number</i>	<i>Description</i>	<i>Total Examined During Outage</i>
G01.001	Reactor Coolant Pump Flywheel	4
G02.001	HPI Nozzle Safe End Examinations	25
G03.001	Pressurizer Surge Line Examinations	0
G04.001	Thermal Stress Piping (NRC Bulletin 88-08)	0
G05.001	Pressurizer Spray Piping Thermal Transient Inspection	NA
G06.001	Auxiliary Feedwater Header Water Hammer Examinations (PSC21-82)	0
G07.001	Augmented Examination of Longitudinal Piping Welds With A Nominal Wall Thickness $< \frac{3}{8}$ " and $>$ Nominal Pipe Size 4"	0
G08.001	Pressurizer Sensing/ Sampling Nozzle Safe Ends	0
G09.001	Class 2 Piping Welds Nominal Pipe Size > 4 " With Nominal Wall Thickness $< \frac{3}{8}$ "	4
G10.001	Class 1 RTE Mounting Bosses	3
G11.001	Reactor Coolant Pumps 3A2 and 3B1 Alternate Examinations	2
G12.001	HPI System Upgrade Piping Welds With A Nominal Wall Thickness $\leq \frac{1}{5}$ " on Piping with a Nominal Pipe Size ≥ 2 " and Nominal Pipe Size ≤ 4 ".	4

A detailed description of each examination listed in Sections 2.1 through 2.3 are located in Section 4 of this report. Results of each examination are located in Section 5 of this report.

3.0 Third Ten Year Inspection Status

The completion status of inspections required in the third ten year inspection interval by the 1989 ASME Section XI Code, no Addenda, is summarized in this section. The requirements are listed by the ASME Section XI Examination Category as defined in Table IWB-2500-1 for Class 1 Inspections, and in Table IWC-2500-1 for Class 2 Inspections. Augmented inspections are also included.

Class 1 Inspections

<i>Examination Category</i>	<i>Description</i>	<i>Inspections Required</i>	<i>Inspections Completed</i>	<i>Percentage Completed</i>	<i>⁴Deferral Allowed</i>
B-A	Pressure Retaining Welds in Reactor Vessel	8 Welds	2.5 Welds	31%	Yes
B-B	Pressure Retaining Welds in Vessels Other than Reactor Vessel	12 Welds	5 Welds	42%	No
B-D	Full Penetration Welds of Nozzles in Vessels Inspection Program B	30 Inspections	16 Inspections	53%	Partial
B-E	Pressure Retaining Partial Penetration Welds in Vessels	REFERENCE SECTION 11.0 OF THIS REPORT			
B-F	Pressure Retaining Dissimilar Metal Welds	28 Welds	12 Welds	43%	No
B-G-1	Pressure Retaining Bolting Greater than 2 Inch Diameter	130 Items	34.33 Items	26%	Yes
B-G-2	Pressure Retaining Bolting 2 Inches and Less in Diameter	24 Items	10 Items	42%	No
B-H	Integral Attachment for Vessels	N/A	N/A	N/A	N/A
B-J	Pressure Retaining Welds in Piping	143 Welds	56 Welds	39%	No

⁴Deferral of inspection to the end of the interval as allowed by ASME Section XI Tables IWB and IWC 2500-1.

Class 1 Inspections (Continued)

<i>Examination Category</i>	<i>Description</i>	<i>Inspections Required</i>	<i>Inspections Completed</i>	<i>Percentage Completed</i>	<i>⁵ Deferral Allowed</i>
B-K-1	Integral Attachments for Piping, Pumps and Valves	N/A	N/A	N/A	N/A
B-L-1	Pressure Retaining Welds in Pump Casings	1 Weld	1 Welds	100%	Yes
B-L-2	Pump Casings	1 Casing	1 Casing	100%	Yes
B-M-1	Pressure Retaining Welds in Valve Bodies	N/A	N/A	N/A	N/A
B-M-2	Valve Body > 4 in. Nominal Pipe Size	3 Valves	3 Valves	100%	Yes
B-N-1	Interior of Reactor Vessel	3 Inspections	1 Inspection	33%	No
B-N-2	Integrally Welded Core Support Structures and Interior Attachments to Reactor Vessels	N/A	N/A	N/A	N/A
B-N-3	Removable Core Support Structures	1 Item	0 Items	0%	Yes
B-O	Pressure Retaining Welds in Control Rod Housings	3 Housings	2 Housings	67%	Yes
B-P	All Pressure Retaining Components	REFERENCE SECTION 11.0 OF THIS REPORT			
B-Q	Steam Generator Tubing	N/A	N/A	N/A	N/A
F-A F1.010 & F1.040 items.	Class 1 Component Supports (Except Snubbers)	31 Supports	13 Supports	42%	No
F-A F1.050 items	Class 1 Component Supports, Snubbers	26 Snubbers	26 Snubbers	100%	No

⁵ Deferral of inspection to the end of the interval as allowed by ASME Section XI Tables IWB and IWC 2500-1.

Class 2 Inspections

<i>Examination Category</i>	<i>Description</i>	<i>Inspections Required</i>	<i>Inspections Completed</i>	<i>Percentage Completed</i>	<i>⁵ Deferral Allowed</i>
C-A	Pressure Retaining Welds in Pressure Vessels	8 Welds	4 Welds	50%	No
C-B	Pressure Retaining Nozzle Welds in Vessels	4 Welds	2 Welds	50%	No
C-C	Integral Attachments for Vessels, Piping, Pumps and Valves	62 Attachments	25 Attachments	40%	No
C-D	Pressure Retaining Bolting Greater Than 2 Inches in Diameter	2 Item	2 Items	100%	No
C-F-1	Pressure Retaining Welds in Austenitic Stainless Steel or High Alloy Piping	136 Welds	46 Welds	34%	No
C-F-2	Pressure Retaining Welds in Carbon or Low Alloy Steel Piping	59 Welds	22 Welds	37%	No
C-G	Pressure Retaining Welds in Pumps and Valves	1	1	100%	No
C-H	All Pressure Retaining Components	REFERENCE SECTION 11.0 OF THIS REPORT			
F-A F1.020 & F1.040 items.	Class 2 Component Supports (Except Snubbers)	119 Supports	55 Supports	46%	No
F-A F1.050 items	Class 2 Component Supports, Snubbers	35 Snubbers	35 Snubbers	100%	No

⁵ Deferral of inspection to the end of the interval as allowed by ASME Section XI Tables IWB and IWC 2500-1.

Augmented Inspections

<i>Description</i>	<i>Percentage Complete</i>
Reactor Coolant Pump Flywheels (Item No. Series G01)	100% of EOC 17 Requirements
High Pressure Injection and Make-Up Nozzle Safe-Ends (Item No. Series G02)	100% of EOC 17 Requirements
Pressurizer Surge Line Drain Line (Item No. Series G03)	Not Scheduled
Thermal Stress Piping (Item No. Series G04)	Not Scheduled
Auxiliary Feedwater Header Preliminary Safety Concern (PSC 21-82) Water Hammer Examinations (Item No. Series G06)	Not Scheduled
Augmented Examination of Longitudinal Piping Welds With A Nominal Wall Thickness Less Than 3/8" and Greater Than Nominal Pipe Size 4" (Item No. Series G07)	No longer applicable. Code Case N-524 is being used for the examination of all longitudinal piping welds.
Pressurizer Sensing/Sampling Nozzle Safe Ends (Item No. Series G08)	Not Scheduled
Class 2 Piping Welds Nominal Pipe Size Greater Than 4" With A Nominal Wall Thickness Less Than 3/8" (Item No. Series G09)	100% of EOC 17 Requirements
Class 1 RTE Mounting Bosses (Item No. Series G10)	100% of EOC 17 Requirements
Reactor Coolant Pump 3A2 and 3B1 Flange Joint, Studs, Adjacent Areas (Item No. Series G11)	100% of EOC 17 Requirements
HPI System Upgrade (Item No. Series G12)	100% of EOC 17 Requirements

4.0 Final Inservice Inspection Plan For Outage 17

The final ISI Plan shown in this section lists all ASME Section XI Class 1 and ASME Section XI Class 2, and Augmented examinations credited for Outage 17 at Oconee Nuclear Station Unit 3.

The information shown below is a field description for the reporting format included in this section of the report:

Item Number	=	ASME Section XI Tables IWB-2500-1 (Class 1), IWC-2500-1 (Class 2), IWF-2500-1 (Class 1 and Class 2'), Augmented Requirements
ID Number	=	Unique Identification Number
Iso / Dwg. Numbers	=	Location and/or Detail Drawings
Proc	=	Examination Procedures
Insp Req.	=	Examination Technique - Magnetic Particle, Dye Penetrant, etc.
Mat / Sch.	=	General Description of Material
Diam. / Thick	=	Diameter/Thickness
Cal Blocks	=	Calibration Block Number
Comments	=	General and/or Detail Description

**CATEGORY B-B, Pressure Retaining Welds
in Vessels Other Than Reactor Vessels**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management SystemPlan Report
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Oconee 3

Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Head Welds; Circumferential ****								
B02.031.001	3-SGA-WG172	50	ISI-OCN3-003	NDE-620	UT	CS	102.750	40393 SGA Lower Head To Transition PC. 7 to 9
	Circumferential		OM-2201-222	NDE-640			8.000	
Class A					Lower Head to Transition			
<hr/>								
Total B02.031 Items:		1						

**CATEGORY B-B, Pressure Retaining Welds
in Vessels Other Than Reactor Vessels**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System**Steam Generators (Primary Side)**

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ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Tubesheet-to-Head Weld ****								
B02.040.002	3-SGA-WG58-2	50	ISI-OCN3-003	NDE-620	UT	CS	119.000	40393
	Circumferential		OM-2201-222	NDE-640			8.000	
Class A					Head to Tubesheet			Steam Generator 3A Support Skirt Pc. 9 to Lower Tubesheet Pc. 50.
<hr/>								
Total B02.040 Items:		1						

**CATEGORY B-B, Pressure Retaining Welds
in Vessels Other Than Reactor Vessels**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System**Heat Exchangers (Primary Side)-Shell**

Oconee 3

Plan Report
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01/12/1999**Inservice Inspection Plan for Interval 3 Outage 3**

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Tubesheet-to-Head Welds ****								
B02.060.002	3-LDCA-OUT-V6	51A 1-97347-1	NDE-630	UT	SS	8.620	40411	Letdown Cooler 3A Outlet Tubesheet Pc. 2 to
	Circumferential	OM-201-3107				0.875		Channel Body Pc. 3.
	Class A				Tubesheet to Channel Body			
<hr/>								
Total B02.060 Items:		1						
Total B02 Items:		3						

**CATEGORY B-D, Full Penetration Welds of
Nozzles in Vessels**

**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System**

Pressurizer

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ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIATHK	CAL BLOCKS	COMMENTS
**** Nozzle-to-Vessel Welds ****								
B03.110.001	3-PZR-WP15	50	ISI-OCN3-002	NDE-620	UT	CS	15.250	Pressurizer Surge Nozzle Pc. 8 To Lower Head Pc. 6.
	Circumferential		OM-2201-229	NDE-640			4.750	
Class A		B&W 149786E			Nozzle to To Lower Head			
B03.110.006	3-PZR-WP26-4	50	ISI-OCN3-002	NDE-620	UT	CS	5.750	Pressurizer Sensing Nozzle Pc. 30 to Shell Pc. 1 Between W & X Axis.
	Circumferential		OM-2201-229	NDE-640			6.187	
Class A		B 7W149789E			Nozzle to To Shell			
B03.110.007	3-PZR-WP26-5	50	ISI-OCN3-002	NDE-620	UT	CS	5.750	Pressurizer Sensing Nozzle Pc. 30 to Shell Pc. 1 Between Z & Y Axis.
	Circumferential		OM-2201-229	NDE-640			6.187	
Class A		B 7W149789E			Nozzle to To Shell			
B03.110.008	3-PZR-WP26-6	50	ISI-OCN3-002	NDE-620	UT	CS	5.750	Pressurizer Sensing Nozzle Pc. 30 to Shell Pc. 1 Between W & Z Axis.
	Circumferential		OM-2201-229	NDE-640			6.187	
Class A		B 7W149789E			Nozzle to To Shell			

Total B03.110 Items: 4

**CATEGORY B-D, Full Penetration Welds of
Nozzles in Vessels**

DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System

Pressurizer

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ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Nozzle Inside Radius Section ****								
B03.120.001	3-PZR-WP15	50 ISI-OCN3-002 OM-2201-229 B 7W149786E	NDE-680	UT	CS	0.000 4.750	40394	Pressurizer Surge Nozzle Pc. 8. (Inside Radius Section).
Class A					Nozzle to Lower Head			
B03.120.006	3-PZR-WP26-4	50 ISI-OCN3-002 OM-2201-229 B 7W149789E	NDE-680	UT	CS	0.000 6.187	40395	Pressurizer Sensing Nozzle Pc. 30. Between W & X Axis (Inside Radius Section).
Class A					Nozzle to Shell			
B03.120.007	3-PZR-WP26-5	50 ISI-OCN3-002 OM-2201-229 B 7W149789E	NDE-680	UT	CS	0.000 6.187	40395	Pressurizer Sensing Nozzle Pc. 30. Between Z & Y Axis (Inside Radius Section).
Class A					Nozzle to Shell			
B03.120.008	3-PZR-WP26-6	50 ISI-OCN3-002 OM-2201-229 B 7W149789E	NDE-680	UT	CS	0.000 6.187	40395	Pressurizer Sensing Nozzle Pc. 30. Between W & X Axis (Inside Radius Section).
Class A					Nozzle to Shell			

Total B03.120 Items: 4

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS	
**** Nozzle-to-Vessel Welds ****									
B03.130.003	3-SGB-WG50-2	50	ISI-OCN3-004	NDE-620	UT	CS	38.380	40393	Steam Generator 3B Outlet Nozzle Pc. 65 to Lower Head Pc. 7 Between W-Z Axis.
Class A	Circumferential		OM-2201-222	NDE-640			8.500		
			B&W109610E		Nozzle to Head				
B03.130.004	3-SGB-WG50-1	50	ISI-OCN3-004	NDE-620	UT	CS	38.380	40393	Steam Generator 3B Outlet Nozzle Pc. 65 to Lower Head Pc. 7 Between Y-Z Axis.
Class A	Circumferential		OM-2201-222	NDE-640			8.500		
			B&W109610E		Nozzle to Head				
Total B03.130 Items:		2							

**CATEGORY B-D, Full Penetration Welds of
Nozzles in Vessels****DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
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01/12/1999**Steam Generators (Primary Side)**

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Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIATHK	CAL BLOCKS	COMMENTS
**** Nozzle Inside Radius Section ****								
B03.140.003	3-SGB-WG50-2	50 ISI-OCN3-004 OM-2201-222 B&W109610E	NDE-680	UT	CS	38.380 8.500	40393	Steam Generator 3B Outlet Nozzle Pc. 65 Between W-Z Axis. (Inside Radius Section)
Class A					Nozzle to Lower Head			
B03.140.004	3-SGB-WG50-1	50 ISI-OCN3-004 OM-2201-222 B&W109610E	NDE-680	UT	CS	38.380 8.500	40393	Steam Generator 3B Outlet Nozzle Pc. 65 Between Y-Z Axis. (Inside Radius Section)
Class A					Nozzle to Lower Head			

Total B03.140 Items: 2

CATEGORY B-D, Full Penetration Welds of Nozzles in Vessels

**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System**

Heat Exchangers (Primary Side)

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ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Nozzle-to-Vessel Welds ****								
B03.150.001	3-LDCA-IN-V2	51A 1-97347-1	NDE-630	UT	SS	3.000	40411	LDC-3A Tubeside Inlet Nozzle Pc. C to Channel Head
	Circumferential	OM-201-3107				0.875		Pc.A
Class A		OFD-101A-3.1		Nozzle to Channel Body				
B03.150.002	3-LDCA-OUT-V5	51A 1-97347-1	NDE-630	UT	SS	3.000	40411	LDC-3A Tubeside Outlet Nozzle Pc. D to Channel
	Circumferential	OM-201-3107				0.875		Head Pc. A. Corrected weld ID from 3-LDCA-OUT-V2
Class A		OFD-101A-3.1		Nozzle to Channel Body				to 3-LDCA-OUT-V5. Reference Addenda ONS3-013
Total B03.150 Items:		2						

**CATEGORY B-D, Full Penetration Welds of
Nozzles in Vessels**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System

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01/12/1999**Inservice Inspection Plan for Interval 3 Outage 3****Heat Exchangers (Primary Side)**

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIATHK	CAL BLOCKS	COMMENTS
**** Nozzle Inside Radius Section ****								
B03.160.001	3-LDCA-IN-V2	51A 1-97347-1	NDE-680	UT	SS	3.000	40411	LDC-3A Tubeside Inlet Nozzle Pc. C (Inside Radius
		OM-201-3107				0.875		Section). Reference Request for Relief ONS-009.
Class A		OFD-101A-3.1			Nozzle to Channel Body			
B03.160.002	3-LDCA-OUT-V5	51A 1-97347-1	NDE-680	UT	SS	3.000	40411	LDC-3A Tubeside Outlet Nozzle Pc. D to Channel
		OM-201-3107				0.875		Head Pc. A. (Inside Radius Section). Reference
Class A		OFD-101A-3.1			Nozzle to Channel Body			Request for Relief ONS-009.
Total B03.160 Items:		2						
Total B03 Items:		16						

CATEGORY B-F, Pressure Retaining Dissimilar Metal Welds

DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System

Pressurizer

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ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Less Than NPS 4; Nozzle-to-Safe End Butt Welds ****									
B05.050.001	3-PZR-WP91-1	50	ISI-OCN3-002	NDE-35	PT	SS-CS	2.500		PZR Relief Nozzle SE weld; W-X Axis
	Circumferential						0.375		
Class A						Nozzle PZR Relief Nozzle to Safe End			
	Dissimilar								
B05.050.002	3-PZR-WP91-2	50	ISI-OCN3-002	NDE-35	PT	SS-CS	2.500		PZR Relief Nozzle SE weld; X-Y Axis
	Circumferential						0.375		
Class A						Nozzle PZR Relief Nozzle to Safe End			
	Dissimilar								
B05.050.003	3-PZR-WP91-3	50	ISI-OCN3-002	NDE-35	PT	SS-CS	2.500		PZR Relief Nozzle SE weld; Z-W Axis
	Circumferential						0.375		
Class A						Nozzle PZR Relief Nozzle to Safe End			
	Dissimilar								
Total B05.050 Items:		3							

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** NPS 4 or Larger; Dissimilar Metal Butt Welds ****								
B05.130.009	3-PDA2-2	50	ISI-OCN3-012	NDE-610	UT	SS-CS	33.500	40350
	Circumferential		OFD-100A-3.1				2.330	UT from elbow side
Class A								
	Dissimilar					Safe End to Elbow		
B05.130.009A	3-PDA2-2	50	ISI-OCN3-012	NDE-610	UT	SS-CS	33.500	40397
	Circumferential		OFD-100A-3.1				2.330	UT from Safe End side
Class A								
	Dissimilar					Safe End to Elbow		
B05.130.009B	3-PDA2-2	50	ISI-OCN3-012	NDE-35	PT	SS-CS	33.500	
	Circumferential		OFD-100A-3.1				2.330	
Class A								
	Dissimilar					Safe End to Elbow		
Total B05.130 Items:		3						

**CATEGORY B-F, Pressure Retaining
Dissimilar Metal Welds****DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
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ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
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****** Less Than NPS 4; Dissimilar Metal Butt Welds ******

B05.140.006	3-PDA2-11	50	ISI-OCN3-012	NDE-35	PT	SS-CS	2.500	
	Circumferential		OFD-100A-3.1				0.375	
Class A						Nozzle HPI Nozzle to		
	Dissimilar					Safe End		

Total B05.140 Items: 1**Total B05 Items: 7**

**CATEGORY B-G-1. Pressure Retaining
Bolting, Greater than 2" In Diameter****DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System**

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01/12/1999**Inservice Inspection Plan for Interval 3 Outage 3****Pumps**

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Flange Surface, when connection dissassembled ****								
B06.190.003	3RCP-3B1-FLANGE	50 OM-1201D-0005 OM-1201D-0057	QAL-13	VT-1	SS	0.000 0.000		RCP 3B1 Main Flange 1" Annular Surface of Flange Surrounding each Stud.(insp. only if disass.) Ref. Addendum ONS3-020 - connection not disassembled during 3EOC15. Ref. Addendum ONS3-044 - connection not disassembled during 3EOC16.
Class A								
Total B06.190 Items:		1						
Total B06 Items:		1						

**CATEGORY B-G-2, Pressure Retaining
Bolting, 2" And Less In Diameter**

DUKE ENERGY CORPORATION
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Steam Generators

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DI/THK	CAL BLOCKS	COMMENTS
**** Bolts, Studs, and Nuts ****								
B07.030.006	3SGA-LHIC-BOLTS	50 B&W 145470E	QAL-13	VT-1	CS		1.000 0.000	Steam Generator 3A Lower Head Inspection Cover Bolting

Class A

Total B07.030 Items: 1

CATEGORY B-G-2, Pressure Retaining Bolting, 2" And Less In Diameter

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QUALITY ASSURANCE TECHNICAL SERVICES
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Valves

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Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIATHK	CAL BLOCKS	COMMENTS
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**** Bolts, Studs, and Nuts ****

B07.070.014	3-51A-HP126	51A OM-246-015	QAL-13	VT-1	NA	0.000	High Pressure Injection Valve 3-HP126 Bolting
						0.000	

Class A

Total B07.070 Items: 1

**CATEGORY B-G-2, Pressure Retaining
Bolting, 2" And Less In Diameter****DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System****CRD Housings**

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ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Bolts, Studs, and Nuts ****								
B07.080.001	3-RPV-CRD-BOLTS	50 B&W 149902E B&W 149919E	QAL-13	VT-1	NA		0.000 0.000	Inspect Only If Disassembled; See Request for Relief ONS-004 & ONS-005; 8 bolts per CRD Housing; (14 Connections inspected up to this Date). Ref. Addendum ONS3-020 - connection not disassembled during 3EOC15.
Class A								
B07.080.002	3-RPV-CRD-RINGS	50 B&W 149902E B&W 149919E	QAL-13	VT-1	NA		0.000 0.000	Inspect Only If Disassembled; See Request for Relief ONS-004 & ONS-005; 1 Pair per CRD Housing; (14 Connections inspected up to this date). Ref. Addendum ONS3-020 - connection not disassembled during 3EOC15.
Class A								
Total B07.080 Items:		2						
Total B07 Items:		4						

CATEGORY B-J, Pressure Retaining Welds In Piping

DUKE ENERGY CORPORATION
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NPS 4 or Larger**Oconee 3****Inservice Inspection Plan for Interval 3 Outage 3**

ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Circumferential Welds ****									
B09.011.011	3-PIB1-1	50	ISI-OCN3-009	NDE-600	UT	CS	33.500		Reference Request for Relief 95-GO-03 for calibration block.
	Circumferential		OFD-100A-3.1				2.330		
Class A	Term end					Nozzle S/G 3B	Nozzle to Pipe		
B09.011.011A	3-PIB1-1	50	ISI-OCN3-009	NDE-25	MT	CS	33.500		
	Circumferential		OFD-100A-3.1				2.330		
Class A	Term end					Nozzle S/G 3B	Nozzle to Pipe		
B09.011.016	3-PIB2-8	50	ISI-OCN3-010	NDE-600	UT	SS	33.500		Reference Request for Relief 95-GO-03 for calibration block.
	Circumferential		OFD-100A-3.1				2.330		
Class A	Term end					Pipe Safe End to Nozzle RCP 3B2 Suct Nozzle			
B09.011.016A	3-PIB2-8	50	ISI-OCN3-010	NDE-35	PT	SS	33.500		
	Circumferential		OFD-100A-3.1				2.330		
Class A	Term end					Pipe Safe End to Nozzle RCP 3B2 Suct Nozzle			
B09.011.021	3-PDB1-1	50	ISI-OCN3-013	NDE-600	UT	SS	33.500		Reference Request for Relief 95-GO-03 for calibration block.
	Circumferential		OFD-100A-3.1				2.330		
Class A	Term end					Nozzle 3B1 Pump Outlet Nozzle to Safe End			
B09.011.021A	3-PDB1-1	50	ISI-OCN3-013	NDE-35	PT	SS	33.500		
	Circumferential		OFD-100A-3.1				2.330		
Class A	Term end					Nozzle 3B1 Pump Outlet Nozzle to Safe End			
B09.011.033	3-PSL-9	50	ISI-OCN3-015	NDE-600	UT	SS	10.000		Reference Request for Relief 95-GO-03 for calibration block.
	Circumferential		OFD-100A-3.2				1.000		
Class A	Stress weld					Elbow to Pipe			
B09.011.033A	3-PSL-9	50	ISI-OCN3-015	NDE-35	PT	SS	10.000		
	Circumferential		OFD-100A-3.2				1.000		
Class A	Stress weld					Elbow to Pipe			

CATEGORY B-J, Pressure Retaining Welds In Piping

DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
 Inservice Inspection Database Management System

NPS 4 or Larger**Oconee 3****Plan Report****Page 18****01/12/1999****Inservice Inspection Plan for Interval 3 Outage 3**

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
B09.011.043	3-53A-15-55	53A 3-53A-15 (2)	NDE-600	UT	SS	10.000		Reference Request for Relief 95-GO-03 for calibration block.
	Circumferential	OFD-102A-3.2				1.000		
Class A		OFD-102A-3.3		Elbow to Pipe				
B09.011.043A	3-53A-15-55	53A 3-53A-15 (2)	NDE-35	PT	SS	10.000		
	Circumferential	OFD-102A-3.2				1.000		
Class A		OFD-102A-3.3		Elbow to Pipe				
B09.011.044	3-53A-15-57	53A 3-53A-15 (2)	NDE-600	UT	SS	10.000		Reference Request for Relief 95-GO-03 for calibration block.
	Circumferential	OFD-102A-3.2				1.000		
Class A		OFD-102A-3.3		Elbow to Pipe				
B09.011.044A	3-53A-15-57	53A 3-53A-15 (2)	NDE-35	PT	SS	10.000		
	Circumferential	OFD-102A-3.2				1.000		
Class A		OFD-102A-3.3		Elbow to Pipe				

CATEGORY B-J, Pressure Retaining Welds In Piping

DUKE ENERGY CORPORATION
 QUALITY ASSURANCE TECHNICAL SERVICES
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Less Than NPS 4

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Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Circumferential Welds ****								
B09.021.009	3-PSP-12	50 ISI-OCN3-016	NDE-35	PT	SS	2.500		
	Circumferential	OFD-100A-3.2				0.375		
Class A					Valve 3RC-001 to Pipe			
B09.021.011	3-PSP-15	50 ISI-OCN3-016	NDE-35	PT	SS	2.500		
	Circumferential	OFD-100A-3.2				0.375		
Class A	Stress weld				Tee to Pipe			
B09.021.022	3-51A-142-21	51A 3-51A-142	NDE-35	PT	SS	3.000		
	Circumferential	OFD-101A-3.1				0.438		
Class A	Term end				Elbow to Letdown Cooler 3B Inlet			
B09.021.023	3-51A-142-25	51A 3-51A-142	NDE-35	PT	SS	2.500		
	Circumferential	OFD-101A-3.1				0.375		
Class A					Pipe to Reducer			
B09.021.032	3RC-212-45	51A 3RC-212	NDE-35	PT	SS	2.500		
	Circumferential	OFD-101A-3.4				0.375		
Class A					Valve 3HP-153 to Pipe			
B09.021.033	3RC-212-44A	51A 3RC-212	NDE-35	PT	SS	2.500		
	Circumferential	OFD-100A-3.1				0.375		This weld was listed previously as 2-51A-61-44A until iso 2-51A -61 was redrawn.
Class A	Stress weld				Pipe to Nozzle Nozzle on 3B1 Disc Line			

Total B09.021 Items: 6

CATEGORY B-J, Pressure Retaining Welds In Piping

DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System

Branch Pipe Connection Welds

Oconee 3

Inservice Inspection Plan for Interval 3 Outage 3

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ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Less Than NPS 4 ****									
B09.032.002	3-PIA2-10	50	ISI-OCN3-008	NDE-35	PT	CS-Inconel	12.000		NPS of the Drain Nozzle = 1.5 inch Diameter & .281
	Branch		OFD-100A-3.1				2.250		Thickness
Class A					Pipe to				
	Dissimilar				Nozzle Drain Nozzle				
Total B09.032 Items:		1							

CATEGORY B-J, Pressure Retaining Welds In PipingDUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System**Socket Welds**

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ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DI/THK	CAL BLOCKS	COMMENTS
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B09.040.002	3-50-152-15	50 3-50-152	NDE-35	PT	SS		1.500	
	Socket	OFD-100A-3.2					0.281	
Class A				Tee to Pipe				

Total B09.040 Items: 1**Total B09 Items: 20**

**CATEGORY B-L-1, Pressure Retaining Welds
In Pump Casings**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
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01/12/1999**Pumps**

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIATHK	CAL BLOCKS	COMMENTS
**** Pump Casing Welds ****								
B12.010.003	3RCP-3B1	50	ISI-OCN3-009	NDE-12	RT	SS	0.000	Reactor Coolant Pump 3B1 Casing Weld. (Inspect only if disassembled for maintenance purposes, repair, ect.) See Request for Relief ONS-008. Ref. Addendum ONS3-047 - connection not disassembled during 3EOC16. Percentages have been met for the interval by inspecting 3RCP-3B1.
			OM-1201D-0057				6.500	
Class A			OM-1201D-0005		Casing to			
					Casing			

Total B12.010 Items: 1

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Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Pump Casing ****								
B12.020.003	3RCP-3B1-CASING	50	ISI-OCN3-009	QAL-14	VT-3	SS	0.000	Reactor Coolant Pump 3B1 Casing Internal Surfaces.(Inspect only if disassembled for maintenance purposes, repair,etc.). Ref. Addendum ONS3-020 - connection not disassembled during 3EOC15. Ref. Addendum ONS3-044 - connection not disassembled during 3EOC16. Ref. Addendum ONS3-089 - connection was disassembled and inspected during 3EOC17.
			OM-1201D-0057				0.000	
Class A			OM-1201D-0005		Casing Internal Surfaces to			
Total B12.020 Items:		1						
Total B12 Items:		2						

CATEGORY B-O, Pressure Retaining Welds In Control Rod Housings

DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System

Reactor Vessel

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ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Welds in CRD Housing ****								
B14.010.009	3RPV-CRD-54WH9	50 B&W 149920E	NDE-35	PT	SS-Inconel	4.060 0.650		Peripheral CRDM-HOUSING Body to Adapter
Class A								
B14.010.010	3RPV-CRD-54WH60	50 B&W 43-53-032-12	NDE-35	PT	SS-CS	5.000 0.500		CRDM Base to Motor Tube
Class A								
B14.010.011	3RPV-CRD-54	50 B&W 43-53-033-09	NDE-35	PT	SS-CS	4.300 0.400		CRDM Motor Tube to Extension
Class A								
B14.010.012	3RPV-CRD-54W61	50 B&W 43-53-031-02	NDE-35	PT	SS	4.190 0.380		Peripheral CRDM Extension to Cap
Class A								
Total B14.010 Items:		4						
Total B14 Items:		4						

**CATEGORY C-A, Pressure Retaining Welds
In Pressure Vessels**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
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01/12/1999**Inservice Inspection Plan for Interval 3 Outage 3**

Tubesheet-to-Shell Weld									
ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS	
C01.030.002	3SGB-WG59	ISI-OCN3-004	NDE-620	UT	CS	138.000	40338	S/G B Shell to Bottom Tube Sht. PC.6 to PC.50	
	Circumferential	OFD 122A-3.1	NDE-640			6.625			
Class B		OM 2201-222		Tube Sht. to Shell					
Total C01.030 Items:		1							
Total C01 Items:		1							

**CATEGORY C-C, Integral Attachments For
Vessels, Piping, Pumps, And Valves**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
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01/12/1999**Pressure Vessels**

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Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIATHK	CAL BLOCKS	COMMENTS
**** Integrally Welded Attachments ****								
C03.010.007	3SGB-WG84-ZW	03 B&W-149824E OM 2201-1451	NDE-25	MT	CS	0.000 1.000		SGB FDW. HDR. ATTACH.Z-W QUAD. NEAREST TO Z-AXIS
Class B								
C03.010.008	3SGB-WG84-WZ	03 B&W-149824E OM 2201-1451	NDE-25	MT	CS	0.000 1.000		SGB FDW. HDR. ATTACH.W-Z QUAD. NEAREST TO W-AXIS
Class B								
<hr/>								
Total C03.010 Items:		2						

**CATEGORY C-C, Integral Attachments For
Vessels, Piping, Pumps, And Valves**

**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
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Piping

Ocone 3

Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Integrally Welded Attachments ****								
C03.020.010	3-01A-H9A	01A 0-2481A	NDE-25	MT	CS	26.000		File no. OSC-1334
	Constant Support	OFD-122A-3.1				1.000		Prob. No. 3-01-08
	Class B	0-2490A-3(S)						Main Steam System
C03.020.045	3SGB-WG87-ZW	03 B&W-149824E	NDE-25	MT	CS	0.000		SGB FDW. HDR. ATTACH. Z-W QUAD. NEAREST
	Class B					1.000		TO Z-AXIS
C03.020.046	3SGB-WG87-WZ	03 B&W-149824E	NDE-25	MT	CS	0.000		SGB FDW. HDR. ATTACH. W-Z QUAD. NEAREST
	Class B					1.000		TO W-AXIS
C03.020.050	3-01A-R7	01A 0-2441	NDE-25	MT	CS	36.000		Struc. calc # OSC-1000-01-0018; Prob. # OS
	Constant Support	OFD-122A-3.1				1.000		506/3-01A; Data point 6(627)
	Class B							
C03.020.052	3-01A-H13	01A 0-2441	NDE-25	MT	CS	36.000		Struc. calc # OSC-1000; Prob. # OS 506/3-01A; Data
	Rigid Support	OFD-122A-3.1				0.750		point 10(640)
	Class B							
C03.020.053	3-01A-H14	01A 0-2441	NDE-25	MT	CS	36.000		Struc. calc # OSC-1000-01-0021; Prob. # OS
	Rigid Support	OFD-122A-3.1				0.750		506/3-01A; Data point 1(645)
	Class B							
C03.020.054	3-01A-H18	01A 0-2401B	NDE-25	MT	CS	36.000		Struc. calc # OSC-1000-01-0029; Prob. # OS
	Constant Support	OFD-122A-3.1	NDE-35			1.000		506/3-01A; Data point 28. In order to achieve 90%
	Class B							examination coverage on this weld, it is necessary to
								add a PT examination and procedure NDE-35 to the
								examination required.

Total C03.020 Items: 7

Total C03 Items: 9

**CATEGORY C-D, Pressure Retaining Bolting
Greater Than 2 in. In Diameter**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
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Inservice Inspection Plan for Interval 3 Outage 3**Pumps**

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
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****** Bolts and Studs ******

C04.030.002	3-HPI-PUMP-3B	51A OM 201-1704 OFD-101A-3.3	NDE-943	UT	NA	2.500 0.000	40422	Case Bolting on HPI Pump 3B . (2.5" in diameter and 12" in length; 20 bolts total) We are required to inspect the Case bolting on only one of the HPI pumps during the 3rd interval. (HPI Pump 3A, 3B or 3C). We scheduled the inspection for every outage hoping that one of the pumps will be disassembled during the interval. If one is not disassembled then we will have to inspect the bolting in one of the pumps in place.
Class B								

Total C04.030 Items: 1**Total C04 Items: 1**

**CATEGORY C-F-1, Pressure Retaining Welds
In Austenitic SS or High Alloy Piping**

DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
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**Piping Welds \geq 3/8 in. Nominal Wall Thickness
for Piping $>$ NPS 4**

Oconee 3

Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Circumferential Weld ****								
C05.011.006	3LP-132-11	53A 3LP-132	NDE-600	UT	SS	10.000		Reference Request for Relief 95-GO-03 for calibration block. This weld was listed previously as 3-53A-24-11 until iso 3-53A-24 was redrawn.
	Circumferential	OFD-102A-3.2				1.125		
Class B				Pipe to Valve 3LP-17				
C05.011.006A	3LP-132-11	53A 3LP-132	NDE-35	PT	SS	10.000		This weld was listed previously as 3-53A-24-11 until iso 3-53A-24 was redrawn.
	Circumferential	OFD-102A-3.2				1.125		
Class B				Pipe to Valve 3LP-17				
C05.011.007	3LP-132-5	53A 3LP-132	NDE-600	UT	SS	10.000		Reference Request for Relief 95-GO-03 for calibration block. This weld was listed previously as 3-53A-24-5 until iso 3-53A-24 was redrawn.
	Circumferential	OFD-102A-3.2				1.125		
Class B				Pipe to Elbow				
C05.011.007A	3LP-132-5	53A 3LP-132	NDE-35	PT	SS	10.000		This weld was listed previously as 3-53A-24-5 until iso 3-53A-24 was redrawn.
	Circumferential	OFD-102A-3.2				1.125		
Class B				Pipe to Elbow				

Total C05.011 Items: 4

**CATEGORY C-F-1, Pressure Retaining Welds
In Austenitic SS or High Alloy Piping**
**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System**

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Piping Welds > 1/5 in. Nom Wall For Piping >= NPS 2 And <= NPS 4

Oconee 3

Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Circumferential Weld ****								
C05.021.006	3-51A-118-13	51A 3-51A-118	NDE-600	UT	SS	4.000		Reference Request for Relief 95-GO-03 for calibration block.
	Circumferential	OFD-101A-3.4				0.531		
Class B				Elbow to Pipe				
C05.021.006A	3-51A-118-13	51A 3-51A-118	NDE-35	PT	SS	4.000		
	Circumferential	OFD-101A-3.4				0.531		
Class B				Elbow to Pipe				
C05.021.014	3-51A-119-40	51A 3-51A-119	NDE-600	UT	SS	4.000		Reference Request for Relief 95-GO-03 for calibration block.
	Circumferential	OFD-101A-3.4				0.531		
Class B				Pipe to Valve 3HP-410				
C05.021.014A	3-51A-119-40	51A 3-51A-119	NDE-35	PT	SS	4.000		
	Circumferential	OFD-101A-3.4				0.531		
Class B				Pipe to Valve 3HP-410				
C05.021.023	3-51A-121-20	51A 3-51A-121	NDE-600	UT	SS	4.000		Reference Request for Relief 95-GO-03 for calibration block.
	Circumferential	OFD-101A-3.4				0.674		
Class B				Elbow to Elbow				
C05.021.023A	3-51A-121-20	51A 3-51A-121	NDE-35	PT	SS	4.000		
	Circumferential	OFD-101A-3.4				0.674		
Class B				Elbow to Elbow				
C05.021.039	3-51A-52-44	51A 3-51A-52	NDE-600	UT	SS	3.000		Reference Request for Relief 95-GO-03 for calibration block.
	Circumferential	OFD-101A-3.3				0.438		
Class B				Valve 3HP-105 to Pipe				
C05.021.039A	3-51A-52-44	51A 3-51A-52	NDE-35	PT	SS	3.000		
	Circumferential	OFD-101A-3.3				0.438		
Class B				Valve 3HP-105 to Pipe				

**CATEGORY C-F-1, Pressure Retaining Welds
In Austenitic SS or High Alloy Piping**

**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System**

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**Piping Welds > 1/5 in. Nom Wall For Piping >=
NPS 2 And <= NPS 4**

Oconee 3

Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK CAL BLOCKS	COMMENTS
C05.021.042	3-51A-59-90	51A 3-51A-59	NDE-600	UT	SS	4.000 0.674	Reference Request for Relief 95-GO-03 for calibration block.
Class B	Circumferential	OFD-101A-3.4		Elbow to Pipe			
C05.021.042A	3-51A-59-90	51A 3-51A-59	NDE-35	PT	SS	4.000 0.674	
Class B	Circumferential	OFD-101A-3.4		Elbow to Pipe			
C05.021.053	3-51A-67-10	51A 3-51A-67	NDE-600	UT	SS	2.500 0.375	Reference Request for Relief 95-GO-03 for calibration block.
Class B	Circumferential	OFD-101A-3.1		Pipe to Elbow			
C05.021.053A	3-51A-67-10	51A 3-51A-67	NDE-35	PT	SS	2.500 0.375	
Class B	Circumferential	OFD-101A-3.1		Pipe to Elbow			
C05.021.063	3-51A-87-44A	51A 3-51A-87	NDE-600	UT	SS	4.000 0.531	Reference Request for Relief 95-GO-03 for calibration block.
Class B	Circumferential	OFD-101A-3.4		Valve 3HP-129 to Pipe			
C05.021.063A	3-51A-87-44A	51A 3-51A-87	NDE-35	PT	SS	4.000 0.531	
Class B	Circumferential	OFD-101A-3.4		Valve 3HP-129 to Pipe			
C05.021.073	3-51A-118-8	51A 3-51A-118	NDE-600	UT	SS	4.000 0.531	Reference Request for Relief 95-02 for calibration block.
Class B	Circumferential	OFD-101A-3.4		Pipe to Elbow			
C05.021.073A	3-51A-118-8	51A 3-51A-118	NDE-35	PT	SS	4.000 0.531	
Class B	Circumferential	OFD-101A-3.4		Pipe to Elbow			

**CATEGORY C-F-1, Pressure Retaining Welds
In Austenitic SS or High Alloy Piping**

DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
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**Piping Welds > 1/5 in. Nom Wall For Piping >=
NPS 2 And <= NPS 4**

Oconee 3

Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIATHK CAL BLOCKS	COMMENTS
C05.021.083	3-51A-50-48	51A 3-51A-50	NDE-600	UT	SS	4.000	Reference Request for Relief 95-02 for calibration block.
	Circumferential	OFD-101A-3.3				0.237	
Class B				Reducer to Elbow			
C05.021.083A	3-51A-50-48	51A 3-51A-50	NDE-35	PT	SS	4.000	
	Circumferential	OFD-101A-3.3				0.237	
Class B				Reducer to Elbow			
C05.021.088	3HP-312-20	51A 3HP-312	NDE-600	UT	SS	2.500	Reference Request for Relief 95-02 for calibration block. This weld was originally listed as 3-51A-59-20, until isometric 3-51A-59 was redrawn as 3HP-312.
	Circumferential	OFD-101A-3.4				0.375	
Class B				Tee to Pipe			
C05.021.088A	3HP-312-20	51A 3HP-312	NDE-35	PT	SS	2.500	This weld was originally listed as 3-51A-59-20, until isometric 3-51A-59 was redrawn as 3HP-312.
	Circumferential	OFD-101A-3.4				0.375	
Class B				Tee to Pipe			

Total C05.021 Items: 20

CATEGORY C-F-1, Pressure Retaining Welds
In Austenitic SS or High Alloy PipingDUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System**Socket Welds**

Oconee 3

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ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DI/THK	CAL BLOCKS	COMMENTS
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C05.030.002	3-51A-77-15	51A 3-51A-77	NDE-35	PT	SS	2.000		
	Socket	OFD-101A-3.1				0.436		

Class B

Pipe to
Valve 3HP-21

Total C05.030 Items: 1

**CATEGORY C-F-1, Pressure Retaining Welds
In Austenitic SS or High Alloy Piping**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System

Oconee 3

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01/12/1999**Pipe Branch Connections of Branch Piping >=**
NPS 2

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DI/THK	CAL BLOCKS	COMMENTS
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****** Circumferential Weld ******

C05.041.001	3-53B-52-3	53B 3-53B-52	NDE-35	PT	SS		8.000	
	Branch	OFD-104A-3.1					0.250	
	Class B				Weld-o-let to Pipe			

Total C05.041 Items: 1

**CATEGORY C-F-2, Pressure Retaining Welds
In Carbon Or Low Alloy Steel Piping**

DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System

**Piping Welds \geq 3/8 in. Nominal Wall Thickness
for Piping $>$ NPS 4**

Oconee 3

Inservice Inspection Plan for Interval 3 Outage 3

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ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIATHK	CAL BLOCKS	COMMENTS
**** Circumferential Weld ****								
C05.051.001	3-01A-10-1	01A 3-01A-10	NDE-600	UT	CS	36.000		Inspect with item number C05.052.001 Reference Request for Relief 95-02 for calibration block.
Class B	Circumferential	OFD-122A-3.1		Pipe to Elbow		1.164		
C05.051.001A	3-01A-10-1	01A 3-01A-10	NDE-25	MT	CS	36.000		Inspect with item number C05.052.001A.
Class B	Circumferential	OFD-122A-3.1		Pipe to Elbow		1.164		
C05.051.002	3-01A-10-19	01A 3-01A-10	NDE-600	UT	CS	12.000		Reference Request for Relief 95-02 for calibration block.
Class B	Circumferential	OFD-122A-3.1		Pipe to Valve 3MS-79		0.562		
C05.051.002A	3-01A-10-19	01A 3-01A-10	NDE-25	MT	CS	12.000		
Class B	Circumferential	OFD-122A-3.1		Pipe to Valve 3MS-79		0.562		
C05.051.016	3FWD-74-A	03 3-03-27	NDE-600	UT	CS	24.000		Grinnell Subassembly 3FWD-74. Reference Request for Relief 95-02 for calibration block.
Class B	Circumferential	OFD-121B-3.3 3FWD-74		Pipe to Elbow		1.218		
C05.051.016A	3FWD-74-A	03 3-03-27	NDE-25	MT	CS	24.000		Grinnell Subassembly 3FWD-74
Class B	Circumferential	OFD-121B-3.3 3FWD-74		Pipe to Elbow		1.218		
C05.051.024	3-03A-15-8	03A 3-03A-15	NDE-600	UT	CS	6.000		Reference Request for Relief 95-02 for calibration block.
Class B	Circumferential	OFD-121D-3.1		Pipe to Elbow		0.432		
C05.051.024A	3-03A-15-8	03A 3-03A-15	NDE-25	MT	CS	6.000		
Class B	Circumferential	OFD-121D-3.1		Pipe to Elbow		0.432		

**CATEGORY C-F-2, Pressure Retaining Welds
In Carbon Or Low Alloy Steel Piping**

**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System**

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**Piping Welds >= 3/8 in. Nominal Wall Thickness
for Piping > NPS 4**

Oconee 3

Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
C05.051.029	3-14B-116-42	14B 3-14B-116	NDE-600	UT	CS	8.000		Reference Request for Relief 95-02 for calibration block.
	Circumferential	OFD-124B-3.2				0.500		
Class B				Elbow to Pipe				
C05.051.029A	3-14B-116-42	14B 3-14B-116	NDE-25	MT	CS	8.000		
	Circumferential	OFD-124B-3.2				0.500		
Class B				Elbow to Pipe				
C05.051.037	3LPS-478-40A	14B 3LPS-478	NDE-600	UT	CS	8.000		This weld was listed previously as 3-14B-119-40A until iso 3-14B-119 was redrawn.
	Circumferential	OFD-124B-3.2				0.500		Reference Request for Relief 95-02 for calibration block.
Class B				Pipe to Pipe				
C05.051.037A	3LPS-478-40A	14B 3LPS-478	NDE-25	MT	CS	8.000		This weld was listed previously as 3-14B-119-40A until iso 3-14B-119 was redrawn.
	Circumferential	OFD-124B-3.2				0.500		
Class B				Pipe to Pipe				

Total C05.051 Items: 12

**CATEGORY C-F-2, Pressure Retaining Welds
In Carbon Or Low Alloy Steel Piping**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
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01/12/1999**Pipe Branch Connections of Branch Piping >=**
NPS 2

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Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIATHK	CAL BLOCKS	COMMENTS
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****** Circumferential Weld ******

C05.081.004	3MS-12B-J	01A 3-01A-13	NDE-25	MT	CS	12.000		Grinnell Subassembly 3MS-12B
	Branch	OFD-122A-3.1				0.562		
	Class B	3MS-12B		Pipe to Pipe				

Total C05.081 Items: 1**Total C05 Items: 39**

**CATEGORY D-B, Systems In Support Of ECC,
CHR, Atmos. Cleanup, And Reactor RHR**

**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System**

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Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Component Supports and Restraints ****								
D02.020.001	3-01A-HTT-2300	01A 0-2403D	QAL-14	VT-3	NA	6.000		File no. OSC-510 Sht 2of3
	Rigid Restraint	OFD-122A-3.4				0.500		Prob. No. 3-01A-04 Page 68
Class C								Main Steam to Emergency F.W. Pump
D02.020.005	3-01A-R5	01A 4-0-2403D	QAL-14	VT-3	NA	6.000		File no. OSC-510 Sht 1of3
	Rigid Restraint	OFD-122A-3.4				0.125		Prob. No. 3-01A-04
Class C								Main Steam to Emergency F.W. Pump
D02.020.007	3-01A-R13A	01A 4-2-0-2403D	QAL-14	VT-3	NA	6.000		File no. OSC-510 Sht 1of3
	Rigid Restraint	OFD-122A-3.4				0.125		Prob. No. 3-01A-04
Class C								Main Steam to Emergency F.W. Pump
D02.020.037	3-03A-H7	03A 1-0-2439C	QAL-14	VT-3	NA	6.000		File No. OSC-1224-23
	Rigid Restraint	OFD-121D-3.1				0.375		Page No. 25.3; Problem No. 3-03A-13
Class C								Aux Service Water Piping
D02.020.042	3-03A-SR166	03A 1-0-2401B	QAL-14	VT-3	NA	6.000		File No. OSC-527
	Rigid Restraint	OFD-121D-3.1				0.500		Page No. 39; Problem No. 3-03A-10
Class C								Emergency Feedwater System
D02.020.044	3-03A-SR179	03A 1-0-2439B	QAL-14	VT-3	NA	6.000		File No. OS-524
	Rigid Restraint	OFD-121D-3.1				0.500		Page No. 63; Problem No. 3-03A-07
Class C								Emergency Feedwater System
D02.020.056	3-03A-H6	03A 1-0-2439C	QAL-14	VT-3	NA	6.000		File No. OSC-1224-23
	Rigid Restraint	OFD-121D-3.1				0.375		Page No. 25.3; Problem No. 3-03A-13
Class C								Aux Service Water Piping
D02.020.074	3-03A-SR150	03A 1-0-2400B	QAL-14	VT-3	NA	6.000		File No. OSC-527
	Rigid Restraint	OFD-121D-3.1				1.000		Page No. 39; Problem No. 3-03A-10
Class C								Emergency Feedwater System

**CATEGORY D-B, Systems In Support Of ECC,
CHR, Atmos. Cleanup, And Reactor RHR**

**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System**

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Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
D02.020.077	3-03A-SR181	03A 1-0-2439C	QAL-14	VT-3	NA	6.000		File No. OS-524
	Rigid Restraint	OFD-121D-3.1				0.500		Page No. 63; Problem No. 3-03A-07
Class C								Emergency Feedwater System
D02.020.078	3-03A-SR183	03A 1-0-2439C	QAL-14	VT-3	NA	6.000		File No. OSC-1224-23
	Rigid Restraint	OFD-121D-3.1				0.500		Page No. 25.3; Problem No. 3-03A-13
Class C								Aux Service Water Piping
D02.020.084	3-03A-SR46	03A 1-0-2401A	QAL-14	VT-3	NA	6.000		File no. OSC-513 Page 72
	Rigid Restraint	OFD-121B-3.3				1.000		Prob. No. 3-03A-02
Class C								Emergency Feedwater System
D02.020.085	3-03A-SR5	03A 1-0-2401B	QAL-14	VT-3	NA	6.000		File No. OSC-513
	Rigid Restraint	OFD-121D-3.1				1.000		Page No. 71; Problem No. 3-03A-02
Class C								Emergency Feedwater Pump Discharge
D02.020.097	3-07A-SR18	07A 4-0-2402A	QAL-14	VT-3	NA	30.000		File no. OSC-521 Page 124
	Rigid Restraint	OFD-121A-3.7				1.000		Prob. No. 3-07-01
Class C								Condensate System
D02.020.101	3-07A-SR7	07A 4-0-2400A	QAL-14	VT-3	NA	24.000		File no. OSC-1211 Page 28
	Rigid Restraint	OFD-121A-3.7				2.000		Prob. No. 3-07-05
Class C								Condensate System
D02.020.140	3-14B-WM-7001	14B 0-2437A	QAL-14	VT-3	NA	6.000		File No. OSC-529
	Rigid Restraint	OFD-121D-1.2				0.125		Page No. 67.1
Class C								Problem No. 3-14B-2; Aux Service Water Piping
D02.020.145	1-WL-100A-K0005	WL KFD-100A-1.1	QAL-14	VT-3	NA	8.000		Integral Attachment Inspection
	Rigid Restraint					0.500		Keowee Unit 1
Class C								

Total D02.020 Items: 16

**CATEGORY D-B, Systems In Support Of ECC,
CHR, Atmos. Cleanup, And Reactor RHR**DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System**Integral Attachment**

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01/12/1999**Inservice Inspection Plan for Interval 3 Outage 3**

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
**** Spring Type Supports ****								
D02.040.008	3-03A-H157	03A 1-0-2401B	QAL-14	VT-3	NA		6.000	File No. OSC-527
	Spring Hgr	OFD-121D-3.1					0.500	Page No. 39; Problem No. 3-03A-10
	Class C							Emergency Feedwater System
D02.040.009	3-03A-H165	03A 1-0-2401B	QAL-14	VT-3	NA		6.000	File No. OSC-527
	Spring Hgr	OFD-121D-3.1					0.500	Page No. 39; Problem No. 3-03A-10
	Class C							Emergency Feedwater System
<hr/>								
Total D02.040 Items:		2						
Total D02 Items:		18						

CATEGORY F-A, Supports (Category C)

DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
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**Class 1 Mech. Conn. to Press. Retaining Comp. &
 Bld. Structure**

Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIAT/THK	CAL BLOCKS	COMMENTS
F01.012.001	3-50-H1A	50	0-2479A	QAL-14	VT-3	NA	10.000		Dwg. No.0-2491B-2A
	Hyd Snubber		OFD-100A-3.2				0.000		PZR Surge Line. Inspect with Item No. F01.050.006
Class A									
F01.012.002	3-50-H6	50	0-2481A	QAL-14	VT-3	NA	2.500		File No. OSC-1343-06 Vol.A of C
	Constant Support		OFD-100A-3.2				0.154		Prob.No. 3-53-09 Page 138
Class A									Low Pressure Inj. Supply to PZR Spray
F01.012.005	3-51A-H2A	51A	0-2479A	QAL-14	VT-3	NA	2.500		File No. OSC-1343
	Hyd Snubber		OFD-101A-3.4				0.154		Vol.B of C
Class A									Prob. No. 3-53-10 Page 59
									H.P.I. East Coolant Loop. Inspect with Item No. F01.050.009
F01.012.008	3-50-RCPM-3A1-SS2	50	0-1066A	QAL-14	VT-3	NA	6.000		Calcalaton No. OSC-1011-01-0001, Reactor Coolant
	Mech Snubber		OFD-100A-3.1				0.000		Pump Motor Snubbers. Reference PIP 0-O96-1575.
Class A			OFD-100A-3.3						Inspect with F01.050.108

Total F01.012 Items: 4

CATEGORY F-A, Supports (Category A)

DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
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Class 2 Weld Connections to Building Structure

Oconee 3

Inservice Inspection Plan for Interval 3 Outage 3

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIATHK	CAL BLOCKS	COMMENTS
F01.020.023	3-53B-H118	53B 5-0-2435B	QAL-14	VT-3	NA		12.000	File NO. OS-549
	Rigid Restraint	OFD-102A-3.1					0.187	Page 78; Problem No. 3-53-01
Class B								L P Injection & Decay Heat Removal
F01.020.026	3-53B-H20	53B 5-0-2435B	QAL-14	VT-3	NA		14.000	File NO. OS-549
	Rigid Restraint	OFD-102A-3.1					0.187	Page 78; Problem No. 3-53-01
Class B								L P Injection & Decay Heat Removal
F01.020.028	3-53B-H43	53B 2-0-2435D	QAL-14	VT-3	NA		6.000	File No. OSC-539
	Rigid Restraint	OFD-101A-3.3					0.000	Prob. No. 3-51-2 Page 145
Class B								H.P.I. Pumps 3A,3B,&3C Suction Header
F01.020.036	3-54A-SR20	54A 3-0-2439B	QAL-14	VT-3	NA		8.000	File No. OSC-556
	Rigid Restraint	OFD-103A-3.1					0.500	Page No. 65.1
Class B								Problem No. 3-54-03
F01.020.038	3-55-SR1	55 1-0-2439C	QAL-14	VT-3	NA		6.000	File No. OSC-558 Page 42.3
	Rigid Restraint	OFD-144A-3.2					0.000	Prob. No. 3-55-01
Class B								System 55
F01.020.041	3-01A-H13	01A 0-2441	QAL-14	VT-3	CS		36.000	Struc. calc # OSC-1000; Prob. # OS 506/3-01A; Data
	Rigid Support	OFD-122A-3.1					0.000	point 10(640)
Class B								
F01.020.042	3-01A-H14	01A 0-2441	QAL-14	VT-3	CS		36.000	Struc. calc # OSC-1000-01-0021; Prob. # OS
	Rigid Support	OFD-122A-3.1					0.000	506/3-01A; Data point 11(645)
Class B								
F01.020.046	3-51B-H14	51B 2-0-2436C	QAL-14	VT-3	NA		2.000	File No. OSC-538 Page 108
	Rigid Restraint	OFD-101A-3.2					0.000	Prob. No. 51-1 sht.4 of 9
Class B								

Total F01.020 Items: 8

CATEGORY F-A, Supports (Category B)

DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System

Class 2 Weld Connections to Building Structure

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ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIATHK	CAL BLOCKS	COMMENTS
F01.021.029	3-55-DE002	55 0-2439A	QAL-14	VT-3	NA	6.000		File no OSC-559 Page 60A
	Rigid Restraint	OFD-144A-3.2				0.000		Prob. No. 3-55-02
Class B								System 55
F01.021.033	3-51B-DE014	51B 2436G	QAL-14	VT-3	NA	2.500		File No. OSC-538 Page 110
	Rigid Restraint	OFD-101A-3.2				0.000		Prob. No. 51-1 sht.6 of 9
Class B								
Total F01.021 Items:		2						
F01.022.002	3-01A-H9A	01A 0-2481A	QAL-14	VT-3	CS	26.000		File no. OSC-1334
	Constant Support	OFD-122A-3.1				1.000		Prob. No. 3-01-08
Class B		0-2490A-3(S)						Main Steam System
F01.022.018	3-55-H33	55 1-0-2439A	QAL-14	VT-3	NA	6.000		File No. OSC-559 Page 60A
	Spring Hgr	OFD-144A-3.2				0.000		Prob. No. 3-55-02
Class B								System 55
F01.022.019	3-56-H10	56 0-2478A	QAL-14	VT-3	NA	8.000		File No. OSC-1339
	Hyd Snubber	OFD-104A-3.1				0.000		Page No. 81
Class B								Problem No. 3-56-03
								Spent Fuel Cooling. Inspect with Item No.
								F01.050.004
F01.022.023	3-01A-R7	01A 0-2441	QAL-14	VT-3	CS	36.000		Struc. calc # OSC-1000-01-0018; Prob. # OS
	Hyd Snubber	OFD-122A-3.1				0.000		506/3-01A; Data point 6(627)
Class B								
F01.022.024	3-01A-H18	01A 0-2401B	QAL-14	VT-3	CS	36.000		Struc. calc # OSC-1000-01-0029; Prob. # OS
	Spring Hgr	OFD-122A-3.1				0.000		506/3-01A; Data point 28
Class B								
Total F01.022 Items:		5						

CATEGORY F-A, Supports (Category B)DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System

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Inservice Inspection Plan for Interval 3 Outage 3

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01/12/1999**Class 3 Weld/Mech Conns at Inter Joints in
Multiconn Int & Nonint Supp**

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DI/THK	CAL BLOCKS	COMMENTS
F01.031.008	3-03A-H6	03A 1-0-2439C	QAL-14	VT-3	NA	6.000		File No. OSC-1224-23
	Rigid Restraint	OFD-121D-3.1				0.375		Page No. 25.3
Class C								Problem No. 3-03A-13
								Aux Service Water Piping
F01.031.013	3-07A-SR7	07A 4-0-2400A	QAL-14	VT-3	NA	24.000		File no. OSC-1211 Page 28
	Rigid Restraint	OFD-121A-3.7				2.000		Prob. No. 3-07-05
Class C								Condensate System
F01.031.020	3-14B-WM-7001	14B 0-2437A	QAL-14	VT-3	NA	6.000		File No. OSC-529
	Rigid Restraint	OFD-121D-1.2				0.125		Page No. 67.1
Class C								Problem No. 3-14B-2
								Aux Service Water Piping
Total F01.031 Items:		3						

CATEGORY F-A, Supports

DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System

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Inservice Inspection Plan for Interval 3 Outage 3

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**Clearances of Guides & Stops, Align of Supps,
 Assembly of Supp Items**

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIATHK	CAL BLOCKS	COMMENTS
F01.040.009	3-EFDW-TD-PU	0M 206A-0001 OFD 121D-3.1	QAL-14	VT-3	NA	0.000 0.000		Emerg. Feedwater Turbine Driven Pump.Pump Support & Pad.Class C
Class C								
F01.040.010	3-EFDW-MD-PU-A	03A 0M 206-0036 OFD 121D-3.1	QAL-14	VT-3	NA	0.000 0.000		Emerg. Feedwater Motor Driven Pump 3A.Pump Support & Pad.Class C
Class C								
F01.040.022	1-GOV-OIL-PUMP-A Rigid Restraint	WL KFD-105A-1.1 KM-200-158	QAL-14	VT-3	NA	0.000 0.000		Governor Oil Pump A Support Keowee Unit 1
Class C								
F01.040.025	3-RCSR-COOLER-3A	51A 0M 201-0086 OFD-101A-3.1	QAL-14	VT-3	NA	0.000 0.000		3A RC Seal Return Cooler Support.Class B
Class B								

Total F01.040 Items: 4

CATEGORY F-A, Supports

DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
Inservice Inspection Database Management System

Spring Supports & Constant Load Supports

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ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIATHK	CAL BLOCKS	COMMENTS
F01.050.001 Class C	3-03-SR3 Hyd Snubber	03 0-2401A OFD-121B-3.3	QAL-14	VT-3	NA	24.000 0.406		File no. OSC-512 Page136.1 Prob. No. 3-03-01 Main Feedwater System.
F01.050.002 Class C	3-NPS-03-H28 Hyd Snubber	03A 0-2478 OFD-121D-3.1	QAL-14	VT-3	NA	3.000 0.000		File No.= OSC-1224-18, Page No. 39.2; Problem No.= 3-03A-14; Aux Service Water Piping
F01.050.003 Class A	3-53-H3 Hyd Snubber	53A 0-2478A OFD-102A-3.1	QAL-14	VT-3	NA	12.000 0.280		File No. OSC-1339 Page 82 Problem No. 3-56-03; Spent Fuel Cooling.
F01.050.004 Class B	3-56-H10 Hyd Snubber	56 0-2478A OFD-104A-3.1	QAL-14	VT-3	NA	8.000 0.000		File No. OSC-1339 Page No. 81 Problem No. 3-56-03 Spent Fuel Cooling.
F01.050.005 Class A	3-50-H12 Hyd Snubber	50 0-2479A OFD-100A-3.2	QAL-14	VT-3	NA	2.500 0.000		File No. OSC-1343-06 Vol.A of C Prob.No. 3-53-09 Page 138 Low Pressure Inj. Supply to PZR Spray
F01.050.006 Class A	3-50-H1A Hyd Snubber	50 0-2479A OFD-100A-3.2	QAL-14	VT-3	NA	10.000 0.000		Dwg. No.0-2491B-2A PZR Surge Line.
F01.050.007 Class A	3-50-H2A Hyd Snubber	50 0-2479A OFD-100A-3.2	QAL-14	VT-3	NA	10.000 0.000		Dwg. No.0-2491B-2A PZR Surge Line
F01.050.008 Class A	3-50-H3A Hyd Snubber	50 0-2479A OFD-100A-3.2	QAL-14	VT-3	NA	10.000 0.000		Dwg. No.0-2491B-2A PZR Surge Line

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F01.050.009	3-51A-H2A	51A 0-2479A	QAL-14	VT-3	NA	2.500	File No. OSC-1343
	Hyd Snubber	OFD-101A-3.4				0.154	Vol.B of C
Class A							Prob. No. 3-53-10 Page 59
							H.P.I. East Coolant Loop.
F01.050.010	3-03-H6B	03 0-2480A	QAL-14	VT-3	NA	20.000	File no. OSC-1335 Page 6(2)-71
	Hyd Snubber	OFD-121B-3.3				0.000	Prob. No. 3-03-06
Class B							Main Feedwater System
F01.050.011	3-03-H7A	03 0-2480A	QAL-14	VT-3	NA	24.000	File no. OSC-1335 Page 6(1)-72
	Hyd Snubber	OFD-121B-3.3				0.237	Prob. No. 3-03-07
Class B							Main Feedwater System
F01.050.012	3-50-H10	50 0-2480A	QAL-14	VT-3	NA	2.500	File No. OSC-1343-06 Vol.A of C
	Hyd Snubber	OFD-100A-3.2				0.000	Prob.No. 3-53-09 Page 138
Class A							Low Pressure Inj. Supply to PZR Spray
F01.050.013	3-50-H11	50 0-2480A	QAL-14	VT-3	NA	2.500	File No. OSC-1343-06 Vol.A of C
	Hyd Snubber	OFD-100A-3.2				0.000	Prob.No. 3-53-09 Page 138
Class A							Low Pressure Inj. Supply to PZR Spray
F01.050.014	3-50-H8	50 0-2480A	QAL-14	VT-3	NA	2.500	File No. OSC-1343-06 Vol.A of C
	Hyd Snubber	OFD-100A-3.2				0.000	Prob.No. 3-53-09 Page 138
Class A							Low Pressure Inj. Supply to PZR Spray
F01.050.015	3-50-H9	50 0-2480A	QAL-14	VT-3	NA	2.500	File No. OSC-1343-06 Vol.A of C
	Hyd Snubber	OFD-100A-3.2				0.000	Prob.No. 3-53-09 Page 138
Class A							Low Pressure Inj. Supply to PZR Spray
F01.050.016	3-50-H1	50 0-2481A	QAL-14	VT-3	NA	2.500	File No. OSC-1343-06 Vol.A of C
	Hyd Snubber	OFD-100A-3.2				0.000	Prob.No. 3-53-09 Page 138
Class A							Low Pressure Inj. Supply to PZR Spray

ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
F01.050.017	3-50-H3	50	0-2481A	QAL-14	VT-3	NA	2.500		File No. OSC-1343-06 Vol.A of C
	Hyd Snubber		OFD-100A-3.2				0.154		Prob.No. 3-53-09 Page 138
Class A									Low Pressure Inj. Supply to PZR Spray
F01.050.018	3-57-H13A	57	0-2481A	QAL-14	VT-3	NA	4.000		File No.OSC-1351-06
	Hyd Snubber		OFD-100A-3.2				0.000		Problem No.3-57-01
Class A									Dwg # 0-3RB-357001-01
									PZR Relief Valve System.
F01.050.019	3-57-H15	57	0-2481A	QAL-14	VT-3	NA	6.000		File No.OSC-1351-06
	Hyd Snubber		OFD-100A-3.2				1.000		Problem No.3-57-01
Class C									Dwg # 0-3RB-357001-01
									PZR Relief Valve System.
F01.050.020	3-57-H16	57	0-2481A	QAL-14	VT-3	NA	6.000		File No.OSC-1351-06
	Hyd Snubber		OFD-100A-3.2				0.000		Problem No.3-57-01
Class C									Dwg # 0-3RB-357001-01
									PZR Relief Valve System
F01.050.021	3-57-H17	57	0-2481A	QAL-14	VT-3	NA	6.000		File No.OSC-1351-06
	Hyd Snubber		OFD-100A-3.2				0.000		Problem No.3-57-01
Class C									Dwg # 0-3RB-357001-01
									PZR Relief Valve System
F01.050.022	3-57-H20	57	0-2481A	QAL-14	VT-3	NA	6.000		File No.OSC-1351-06
	Hyd Snubber		OFD-100A-3.2				0.000		Problem No.3-57-01
Class C									Dwg # 0-3RB-357001-01
									PZR Relief Valve System
F01.050.023	3-57-H21	57	0-2481A	QAL-14	VT-3	NA	6.000		File No.OSC-1351-06
	Hyd Snubber		OFD-100A-3.2				0.000		Problem No.3-57-01
Class C									Dwg # 0-3RB-357001-01
									PZR Relief Valve System
F01.050.024	3-57-H23	57	0-2481A	QAL-14	VT-3	NA	6.000		File No.OSC-1351-06
	Hyd Snubber		OFD-100A-3.2				0.000		Problem No.3-57-01
Class C									Dwg # 0-3RB-357001-01
									PZR Relief Valve System

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F01.050.025	3-57-H25	57 0-2481A	QAL-14	VT-3	NA	6.000		File No.OSC-1351-06
	Hyd Snubber	OFD-100A-3.2				0.000		Problem No.3-57-01
Class C								Dwg # 0-3RB-357001-01
								PZR Relief Valve System
F01.050.026	3-57-H7	57 0-2481A	QAL-14	VT-3	NA	8.000		File No.OSC-1351-06
	Hyd Snubber	OFD-100A-3.2				0.000		Problem No.3-57-01
Class C								Dwg # 0-3RB-357001-01
								PZR Relief Valve System
F01.050.027	3-57-H9	57 0-2481A	QAL-14	VT-3	NA	8.000		File No.OSC-1351-06
	Hyd Snubber	OFD-100A-3.2				0.216		Problem No.3-57-01
Class C								Dwg # 0-3RB-357001-01
								PZR Relief Valve System
F01.050.028	3-01A-H2A	01A 0-2481B	QAL-14	VT-3	NA	26.000		File no. OSC-1334
	Hyd Snubber	OFD-122A-3.1				0.322		Prob. No. 3-01-08
Class B		0-2490A-3(S)						Main Steam System
F01.050.029	3-01A-H2B	01A 0-2481B	QAL-14	VT-3	NA	26.000		File no. OSC-1334
	Hyd Snubber	OFD-122A-3.1				0.322		Prob. No. 3-01-07
Class B		0-2490A-2(S)						Main Steam System
F01.050.030	3-01A-H8A	01A 0-2481B	QAL-14	VT-3	NA	26.000		File no. OSC-1334
	Hyd Snubber	OFD-122A-3.1				0.322		Prob. No. 3-01-08
Class B		0-2490A-3(S)						Main Steam System
F01.050.031	3-01A-H8B	01A 0-2481B	QAL-14	VT-3	NA	26.000		File no. OSC-1334
	Hyd Snubber	OFD-122A-3.1				0.322		Prob. No. 3-01-07
Class B		0-2490A-2(S)						Main Steam System
F01.050.032	3-03A-SR103PO	03A 1-0-2400A	QAL-14	VT-3	NA	6.000		File No.= OSC-526, Page No. 41; Problem No.=
	Hyd Snubber	OFD-121D-3.1				0.000		3-03A-09; Emergency Feedwater System
Class C								

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F01.050.033	3-03A-SR104PO	03A 1-0-2400A	QAL-14	VT-3	NA	6.000		File No.= OSC-526, Page No. 41; Problem No.= 3-03A-09; Emergency Feedwater System
	Hyd Snubber	OFD-121D-3.1				0.000		
Class C								
F01.050.034	3-03A-SR100PO	03A 1-0-2401A	QAL-14	VT-3	NA	6.000		File No. OS-519 Page No. 55 Problem No. 3-03A-06 Emergency Feedwater System
	Hyd Snubber	OFD-121D-3.1				0.203		
Class C								
F01.050.035	3-03A-SR101PO	03A 1-0-2401A	QAL-14	VT-3	NA	6.000		File no. OSC-513 Page72 Prob. No. 3-03A-02 EmergencyFeedwater System
	Hyd Snubber	OFD-121B-3.3				0.000		
Class C								
F01.050.036	3-03A-SR102PO	03A 1-0-2401A	QAL-14	VT-3	NA	6.000		File no. OSC-513 Page71 Prob. No. 3-03A-02 EmergencyFeedwater System
	Hyd Snubber	OFD-121B-3.3				0.000		
Class C								
F01.050.037	3-56-SR107	56 1-0-2437A	QAL-14	VT-3	NA	8.000		File No.= OSC-563, Page No. 92.2; Problem No.= 3-56-02; Spent Fuel Cooling
	Hyd Snubber	OFD-104A-3.1				0.000		
Class C								
F01.050.038	3-56-SR109	56 1-0-2437A	QAL-14	VT-3	NA	8.000		File No.= OSC-563, Page No. 92.2; Problem No.= 3-56-02; Spent Fuel Cooling
	Hyd Snubber	OFD-104A-3.1				0.000		
Class C								
F01.050.039	3-56-SR112	56 1-0-2437A	QAL-14	VT-3	NA	8.000		File No.= OSC-563, Page No. 92.2; Problem No.= 3-56-02; Spent Fuel Cooling
	Hyd Snubber	OFD-104A-3.1				0.000		
Class C								
F01.050.040	3-56-SR116	56 1-0-2437A	QAL-14	VT-3	NA	8.000		File No OSC-563 Page No. 93.2 Problem No. 3-56-02 Spent Fuel Cooling
	Hyd Snubber	OFD-104A-3.1				0.237		
Class C								

ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
F01.050.041	3-56-SR119	56	1-0-2437A	QAL-14	VT-3	NA	6.000		File No.= OSC-563, Page No. 93.2; Problem No.= 3-56-02; Spent Fuel Cooling
Class C	Hyd Snubber		OFD-104A-3.1				0.000		
F01.050.042	3-51A-SR14	51A	1-0-2444	QAL-14	VT-3	NA	4.000		File No. OSC-542
Class B	Hyd Snubber		OFD-101A-3.3				0.000		Prob. No. 3-51-05 Page 42 H.P.I. Pump Discharge
F01.050.043	3-01A-R10	01A	1-1-0-2401B	QAL-14	VT-3	NA	12.000		File no. 0S-507 Sht 1of2
Class B	Hyd Snubber		OFD-122A-3.2				0.000		Prob. No. 3-01-09 Main Steam ByPass to Condenser
F01.050.044	3-01A-R12	01A	1-1-0-2401B	QAL-14	VT-3	NA	12.000		File no. 0S-507 Sht 1of2
Class B	Hyd Snubber		OFD-122A-3.2				0.280		Prob. No. 3-01-09 Main Steam ByPass to Condenser
F01.050.045	3-01A-R9	01A	1-1-0-2401B	QAL-14	VT-3	NA	12.000		File no. 0S-507 Sht 1of2
Class B	Hyd Snubber		OFD-122A-3.2				0.000		Prob. No. 3-01-09 Main Steam ByPass to Condenser
F01.050.046	3-53B-SR22	53B	2-0-2435B	QAL-14	VT-3	NA	14.000		File NO.= OS-549, Page 78; Problem No.= 3-53-01; L
Class B	Hyd Snubber		OFD-102A-3.1				0.000		P Injection & Decay Heat Removal
F01.050.047	3-54A-SR22	54A	3-0-2435B	QAL-14	VT-3	NA	8.000		File No.= OSC-554, Page No. 47.1; Problem No.= 3-54-01; Reactor Bld Spray
Class B	Hyd Snubber		OFD-103A-3.1				0.000		
F01.050.048	3-54A-SR7	54A	3-0-2435B	QAL-14	VT-3	NA	8.000		File No. OSC-555
Class B	Hyd Snubber		OFD-103A-3.1				1.000		Page No. 42.1 Problem No. 3-54-02

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F01.050.049	3-54A-SR14	54A 3-0-2439A	QAL-14	VT-3	NA	8.000	File No.= OSC-556, Page No. 64.1; Problem
	Hyd Snubber	OFD-103A-3.1				0.000	No.=3-54-03
Class B							
F01.050.050	3-01A-R4	01A 3-803E245-2	QAL-14	VT-3	NA	12.000	File no. OSC-511 Page50
	Hyd Snubber	OFD-122A-3.1				0.000	Prob. No. 3-01-06
Class B							Main Steam System
F01.050.051	3-01A-R8	01A 4-0-2403D	QAL-14	VT-3	NA	6.000	File no. OSC-510 Sht 1of3
	Hyd Snubber	OFD-122A-3.4				0.000	Prob. No. 3-01A-04
Class C							Main Steam to Emergency F.W. Pump
F01.050.052	3-01A-R12	01A 4-2-0-2403A	QAL-14	VT-3	NA	6.000	File no. OSC-510 Sht 2of3
	Hyd Snubber	OFD-122A-3.4				0.000	Prob. No. 3-01A-04 Page 68
Class C							Main Steam to Emergency F.W. Pump
F01.050.053	3-01A-R11	01A 4-2-0-2403D	QAL-14	VT-3	NA	6.000	File no. OSC-510 Sht 2of3
	Hyd Snubber	OFD-122A-3.4				0.000	Prob. No. 3-01A-04 Page 68
Class C							Main Steam to Emergency F.W. Pump
F01.050.054	3-01A-R4	01A 4-2-0-2403D	QAL-14	VT-3	NA	6.000	File no. OSC-510 Sht 2of3
	Hyd Snubber	OFD-122A-3.4				0.000	Prob. No. 3-01A-04 Page 68
Class C							Main Steam to Emergency F.W. Pump
F01.050.055	3-53B-SR32	53B 5-0-2435B	QAL-14	VT-3	NA	10.000	File No.= OS-550, Page No. 57; Problem No.=
	Hyd Snubber	OFD-102A-3.2				0.000	3-53-03; System 53B
Class B							
F01.050.056	3-53B-SR33	53B 5-0-2435B	QAL-14	VT-3	NA	10.000	File No.= OS-550, Page No. 57; Problem No.=
	Hyd Snubber	OFD-102A-3.2				0.000	3-53-03; System 53B
Class B							

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F01.050.057	3-53B-SR38	53B 5-0-2435B	QAL-14	VT-3	NA	10.000		File No. OS-550
Class B	Hyd Snubber	OFD-102A-3.2				0.000		Page No. 56 Problem No. 3-53-03; System 53B
F01.050.058	3-53B-SR39	53B 5-0-2435B	QAL-14	VT-3	NA	10.000		File No.= OS-550, Page No. 58; Problem No.=
Class B	Hyd Snubber	OFD-102A-3.2				0.000		3-53-03; System 53B
F01.050.059	3-13-SR1	13 7-0-2400A	QAL-14	VT-3	NA	12.000		File no. OSC-523 Page 40
Class C	Hyd Snubber	OFD-133A-3.2				0.000		Prob. No. 13-7 Condenser Circulating Water Emerg. Disch.
F01.050.060	3-13-SR3	13 7-0-2400A	QAL-14	VT-3	NA	24.000		File noOSC-523 Page 40
Class C	Hyd Snubber	OFD-133A-3.2				0.000		Prob. No. 13-7 Condenser Circulating Water Emerg. Disch.
F01.050.061	3-13-SR4	13 7-0-2400B	QAL-14	VT-3	NA	30.000		File noOSC-523 Page 40
Class C	Hyd Snubber	OFD-133A-3.2				0.000		Prob. No. 13-7 Condenser Circulating Water Emerg. Disch.
F01.050.062	3-07A-DE027	07A 0-2400A	QAL-14	VT-3	NA	8.000		File No.= OS-522, Page No. 59.1; Problem No.=
Class C	Mech Snubber	OFD-121A-3.8				0.000		3-07-03; System 07A
F01.050.063	3-03-DE001	03 0-2401A	QAL-14	VT-3	NA	24.000		File no. OSC-512 Page136.1
Class C	Mech Snubber	OFD-121B-3.3				0.000		Prob. No. 3-03-01 Main Feedwater System
F01.050.064	3-03-SR1	03 0-2401A	QAL-14	VT-3	NA	24.000		File no. OSC-512 Page136.1
Class C	Mech Snubber	OFD-121B-3.3				0.000		Prob. No. 3-03-01 Main Feedwater System

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F01.050.065	3-03-SR10	03 0-2401A	QAL-14	VT-3	NA	24.000		File no. OSC-512 Page136.1
	Mech Snubber	OFD-121B-3.3				0.000		Prob. No. 3-03-01
Class C								Main Feedwater System
F01.050.066	3-03-SR11	03 0-2401A	QAL-14	VT-3	NA	24.000		File no. OSC-512 Page136.1
	Mech Snubber	OFD-121B-3.3				0.000		Prob. No. 3-03-01
Class C								Main Feedwater System
F01.050.067	3-03-SR2	03 0-2401A	QAL-14	VT-3	NA	24.000		File no. OSC-512 Page136.1
	Mech Snubber	OFD-121B-3.3				0.435		Prob. No. 3-03-01
Class C								Main Feedwater System
F01.050.068	3-03A-DE054	03A 0-2401A	QAL-14	VT-3	NA	6.000		File no. OSC-519 Page55
	Mech Snubber	OFD-121B-3.3				0.000		Prob. No. 3-03A-06
Class C								EmergencyFeedwater System
F01.050.069	3-02A-DE016	01A 0-2403A	QAL-14	VT-3	NA	6.000		File no. OSC-510 Sht 2of3
	Mech Snubber	OFD-122A-3.4				0.000		Prob. No. 3-01A-04 Page 68
Class C								Main Steam to Emergency F.W. Pump
F01.050.070	3-03A-DE053	03A 0-2402A	QAL-14	VT-3	NA	6.000		File No.= OS-519, Page No. 55; Problem No.=
	Mech Snubber	OFD-121D-3.1				0.000		3-03A-06; Emergency Feedwater System
Class C								
F01.050.071	3-53B-DE013	53B 0-2435B	QAL-14	VT-3	NA	14.000		File NO. OS-549
	Mech Snubber	OFD-102A-3.1				0.000		Page 78
Class B								Problem No. 3-53-01
								L P Injection & Decay Heat Removal
F01.050.072	3-56-DE005	56 0-2437A	QAL-14	VT-3	NA	8.000		File No.= OSC-563, Page No. 93.2; Problem No.=
	Mech Snubber	OFD-104A-3.1				0.000		3-56-02; Spent Fuel Cooling
Class C								

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F01.050.073	3-56-DE007	56	0-2437A	QAL-14	VT-3	NA	8.000		File No.= OSC-563, Page No. 92.2; Problem No.= 3-56-02; Spent Fuel Cooling
Class C	Mech Snubber		OFD-104A-3.1				0.000		
F01.050.074	3-53B-DE008	53B	0-2438B	QAL-14	VT-3	NA	8.000		File No.= OS-551, Page 60.2; Problem No.3-53-04; System 53
Class B	Mech Snubber		OFD-102A-3.1				0.000		
F01.050.075	3-56-DE008	56	0-2438B	QAL-14	VT-3	NA	8.000		File No.= OSC-563, Page No. 94.6; Problem No.= 3-56-02; Spent Fuel Cooling
Class C	Mech Snubber		OFD-104A-3.1				0.000		
F01.050.076	3-03-H6034	03A	0-2480A	QAL-14	VT-3	NA	6.000		File No.= OSC-1224-18, Page No. 38.2; Problem No.= 3-03A-14; Aux Service Water Piping
Class C	Mech Snubber		OFD-121D-3.1				0.000		
F01.050.077	3-03-H6036	03A	0-2480A	QAL-14	VT-3	NA	6.000		File No.= OSC-1224-18, Page No. 38.2; Problem No.= 3-03A-14; Aux Service Water Piping
Class C	Mech Snubber		OFD-121D-3.1				0.000		
F01.050.078	3-03-H6038	03A	0-2480A	QAL-14	VT-3	NA	6.000		File No.= OSC-1224-18, Page No. 40.2; Problem No.= 3-03A-14; Aux Service Water Piping
Class C	Mech Snubber		OFD-121D-3.1				0.000		
F01.050.079	3-03-H6187	03A	0-2480A	QAL-14	VT-3	NA	6.000		File No.= OSC-1224-18, Page No. 40.2; Problem No.= 3-03A-14; Aux Service Water Piping
Class C	Mech Snubber		OFD-121D-3.1				0.000		
F01.050.080	3-57-NWIZ	57	0-2480A	QAL-14	VT-3	NA	12.000		File No.OSC-1351-06
Class C	Mech Snubber		OFD-100A-3.2				0.000		Problem No.3-57-01 Dwg # 0-3RB-357001-01 PZR Relief Valve System

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F01.050.081	3-50-H7	50 0-2481A	QAL-14	VT-3	NA	2.500	File No. OSC-1343-06 Vol.A of C
	Mech Snubber	OFD-100A-3.2				0.500	Prob.No. 3-53-09 Page 138
Class A							Low Pressure Inj. Supply to PZR Spray
F01.050.082	3-03A-H204	03A 1-0-2400A	QAL-14	VT-3	NA	6.000	File No.= OSC-1209, Page No. 28; Problem No.=
	Mech Snubber	OFD-121D-3.1				0.000	3-03A-12; Emergency Feedwater System
Class C							
F01.050.083	3-03A-SR33	03A 1-0-2401A	QAL-14	VT-3	NA	6.000	File No. OS-519
	Mech Snubber	OFD-121D-3.1				0.000	Page No. 55
Class C							Problem No. 3-03A-06
							Emergency Feedwater System. Inspect with Item No.
							F01.032.010
F01.050.084	3-51A-H308	51A 1-0-2439A	QAL-14	VT-3	NA	4.000	File No. OSC-541
	Mech Snubber	OFD-101A-3.4				0.000	Prob. No. 3-51-04 Page 66
Class B							H.P.I.to Reactor Coolant Loops "A" &"B"
F01.050.085	3-51A-H309	51A 1-0-2439A	QAL-14	VT-3	NA	4.000	File No. OSC-541
	Mech Snubber	OFD-101A-3.4				0.000	Prob. No. 3-51-04 Page 66
Class B							H.P.I.to Reactor Coolant Loops "A" &"B"
F01.050.086	3-51A-H294	51A 1-0-2439C	QAL-14	VT-3	NA	4.000	File No. OSC-542
	Mech Snubber	OFD-101A-3.4				0.000	Prob. No. 3-51-05 Page 44.1
Class B							H.P.I.Crossover to Reactor Coolant Inj. Loops
							"A"&"B"
F01.050.087	3-51A-H304	51A 1-0-2439C	QAL-14	VT-3	NA	4.000	File No. OSC-541
	Mech Snubber	OFD-101A-3.4				0.000	Prob. No. 3-51-04 Page 66
Class B							H.P.I.to Reactor Coolant Loops "A" &"B"
F01.050.088	3-51A-H318	51A 1-0-2444	QAL-14	VT-3	NA	4.000	File No. OSC-541
	Mech Snubber	OFD-101A-3.4				0.000	Prob. No. 3-51-04 Page 67
Class B							H.P.I.Crossover to Reactor Coolant Loops "A" &"B"

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F01.050.089	3-01A-R13	01A 1-1-0-2401B	QAL-14	VT-3	NA	12.000		File no. 0S-507 Sht 1of2
	Mech Snubber	OFD-122A-3.2				0.000		Prob. No. 3-01-09
Class B								Main Steam ByPass to Condenser
F01.050.090	3-53B-SR46	53B 2-0-2435D	QAL-14	VT-3	NA	6.000		File No. OSC-539
	Mech Snubber	OFD-101A-3.3				0.000		Prob. No. 3-51-2 Page 145
Class B								H.P.I. Pumps 3A,3B,&3C Suction Header
F01.050.091	3-54A-R1000	54A 3-0-2435B	QAL-14	VT-3	NA	8.000		File No.= OSC-555, Page No. 42.1; Problem No.=
	Mech Snubber	OFD-103A-3.1				0.000		3-54-02
Class B								
F01.050.092	3-54A-R1001	54A 3-0-2435B	QAL-14	VT-3	NA	8.000		File No.= OSC-554, Page No. 47.1; Problem No.=
	Mech Snubber	OFD-103A-3.1				0.000		3-54-01; Reactor Bld Spray
Class B								
F01.050.093	3-54A-SR23	54A 3-0-2435B	QAL-14	VT-3	NA	8.000		File No.= OSC-554, Page No. 47.1; Problem No.=
	Mech Snubber	OFD-103A-3.1				0.500		3-54-01; Reactor Bld Spray
Class B								
F01.050.094	3-51B-H62	51B 3-0-2436G	QAL-14	VT-3	NA	4.000		File No. OSC-539
	Mech Snubber	OFD-101A-3.2				1.062		Prob. No. 3-51-2 Page 145
Class B								H.P.I. Pumps 3A,3B,&3C Suction Header
F01.050.095	3-54A-SR12	54A 3-0-2438A	QAL-14	VT-3	NA	8.000		File No.= OSC-556, Page No. 65.1; Problem No.=
	Mech Snubber	OFD-103A-3.1				0.500		3-54-03
Class B								
F01.050.096	3-01A-R10	01A 4-0-2403D	QAL-14	VT-3	NA	6.000		File no. OSC-510 Sht 1of3
	Mech Snubber	OFD-122A-3.4				0.000		Prob. No. 3-01A-04
Class C								Main Steam to Emergency F.W. Pump

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F01.050.097 Class C	3-01A-R6 Mech Snubber	01A 4-0-2403D OFD-122A-3.4	QAL-14	VT-3	NA	6.000 0.000	File no. OSC-510 Sht 1of3 Prob. No. 3-01A-04 Main Steam to Emergency F.W. Pump
F01.050.098 Class C	3-01A-R9 Mech Snubber	01A 4-0-2403D OFD-122A-3.4	QAL-14	VT-3	NA	6.000 0.000	File no. OSC-510 Sht 1of3 Prob. No. 3-01A-04 Main Steam to Emergency F.W. Pump
F01.050.099 Class C	3-01A-R3 Mech Snubber	01A 4-2-0-2403E OFD-122A-3.4	QAL-14	VT-3	NA	6.000 0.000	File no. OSC-510 Sht 2of3 Prob. No. 3-01A-04 Page 68 Main Steam to Emergency F.W. Pump
F01.050.100 Class C	3-07A-H70 Mech Snubber	07A 6-0-2400A OFD-121A-3.8	QAL-14	VT-3	NA	20.000 0.000	File No.= OSC-1211, Page No. 27; Problem No.= 3-07-05; System 07A
F01.050.101 Class C	3-07A-H71 Mech Snubber	07A 6-0-2400A OFD-121A-3.8	QAL-14	VT-3	NA	20.000 0.000	File No.= OSC-1211, Page No. 27; Problem No.= 3-07-05; System 07A
F01.050.102 Class C	3-07A-H72 Mech Snubber	07A 6-0-2400A OFD-121A-3.8	QAL-14	VT-3	NA	24.000 0.000	File No.= OSC-1211, Page No. 28; Problem No.= 3-07-05; System 07A
F01.050.103 Class C	3-07A-H74 Mech Snubber	07A 6-0-2400A OFD-121A-3.8	QAL-14	VT-3	NA	20.000 0.000	File No.= OSC-1211, Page No. 28; Problem No.= 3-07-05; System 07A
F01.050.104 Class C	3-07A-DE031 Mech Snubber	07A 6-0-2402A OFD-121A-3.7	QAL-14	VT-3	NA	24.000 0.000	File no. OSC-521 Page 120 Prob. No. 3-07A-01 Condensate System

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F01.050.105	3-13-DE002	13	7-0-2400B	QAL-14	VT-3	NA	30.000		File No. OSC-523 Page 40
	Mech Snubber		OFD-133A-3.2				0.000		Prob. No. 13-7
Class C									Condenser Circulating Water Emerg. Disch.
F01.050.106	3-53B-SR31	53B	7-0-2436C	QAL-14	VT-3	NA	14.000		File No.= OS-539, Page 143; Problem No.3-51-2;
	Mech Snubber		OFD-102A-3.1				0.000		
Class B									
F01.050.107	3-50-RCPM-3A1-SS1	50	0-1066A	QAL-14	VT-3	NA	6.000		Calclaton No. OSC-1011-01-0001, Reactor Coolant
	Mech Snubber		OFD-100A-3.1				0.000		Pump Motor Snubbers. Reference PIP 0-O96-1575.
Class A			OFD-100A-3.3						
F01.050.108	3-50-RCPM-3A1-SS2	50	0-1066A	QAL-14	VT-3	NA	6.000		Calclaton No. OSC-1011-01-0001, Reactor Coolant
	Mech Snubber		OFD-100A-3.1				0.000		Pump Motor Snubbers. Reference PIP 0-O96-1575.
Class A			OFD-100A-3.3						Inspect with F01.012.008.
F01.050.109	3-50-RCPM-3A1-SS3	50	0-1066A	QAL-14	VT-3	NA	6.000		Calclaton No. OSC-1011-01-0001, Reactor Coolant
	Mech Snubber		OFD-100A-3.1				0.000		Pump Motor Snubbers. Reference PIP 0-O96-1575.
Class A			OFD-100A-3.3						Inspect with F01.012.009.
F01.050.110	3-50-RCPM-3A2-SS1	50	0-1066A	QAL-14	VT-3	NA	6.000		Calclaton No. OSC-0991, Reactor Coolant Pump
	Mech Snubber		OFD-100A-3.1				0.000		Motor Snubbers. Reference PIP 0-O96-1575.
Class A			OFD-100A-3.3						
F01.050.111	3-50-RCPM-3A2-SS2	50	0-1066A	QAL-14	VT-3	NA	6.000		Calclaton No. OSC-0991, Reactor Coolant Pump
	Mech Snubber		OFD-100A-3.1				0.000		Motor Snubbers. Reference PIP 0-O96-1575.
Class A			OFD-100A-3.3						
F01.050.112	3-50-RCPM-3A2-SS3	50	0-1066A	QAL-14	VT-3	NA	6.000		Calclaton No. OSC-1011-01-0002, Reactor Coolant
	Mech Snubber		OFD-100A-3.1				0.000		Pump Motor Snubbers. Reference PIP 0-O96-1575.
Class A			OFD-100A-3.3						Inspect with F01.012.010.

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ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
F01.050.113 Class A	3-50-RCPM-3B1-SS1 Mech Snubber	50	0-1066A OFD-100A-3.1 OFD-100A-3.3	QAL-14	VT-3	NA		6.000 0.000	Calculaton No. OSC-1011-01-0003, Reactor Coolant Pump Motor Snubbers. Reference PIP 0-O96-1575. Inspect with F01.012.011.
F01.050.114 Class A	3-50-RCPM-3B1-SS2 Mech Snubber	50	0-1066A OFD-100A-3.1 OFD-100A-3.3	QAL-14	VT-3	NA		6.000 0.000	Calculaton No. OSC-1011-01-0003, Reactor Coolant Pump Motor Snubbers. Reference PIP 0-O96-1575.
F01.050.115 Class A	3-50-RCPM-3B1-SS3 Mech Snubber	50	0-1066A OFD-100A-3.1 OFD-100A-3.3	QAL-14	VT-3	NA		6.000 0.000	Calculaton No. OSC-0991, Reactor Coolant Pump Motor Snubbers. Reference PIP 0-O96-1575.
F01.050.116 Class A	3-50-RCPM-3B2-SS1 Mech Snubber	50	0-1066A OFD-100A-3.1 OFD-100A-3.3	QAL-14	VT-3	NA		6.000 0.000	Calculaton No. OSC-1011-01-0004, Reactor Coolant Pump Motor Snubbers. Reference PIP 0-O96-1575.
F01.050.117 Class A	3-50-RCPM-3B2-SS2 Mech Snubber	50	0-1066A OFD-100A-3.1 OFD-100A-3.3	QAL-14	VT-3	NA		6.000 0.000	Calculaton No. OSC-1011-01-0004, Reactor Coolant Pump Motor Snubbers. Reference PIP 0-O96-1575. Inspect with F01.012.012.
F01.050.118 Class A	3-50-RCPM-3B2-SS3 Mech Snubber	50	0-1066A OFD-100A-3.1 OFD-100A-3.3	QAL-14	VT-3	NA		6.000 0.000	Calculaton No. OSC-1011-01-0004, Reactor Coolant Pump Motor Snubbers. Reference PIP 0-O96-1575.
Total F01.050 Items:		118							
Total F01 Items:		144							

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01/12/1999**Reactor Coolant Pump Flywheel**

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
G01.001.001	3-RCP-3A1	50 OM-201D-038 OFD-100A-3.1	NDE-900	UT	CS	72.000 9.500		Reference Section 7 Paragraph 7.1.1 of the ISI Plan - Volume 1.
Class A					RCP 3A1 Flywheel to			
G01.001.002	3-RCP-3A2	50 OM-201D-038 OFD-100A-3.1	NDE-900	UT	CS	72.000 9.500		Reference Section 7 Paragraph 7.1.1 of the ISI Plan - Volume 1.
Class A					RCP 3A2 Flywheel to			
G01.001.003	3-RCP-3B1	50 OM-201D-038 OFD-100A-3.1	NDE-900	UT	CS	72.000 9.500		Reference Section 7 Paragraph 7.1.1 of the ISI Plan - Volume 1.
Class A					RCP 3B1 Flywheel to			
G01.001.004	3-RCP-3B2	50 OM-201D-038 OFD-100A-3.1	NDE-900	UT	CS	72.000 9.500		Reference Section 7 Paragraph 7.1.1 of the ISI Plan - Volume 1.
Class A					RCP 3B2 Flywheel to			
Total G01.001 Items:		4						
Total G01 Items:		4						

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G02.001.005A	3-PDA1-46	51A ISI-OCN3-011 OFD-100A-3.1 OM-201-597	NDE-690	UT	CS	3.500 2.500	40410 40350	Reference Section 7 of the ISI Plan, Volume 1. 3A1 Make-Up Nozzle PC 46. Perform UT on the nozzle inside radius (knuckle area). Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
Class A								
G02.001.005B	3-PDA2-46	51A ISI-OCN3-012 OFD-100A-3.1 OM-201-597	NDE-690	UT	CS	3.500 2.500	40410 40350	Reference Section 7 of the ISI Plan, Volume 1. 3A2 Make-Up Nozzle PC 46. Perform UT on the nozzle inside radius (knuckle area). Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
Class A								
G02.001.005C	3-PDB1-46	51A ISI-OCN3-013 OFD-100A-3.1 OM-201-597	NDE-690	UT	CS	3.500 2.500	40410 40350	Reference Section 7 of the ISI Plan, Volume 1. 3B1 HPI Nozzle PC 46. Perform UT on the nozzle inside radius (knuckle area). Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
Class A								
G02.001.005D	3-PDB2-46	51A ISI-OCN3-014 OFD-100A-3.1 OM-201-597	NDE-690	UT	CS	3.500 2.500	40410 40350	Reference Section 7 of the ISI Plan, Volume 1. 3B2 HPI Nozzle PC 46. Perform UT on the nozzle inside radius (knuckle area). Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
Class A								
G02.001.006A	3-PDA1-11	51A ISI-OCN3-011 OFD-100A-3.1 OM-201-597	NDE-610	UT	SS-Inconel	3.500 0.750	40416 Component	Reference Section 7 of the ISI Plan, Volume 1. 3A1 Make-Up Nozzle PC 46 to Safe End PC 47. Perform UT on the nozzle to safe end weld. Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
Class A					Make Up Nozzle, PC 46 to Safe End, PC 47			
G02.001.006B	3-PDA2-11	51A ISI-OCN3-012 OFD-100A-3.1 OM-201-597	NDE-610	UT	SS-Inconel	3.500 0.750	40416 Component	Reference Section 7 of the ISI Plan, Volume 1. 3A2 Make-Up Nozzle PC 46 to Safe End PC 47. Perform UT on the nozzle to safe end weld. Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check
Class A					Make Up Nozzle, PC 46 to Safe End, PC 47			

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								with Engineering prior to scheduling the fourth interval.
G02.001.006C	3-PDB1-11	51A ISI-OCN3-013 OFD-100A-3.1 OM-201-597	NDE-610	UT	SS-Inconel	3.500 0.750	40416 Component	Reference Section 7 of the ISI Plan, Volume 1. 3B1 HPI Nozzle PC 46 to Safe End PC 47. Perform UT on the nozzle to safe end weld. Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
Class A					HPI Nozzle, PC 46 to Safe End, PC 47			
G02.001.006D	3-PDB2-11	51A ISI-OCN3-014 OFD-100A-3.1 OM-201-597	NDE-610	UT	SS-Inconel	3.500 0.750	40416 Component	Reference Section 7 of the ISI Plan, Volume 1. 3B2 HPI Nozzle PC 46 to Safe End PC 47. Perform UT on the nozzle to safe end weld. Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
Class A					HPI Nozzle, PC 46 to Safe End, PC 47			
G02.001.007A	3-PDA1-47	51A ISI-OCN3-011 OFD-100A-3.1 OM-201-597	NDE-960	UT	SS	3.500 0.750	Component	Reference Section 7 of the ISI Plan, Volume 1. Safe End PC 47 adjoining Make-Up Nozzle 3A1. Perform UT on the Safe End base metal (between the nozzle to safe end weld and the safe end to pipe weld). Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
Class A								
G02.001.007B	3-PDA2-47	51A ISI-OCN3-012 OFD-100A-3.1 OM-201-597	NDE-960	UT	SS	3.500 0.750	Component	Reference Section 7 of the ISI Plan, Volume 1. Safe End PC 47 adjoining Make-Up Nozzle 3A2. Perform UT on the Safe End base metal (between the nozzle to safe end weld and the safe end to pipe weld). Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
Class A								
G02.001.007C	3-PDB1-47	51A ISI-OCN3-013 OFD-100A-3.1 OM-201-597	NDE-960	UT	SS	3.500 0.750	Component	Reference Section 7 of the ISI Plan, Volume 1. Safe End PC 47 adjoining HPI Nozzle 3B1. Perform UT on the Safe End base metal (between the nozzle to safe end weld and the safe end to pipe weld). Perform UT examination during outages 17, 19 & 21 for the third
Class A								

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G02.001.007D Class A	3-PDB2-47	51A ISI-OCN3-014 OFD-100A-3.1 OM-201-597	NDE-960	UT	SS	3.500 0.750	Component	interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
G02.001.008A Class A	3RC-211-56	51A 3RC-211 OFD-100A-3.1 OM-201-597	NDE-960	UT	SS	2.500 0.375	Component	Reference Section 7 of the ISI Plan, Volume 1. Safe End PC 47 adjoining HPI Nozzle 3B2. Perform UT on the Safe End base metal (between the nozzle to safe end weld and the safe end to pipe weld). Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
G02.001.008B Class A	3RC-210-24A	51A 3RC-210 OFD-100A-3.1 OM-201-597	NDE-960	UT	SS	2.500 0.375	Component	Reference Section 7 of the ISI Plan, Volume 1. Make-Up Nozzle 3A1. Perform UT on weld 3RC-211-56 and adjoining base metal out to weld 3RC-211-54 (at valve 3HP-127). Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
G02.001.008C Class A	3RC-212-44A	51A 3RC-212 OFD-100A-3.1 OM-201-597	NDE-960	UT	SS	2.500 0.375	Component	Reference Section 7 of the ISI Plan, Volume 1. Make-Up Nozzle 3A2. Perform UT on weld 3RC-210-24A and adjoining base metal out to weld 3RC-210-31 (at valve 3HP-126). Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
G02.001.008C Class A	3RC-212-44A	51A 3RC-212 OFD-100A-3.1 OM-201-597	NDE-960	UT	SS	2.500 0.375	Component	Reference Section 7 of the ISI Plan, Volume 1. HPI Nozzle 3B1. Perform UT on weld 3RC-212-44A and adjoining base metal out to weld 3RC-212-45 (at valve 3HP-153). There is a circumferential weld located between weld 3RC-212-44A and 3RC-212-45. This weld (3RC-212-43C) will be documented as item number G02.001.009B. Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.

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								interval.
G02.001.008D Class A	3RC-213-26	51A 3RC-213 OFD-100A-3.1 OM-201-597	NDE-960	UT	SS	2.500 0.375	Component	Reference Section 7 of the ISI Plan, Volume 1. HPI Nozzle 3B2. Perform UT on weld 3RC-213-26 and adjoining base metal out to weld 3RC-213-27 (at valve 3HP-152). Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
G02.001.009B Class A	3RC-212-43C	51A 3RC-212 OFD-100A-3.1 OM-201-597	NDE-960	UT	SS	2.500 0.375	Component	Reference Section 7 of the ISI Plan, Volume 1. HPI Nozzle 3B1. Perform UT on weld 3RC-212-43C. Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
G02.001.010A Class A	3RC-211-54	51A 3RC-211 OFD-100A-3.1 OM-201-597	NDE-960	UT	SS	2.500 0.375	Component	Reference Section 7 of the ISI Plan, Volume 1. Make Up Nozzle 3A1. Perform UT on weld 3RC-211-54 (at valve 3HP-127). Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
G02.001.010B Class A	3RC-210-31	51A 3RC-210 OFD-100A-3.1 OM-201-597	NDE-960	UT	SS	2.500 0.375	Component	Reference Section 7 of the ISI Plan, Volume 1. Make Up Nozzle 3A2. Perform UT on weld 3RC-210-31 (at valve 3HP-126). Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
G02.001.010C Class A	3RC-212-45	51A 3RC-212 OFD-100A-3.1 OM-201-597	NDE-960	UT	SS	2.500 0.375	Component	Reference Section 7 of the ISI Plan, Volume 1. HPI Nozzle 3B1. Perform UT on weld 3RC-212-45 (at valve 3HP-153). Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.

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ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
G02.001.010D	3RC-213-27	51A 3RC-213 OFD-100A-3.1 OM-201-597	NDE-960	UT	SS	2.500 0.375	Component	Reference Section 7 of the ISI Plan, Volume 1. HPI Nozzle 3B2. Perform UT on weld 3RC-213-27 (at valve 3HP-152). Perform UT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
Class A				Pipe to Valve 3HP-152				
G02.001.011A	3A1-THERM SLEEVE	51A ISI OCN3-011 OFD-100A-3.1 OM-201-597	NDE-105	RT	SS	3.500 0.750		Reference Section 7 of the ISI Plan, Volume 1. Make UP Nozzle 3A1. Perform RT between the nozzle to safe end and safe end to pipe weld in the thermal sleeve expansion area as described in procedure NDE-105. Perform RT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
Class A								
G02.001.011B	3A2-THERM SLEEVE	51A ISI OCN3-012 OFD-100A-3.1 OM-201-597	NDE-105	RT	SS	3.500 0.750		Reference Section 7 of the ISI Plan, Volume 1. Make UP Nozzle 3A2. Perform RT between the nozzle to safe end and safe end to pipe weld in the thermal sleeve expansion area as described in procedure NDE-105. Perform RT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
Class A								
G02.001.011C	3B1-THERM SLEEVE	51A ISI OCN3-013 OFD-100A-3.1 OM-201-597	NDE-105	RT	SS	3.500 0.750		Reference Section 7 of the ISI Plan, Volume 1. HPI Nozzle 3B1. Perform RT between the nozzle to safe end and safe end to pipe weld in the thermal sleeve expansion area as described in procedure NDE-105. Perform RT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
Class A								
G02.001.011D	3B2-THERM SLEEVE	51A ISI OCN3-014 OFD-100A-3.1 OM-201-597	NDE-105	RT	SS	3.500 0.750		Reference Section 7 of the ISI Plan, Volume 1. HPI Nozzle 3B2. Perform RT between the nozzle to safe end and safe end to pipe weld in the thermal sleeve expansion area as described in procedure NDE-105. Perform RT examination during outages 17, 19 & 21 for the third interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
Class A								

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ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
Total G02.001 Items:	25							
Total G02 Items:	25							

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**Circumferential Pipe Welds With A Nom. Wall
 Thk. < 3/8" and > NPS 4"**

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ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
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G09.001.002	3-51A-50-61	51A 3-51A-50	NDE-35	PT	SS	6.000		
	Circumferential	OFD-101A-3.3				0.280		

Class B

Elbow to
Pipe

G09.001.012	3-53B-38-25	53B 3-53B-38	NDE-35	PT	SS	8.000		
	Circumferential	OFD-102A-3.2				0.250		

Class B Term end

Reducer to
Flange

G09.001.017	3-53B-LPB-2	53B 3-53B-47	NDE-35	PT	SS	16.000		
	Circumferential	OFD-102A-3.2				0.312		

Class B Term end

Reducer to
Nozzle LPI Cooler 3B Outlet Noz

G09.001.033	3-56-14-61	56 3-56-14	NDE-35	PT	SS	8.000		
	Circumferential	OFD-104A-3.1				0.250		

Class B

Elbow to
Valve 3SF-60

Total G09.001 Items:	4
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Total G09 Items:	4
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Class 1 RTE Mounting Bosses

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G10.001.001	3-PHA-13	50	ISI-OCN3-005	NDE-35	PT	CS-Inconel	9.000		Reference Section 7 Paragraph 7.1.10 of the ISI Plan - Volume1 The diameter of hole that penetrates through the nozzle into the hot leg = .613
Class A	Branch		OFD-100A-3.1				2.875		
	Dissimilar				Nozzle RTE Nozzle to Pipe A Hot Leg X-axis				
G10.001.002	3-PHA-14	50	ISI-OCN3-005	NDE-35	PT	CS-Inconel	9.000		Reference Section 7 Paragraph 7.1.10 of the ISI Plan - Volume1 The diameter of hole that penetrates through the nozzle into the hot leg = .613
Class A	Branch		OFD-100A-3.1				2.875		
	Dissimilar				Nozzle RTE Nozzle to Pipe A Hot Leg Y Z-axis				
G10.001.003	3-PHA-15	50	ISI-OCN3-005	NDE-35	PT	CS-Inconel	9.000		Reference Section 7 Paragraph 7.1.10 of the ISI Plan - Volume1 The diameter of hole that penetrates through the nozzle into the hot leg = .613
Class A	Branch		OFD-100A-3.1				2.875		
	Dissimilar				Nozzle RTE Nozzle to Pipe A Hot Leg Z W-axis				
Total G10.001 Items:		3							
Total G10 Items:		3							

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01/12/1999****Reactor Coolant Pump 3A2 and 3B1 Alternate
Examination**

ITEM NUMBER	ID NUMBER	SYS ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIATHK	CAL BLOCKS	COMMENTS
G11.001.001	3RCP-3A2	50 OM-1201-1217 OFD-100A-3.1	QAL-13	VT-1	SS	0.000	0.000	Inspect Flg. Joint, Studs and Adj. area Per Req. for Relief ONS-011. Ref. Section 7 Paragraph 7.1.11 of the ISI Plan - Volume 1. RCP 3A2 Main Flange ; Each refueling outage the flange joint and surrounding area will be inspected for any accumulation of boron or stud degradation. See 2nd interval request for relief ONS-010. (Note: when item# B06.190.002 is inspected then this inspection will not be required.
Class A								
G11.001.002	3RCP-3B1	50 OM-1201-1217 OFD-100A-3.1	QAL-13	VT-1	SS	0.000	0.000	Inspect Flg. Joint, Studs and Adj. area Per Req. for Relief ONS-011. Ref. Section 7 Paragraph 7.1.11 of the ISI Plan - Volume 1. RCP 3B1 Main Flange ; Each refueling outage the flange joint and surrounding area will be inspected for any accumulation of boron or stud degradation. See 2nd interval request for relief ONS-010. (Note: when item# B06.190.003 is inspected then this inspection will not be required.
Class A								
Total G11.001 Items:		2						
Total G11 Items:		2						

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HPI System Upgrade

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G12.001.003	3-51B-30-28	51B 3-51B-30	NDE-35	PT	SS		3.000	
	Circumferential	OFD-101A-3.2					0.120	
Class B					Pipe to . Valve 3HP-61			
G12.001.008	3-51B-32-52	51B 3-51B-32	NDE-35	PT	SS		2.500	
	Circumferential	OFD-101A-3.2					0.120	
Class B					Tee to Pipe Cap			
G12.001.009	3-51B-32-77	51B 3-51B-32	NDE-35	PT	SS		3.000	
	Circumferential	OFD-101A-3.2					0.120	
Class B					Pipe to Elbow			
G12.001.015	3-51B-57-14	51B 3-51B-57	NDE-35	PT	SS		4.000	
	Circumferential	OFD-101A-3.1					0.120	
Class B					Expansion Joint to Valve 3HP-71			
Total G12.001 Items:		4						
Total G12 Items:		4						

5.0 Results Of Inspections Performed During Outage 17

The results of each examination shown in the final ISI Plan (Section 4.0 of this report) are included in this section. The completion date and status for each examination are shown. Limited examinations are described in further detail in Section 5.2. All examinations revealing reportable indications are described in further detail in Section 6.

5.1 The information shown below is a field description for the reporting format included in this section of the report:

Item Number	=	ASME Section XI Tables IWB-2500-1 (Class 1), IWC-2500-1 (Class 2), IWF-2500-1 (Class 1 and Class 2), Augmented Requirements
ID Number	=	Unique Identification Number
System	=	System examined
Insp Date	=	Date of Examination
Insp Status	=	CLR Clear REC Recordable REP Reportable
Insp Limited	=	Indicates inspection was limited. Coverage obtained is listed
Geo. Ref. (Geometric Reflector, applies only to UT)	=	<u>Y</u> Yes <u>N</u> No
RFR	=	Request for Relief Required
Comments	=	General and/or Detail Description

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ITEM NUMBER	ID NUMBER	SYSTEM	INSP DATE	INSP STATUS	INSP LIMITED	GEO REF	RFR	COMMENTS
B02.031.001	3-SGA-WG172	50	11/06/1998	CLR	---	N	N	
B02.040.002	3-SGA-WG58-2	50	10/27/1998	CLR	---	N	N	
B02.060.002	3-LDCA-OUT-V6	51A	11/03/1998	CLR	---	N	N	
B03.110.001	3-PZR-WP15	50	10/29/1998	CLR	68.39%	N	Y	Request for Relief # 98-01
B03.110.006	3-PZR-WP26-4	50	10/16/1998	CLR	28.77%	N	Y	Request for Relief # 98-03
B03.110.007	3-PZR-WP26-5	50	10/16/1998	CLR	28.77%	N	Y	Request for Relief # 98-03
B03.110.008	3-PZR-WP26-6	50	10/16/1998	CLR	28.77%	N	Y	Request for Relief # 98-03
B03.120.001	3-PZR-WP15	50	10/29/1998	CLR	---	N	N	
B03.120.006	3-PZR-WP26-4	50	10/16/1998	CLR	78.06%	N	Y	Request for Relief # 98-03
B03.120.007	3-PZR-WP26-5	50	10/16/1998	CLR	78.06%	N	Y	Request for Relief # 98-03
B03.120.008	3-PZR-WP26-6	50	10/16/1998	CLR	78.06%	N	Y	Request for Relief # 98-03
B03.130.003	3-SGB-WG50-2	50	11/07/1998	CLR	39.46%	N	Y	Request for Relief # 99-01
B03.130.004	3-SGB-WG50-1	50	11/07/1998	CLR	39.46%	N	Y	Request for Relief # 99-01
B03.140.003	3-SGB-WG50-2	50	11/07/1998	CLR	44.10%	N	Y	Request for Relief # 99-01
B03.140.004	3-SGB-WG50-1	50	11/07/1998	CLR	44.10%	N	Y	Request for Relief # 99-01
B03.150.001	3-LDCA-IN-V2	51A	11/03/1998	REC	36.50%	Y	Y	Request for Relief # 98-01
B03.150.002	3-LDCA-OUT-V5	51A	11/03/1998	REC	36.50%	Y	Y	Request for Relief # 98-01
B03.160.001	3-LDCA-IN-V2	51A	//		---	N	N	Request for Relief # ONS-009
B03.160.002	3-LDCA-OUT-V5	51A	//		---	N	N	Request for Relief # ONS-009
B05.050.001	3-PZR-WP91-1	50	11/06/1998	CLR	---	N	N	
B05.050.002	3-PZR-WP91-2	50	11/06/1998	CLR	---	N	N	
B05.050.003	3-PZR-WP91-3	50	11/06/1998	CLR	---	N	N	
B05.130.009	3-PDA2-2	50	10/20/1998	CLR	---	N	N	UT from elbow side.
B05.130.009A	3-PDA2-2	50	10/20/1998	CLR	---	N	N	UT from safe end side.
B05.130.009B	3-PDA2-2	50	10/20/1998	CLR	---	N	N	
B05.140.006	3-PDA2-11	50	10/19/1998	CLR	---	N	N	
B06.190.003	3RCP-3B1-FLANGE	50	10/29/1998	CLR	---	N	N	
B07.030.006	3SGA-LHIC-BOLTS	50	11/14/1998	CLR	---	N	N	Light boron between locknuts and nut.(2 places) No degradation.
B07.070.014	3-51A-HP126	51A	10/15/1998	CLR	---	N	N	Inspection performed with the bolting in place.
B07.080.001	3-RPV-CRD-BOLTS	50	11/05/1998	CLR	---	N	N	CRD Nos. 24 and 57 bolting.
B07.080.002	3-RPV-CRD-RINGS	50	11/05/1998	CLR	---	N	N	CRD Nos. 24 and 57 nut rings (2 sets).
B09.011.011	3-PIB1-1	50	11/07/1998	CLR	---	N	N	
B09.011.011A	3-PIB1-1	50	11/07/1998	CLR	---	N	N	
B09.011.016	3-PIB2-8	50	10/21/1998	CLR	---	N	N	
B09.011.016A	3-PIB2-8	50	10/21/1998	REC	---	N	N	There were 2 recordable indications. Indication # 1 is a pin hole visible with the eye.

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B09.011.021	3-PDB1-1	50	10/19/1998	CLR	---	N	N	
B09.011.021A	3-PDB1-1	50	10/19/1998	CLR	---	N	N	
B09.011.033	3-PSL-9	50	10/29/1998	CLR	---	N	N	
B09.011.033A	3-PSL-9	50	10/29/1998	CLR	---	N	N	
B09.011.043	3-53A-15-55	53A	10/28/1998	REC	---	Y	N	Indication # 1-60 is counterbore on the pipe side of the weld. This was verified with a 70 degree shear wave, a bi-model transducer and review of the RT film.
B09.011.043A	3-53A-15-55	53A	10/28/1998	CLR	---	N	N	
B09.011.044	3-53A-15-57	53A	10/28/1998	REC	---	Y	N	Indication # 1-60 is counterbore on the pipe side of the weld. This was verified with a 70 degree shear wave, a bi-model transducer and review of the RT film.
B09.011.044A	3-53A-15-57	53A	10/28/1998	CLR	---	N	N	
B09.021.009	3-PSP-12	50	10/16/1998	CLR	---	N	N	
B09.021.011	3-PSP-15	50	10/16/1998	CLR	91.70%	N	N	Hanger 3-50-2481A-H7 covers weld. Only 8.25" out of 9" inspected for a total of 91.7%.
B09.021.022	3-51A-142-21	51A	10/29/1998	CLR	---	N	N	
B09.021.023	3-51A-142-25	51A	10/29/1998	CLR	---	N	N	
B09.021.032	3RC-212-45	51A	10/19/1998	CLR	---	N	N	
B09.021.033	3RC-212-44A	51A	10/19/1998	CLR	---	N	N	
B09.032.002	3-PIA2-10	50	11/06/1998	CLR	---	N	N	
B09.040.002	3-50-152-15	50	10/17/1998	CLR	---	N	N	
B12.010.003	3RCP-3B1	50	11/24/1998	CLR	---	N	N	Code Case N-481 was invoked for item number B12.010.003. An evaluation of Unit 3 RCP-3B1 was performed by Structural Integrity Associates, INC. in lieu of RT inspection of the pump casing weld. This evaluation was reviewed by the resident ANII at Oconee.
B12.020.003	3RCP-3B1-CASING	50	10/27/1998	CLR	---	N	N	In accordance with Code Case N-481 a VT-1 Visual examination of the external surfaces of the 3B1 RC Pump Casing weld was performed by D. L. Osborne on 10-27-98. This was done in addition to the VT-3 of the casing internal surfaces.
B14.010.009	3RPV-CRD-54WH9	50	10/30/1998	CLR	---	N	N	
B14.010.010	3RPV-CRD-54WH60	50	10/29/1998	CLR	---	N	N	
B14.010.011	3RPV-CRD-54	50	10/29/1998	CLR	---	N	N	
B14.010.012	3RPV-CRD-54W61	50	10/29/1998	CLR	---	N	N	
C01.030.002	3SGB-WG59		11/03/1998	CLR	---	N	N	
C03.010.007	3SGB-WG84-ZW	03	10/21/1998	CLR	---	N	N	
C03.010.008	3SGB-WG84-WZ	03	10/21/1998	CLR	---	N	N	

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C03.020.010	3-01A-H9A	01A	11/20/1998	CLR	---	N	N	
C03.020.045	3SGB-WG87-ZW	03	10/21/1998	CLR	---	N	N	
C03.020.046	3SGB-WG87-WZ	03	10/21/1998	CLR	---	N	N	
C03.020.050	3-01A-R7	01A	11/02/1998	CLR	---	N	N	
C03.020.052	3-01A-H13	01A	11/02/1998	CLR	---	N	N	
C03.020.053	3-01A-H14	01A	11/11/1998	CLR	---	N	N	
C03.020.054	3-01A-H18	01A	11/11/1998	CLR	91.00%	N	N	
C04.030.002	3-HPI-PUMP-3B	51A	09/30/1997	CLR	---	N	N	
C05.011.006	3LP-132-11	53A	10/06/1998	REC	---	Y	N	
C05.011.006A	3LP-132-11	53A	10/06/1998	CLR	---	N	N	
C05.011.007	3LP-132-5	53A	10/06/1998	CLR	---	N	N	
C05.011.007A	3LP-132-5	53A	10/06/1998	CLR	---	N	N	
C05.021.006	3-51A-118-13	51A	10/20/1998	CLR	---	N	N	
C05.021.006A	3-51A-118-13	51A	10/20/1998	CLR	---	N	N	
C05.021.014	3-51A-119-40	51A	10/07/1998	CLR	---	N	N	
C05.021.014A	3-51A-119-40	51A	10/06/1998	CLR	---	N	N	
C05.021.023	3-51A-121-20	51A	10/08/1998	CLR	---	N	N	
C05.021.023A	3-51A-121-20	51A	10/08/1998	CLR	---	N	N	
C05.021.039	3-51A-52-44	51A	10/12/1998	CLR	---	N	N	
C05.021.039A	3-51A-52-44	51A	10/08/1998	CLR	---	N	N	
C05.021.042	3-51A-59-90	51A	10/07/1998	CLR	---	N	N	
C05.021.042A	3-51A-59-90	51A	10/06/1998	CLR	---	N	N	
C05.021.053	3-51A-67-10	51A	11/07/1998	CLR	---	N	N	
C05.021.053A	3-51A-67-10	51A	11/07/1998	CLR	---	N	N	
C05.021.063	3-51A-87-44A	51A	11/09/1998	REC	---	Y	N	Indication # 1-60 is a geometric reflector due to counterbore. Indication 2-60 is beam redirection at the weld grain boundary. This was verified with a 70 degree angle and review of the RT film.
C05.021.063A	3-51A-87-44A	51A	11/09/1998	CLR	---	N	N	
C05.021.073	3-51A-118-8	51A	10/20/1998	CLR	---	N	N	
C05.021.073A	3-51A-118-8	51A	10/20/1998	CLR	---	N	N	
C05.021.083	3-51A-50-48	51A	10/01/1998	CLR	---	N	N	
C05.021.083A	3-51A-50-48	51A	10/01/1998	CLR	---	N	N	
C05.021.088	3HP-312-20	51A	10/07/1998	CLR	---	N	N	
C05.021.088A	3HP-312-20	51A	10/06/1998	CLR	---	N	N	
C05.030.002	3-51A-77-15	51A	09/24/1998	CLR	---	N	N	
C05.041.001	3-53B-52-3	53B	09/23/1998	CLR	---	N	N	

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C05.051.001	3-01A-10-1	01A	11/04/1998	REC	---	Y	N	Indication # 1-60 and indication # 2-60 were both determined to be backing ring. RT film confirms determination.
C05.051.001A	3-01A-10-1	01A	11/04/1998	CLR	---	N	N	
C05.051.002	3-01A-10-19	01A	11/05/1998	REC	---	Y	N	Indication # 1-60 is a geometric reflector due to counterbore. Indication # 2-60 is a geometric reflector from a backing ring. This was verified with a 70 degree angle, bi-model transducer and review of the RT film.
C05.051.002A	3-01A-10-19	01A	11/05/1998	CLR	---	N	N	
C05.051.016	3FWD-74-A	03	10/20/1998	REC	---	Y	N	Indication # 1-60 is an id geometric reflector due to weld root to backing ring configuration. This was verified after plotting and review of the RT film.
C05.051.016A	3FWD-74-A	03	10/17/1998	CLR	---	N	N	
C05.051.024	3-03A-15-8	03A	10/21/1998	CLR	---	N	N	
C05.051.024A	3-03A-15-8	03A	10/21/1998	CLR	---	N	N	
C05.051.029	3-14B-116-42	14B	09/30/1998	CLR	---	N	N	
C05.051.029A	3-14B-116-42	14B	09/30/1998	CLR	---	N	N	
C05.051.037	3LPS-478-40A	14B	09/30/1998	REC	---	Y	N	Indication # 1-60 is a geometric reflector from the corner of a backing ring. This was verified with a 70 degree angle, and a 60 degree and 70 degree angle from the opposite side of the weld. RT film was not available but the weld ticket indicated a backing ring.
C05.051.037A	3LPS-478-40A	14B	09/30/1998	CLR	---	N	N	
C05.081.004	3MS-12B-J	01A	10/28/1998	CLR	---	N	N	
D02.020.001	3-01A-HTT-2300	01A	07/30/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
D02.020.005	3-01A-R5	01A	10/21/1998	CLR	---	N	N	
D02.020.007	3-01A-R13A	01A	10/21/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
D02.020.037	3-03A-H7	03A	08/19/1998	CLR	---	N	N	
D02.020.042	3-03A-SR166	03A	10/30/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
D02.020.044	3-03A-SR179	03A	08/19/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
D02.020.056	3-03A-H6	03A	08/20/1998	CLR	---	N	N	
D02.020.074	3-03A-SR150	03A	07/22/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
D02.020.077	3-03A-SR181	03A	08/19/1998	CLR	---	N	N	

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D02.020.078	3-03A-SR183	03A	08/20/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
D02.020.084	3-03A-SR46	03A	07/30/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
D02.020.085	3-03A-SR5	03A	10/21/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order 98103480 was written to correct problems.
D02.020.097	3-07A-SR18	07A	07/22/1998	CLR	---	N	N	
D02.020.101	3-07A-SR7	07A	07/22/1998	CLR	---	N	N	
D02.020.140	3-14B-WM-7001	14B	08/13/1998	CLR	---	N	N	
D02.020.145	1-WL-100A-K0005	WL	08/24/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order # 98109247 was written to correct problems.
D02.040.008	3-03A-H157	03A	11/10/1998	CLR	---	N	N	
D02.040.009	3-03A-H165	03A	10/30/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.012.001	3-50-H1A	50	10/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.012.002	3-50-H6	50	10/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Indications 1 & 2 will be resolved with minor modification # ONOE-11686.
F01.012.005	3-51A-H2A	51A	10/14/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.012.008	3-50-RCPM-3A1-SS2	50	10/14/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.020.023	3-53B-H118	53B	08/06/1998	CLR	---	N	N	
F01.020.026	3-53B-H20	53B	08/06/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.020.028	3-53B-H43	53B	08/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.020.036	3-54A-SR20	54A	08/19/1998	CLR	---	N	N	
F01.020.038	3-55-SR1	55	09/15/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.020.041	3-01A-H13	01A	10/30/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.020.042	3-01A-H14	01A	11/11/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering

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F01.020.046	3-51B-H14	51B	08/11/1998	REC	---	N	N	and the support was found to be acceptable for service. Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order 98103394 was written to correct problems.
F01.021.029	3-55-DE002	55	08/19/1998	CLR	---	N	N	
F01.021.033	3-51B-DE014	51B	10/30/1998	CLR	---	N	N	
F01.022.002	3-01A-H9A	01A	10/14/1998	CLR	---	N	N	
F01.022.018	3-55-H33	55	08/19/1998	CLR	---	N	N	
F01.022.019	3-56-H10	56	10/31/1998	CLR	---	N	N	
F01.022.023	3-01A-R7	01A	10/30/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.022.024	3-01A-H18	01A	11/11/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.031.008	3-03A-H6	03A	08/20/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order 98103389 was written to correct problems.
F01.031.013	3-07A-SR7	07A	07/22/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.031.020	3-14B-WM-7001	14B	08/13/1998	CLR	---	N	N	
F01.040.009	3-EFDW-TD-PU		07/22/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.040.010	3-EFDW-MD-PU-A	03A	07/22/1998	CLR	---	N	N	
F01.040.022	1-GOV-OIL-PUMP-A	WL	08/24/1998	CLR	---	N	N	
F01.040.025	3-RCSR-COOLER-3A	51A	08/12/1998	CLR	---	N	N	Surface rust on bolting. No degradation noted.
F01.050.001	3-03-SR3	03	07/22/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.002	3-NPS-03-H28	03A	10/14/1998	CLR	---	N	N	
F01.050.003	3-53-H3	53A	10/14/1998	CLR	---	N	N	
F01.050.004	3-56-H10	56	10/31/1998	CLR	---	N	N	
F01.050.005	3-50-H12	50	10/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order 98096060 was written to correct problems.
F01.050.006	3-50-H1A	50	10/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order 98052419 and 98014449 were written to correct problems.
F01.050.007	3-50-H2A	50	10/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work

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F01.050.008	3-50-H3A	50	10/25/1998	REC	---	N	N	Order 98052416 was written to correct problems.
F01.050.009	3-51A-H2A	51A	10/14/1998	CLR	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.010	3-03-H6B	03	10/14/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order 98103388 was written to correct problems.
F01.050.011	3-03-H7A	03	10/13/1998	CLR	---	N	N	
F01.050.012	3-50-H10	50	10/13/1998	CLR	---	N	N	
F01.050.013	3-50-H11	50	10/13/1998	CLR	---	N	N	
F01.050.014	3-50-H8	50	10/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.015	3-50-H9	50	10/13/1998	CLR	---	N	N	
F01.050.016	3-50-H1	50	10/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.017	3-50-H3	50	10/13/1998	CLR	---	N	N	
F01.050.018	3-57-H13A	57	10/13/1998	CLR	---	N	N	
F01.050.019	3-57-H15	57	10/13/1998	CLR	---	N	N	
F01.050.020	3-57-H16	57	10/13/1998	CLR	---	N	N	
F01.050.021	3-57-H17	57	10/13/1998	CLR	---	N	N	
F01.050.022	3-57-H20	57	10/13/1998	CLR	---	N	N	
F01.050.023	3-57-H21	57	10/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.024	3-57-H23	57	10/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.025	3-57-H25	57	10/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.026	3-57-H7	57	10/13/1998	CLR	---	N	N	
F01.050.027	3-57-H9	57	10/13/1998	CLR	---	N	N	
F01.050.028	3-01A-H2A	01A	10/14/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order 98052422 was written to correct problems.
F01.050.029	3-01A-H2B	01A	10/14/1998	CLR	---	N	N	
F01.050.030	3-01A-H8A	01A	10/14/1998	CLR	---	N	N	
F01.050.031	3-01A-H8B	01A	10/14/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.032	3-03A-SR103PO	03A	07/22/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering

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F01.050.033	3-03A-SR104PO	03A	07/22/1998	REC	---	N	N	and the support was found to be acceptable for service. Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order 98052411 was written to correct problems.
F01.050.034	3-03A-SR100PO	03A	07/30/1998	CLR	---	N	N	
F01.050.035	3-03A-SR101PO	03A	07/30/1998	CLR	---	N	N	
F01.050.036	3-03A-SR102PO	03A	07/30/1998	CLR	---	N	N	Piston setting acceptable per sect. 9.2 of spec.
F01.050.037	3-56-SR107	56	08/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.038	3-56-SR109	56	08/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order 98052425 was written to correct problems.
F01.050.039	3-56-SR112	56	08/13/1998	CLR	---	N	N	
F01.050.040	3-56-SR116	56	08/13/1998	CLR	---	N	N	
F01.050.041	3-56-SR119	56	08/13/1998	CLR	---	N	N	
F01.050.042	3-51A-SR14	51A	10/31/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.043	3-01A-R10	01A	07/29/1998	CLR	---	N	N	
F01.050.044	3-01A-R12	01A	07/30/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order 98052412 was written to correct problems.
F01.050.045	3-01A-R9	01A	07/29/1998	CLR	---	N	N	
F01.050.046	3-53B-SR22	53B	08/06/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.047	3-54A-SR22	54A	08/06/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order # 98052432 was written to correct problems.
F01.050.048	3-54A-SR7	54A	08/06/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.049	3-54A-SR14	54A	08/19/1998	CLR	---	N	N	
F01.050.050	3-01A-R4	01A	07/30/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.051	3-01A-R8	01A	07/30/1998	CLR	---	N	N	
F01.050.052	3-01A-R12	01A	07/30/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order # 98050358 was written to correct problems.
F01.050.053	3-01A-R11	01A	07/29/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering

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F01.050.054	3-01A-R4	01A	07/30/1998	REC	---	N	N	and the support was found to be acceptable for service. Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order 98103481 was written to correct problems.
F01.050.055	3-53B-SR32	53B	10/31/1998	CLR	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.056	3-53B-SR33	53B	10/31/1998	REC	---	N	N	
F01.050.057	3-53B-SR38	53B	08/06/1998	REC	---	N	N	
F01.050.058	3-53B-SR39	53B	08/06/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order # 98052426 was written to correct problems.
F01.050.059	3-13-SR1	13	07/29/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.060	3-13-SR3	13	07/29/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.061	3-13-SR4	13	07/30/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order # 98019185 was written to correct problems.
F01.050.062	3-07A-DE027	07A	07/22/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.063	3-03-DE001	03	07/29/1998	CLR	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order 98103870 was written to correct problems.
F01.050.064	3-03-SR1	03	07/22/1998	REC	---	N	N	
F01.050.065	3-03-SR10	03	07/30/1998	CLR	---	N	N	
F01.050.066	3-03-SR11	03	07/30/1998	CLR	---	N	N	Piston setting acceptable per sect. 9.2 of OS-0027.00-00-0002.
F01.050.067	3-03-SR2	03	07/22/1998	CLR	---	N	N	
F01.050.068	3-03A-DE054	03A	07/30/1998	CLR	---	N	N	
F01.050.069	3-02A-DE016	01A	07/22/1998	CLR	---	N	N	Unit in operation. System was not in operation. Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.070	3-03A-DE053	03A	07/22/1998	REC	---	N	N	
F01.050.071	3-53B-DE013	53B	08/06/1998	CLR	---	N	N	
F01.050.072	3-56-DE005	56	08/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.

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F01.050.073	3-56-DE007	56	08/13/1998	CLR	---	N	N	
F01.050.074	3-53B-DE008	53B	08/19/1998	CLR	---	N	N	
F01.050.075	3-56-DE008	56	10/31/1998	CLR	---	N	N	
F01.050.076	3-03-H6034	03A	10/14/1998	CLR	---	N	N	
F01.050.077	3-03-H6036	03A	10/14/1998	CLR	---	N	N	
F01.050.078	3-03-H6038	03A	10/13/1998	CLR	---	N	N	
F01.050.079	3-03-H6187	03A	10/13/1998	CLR	---	N	N	
F01.050.080	3-57-NWIZ	57	10/13/1998	CLR	---	N	N	
F01.050.081	3-50-H7	50	10/13/1998	CLR	---	N	N	
F01.050.082	3-03A-H204	03A	07/22/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.083	3-03A-SR33	03A	07/30/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order 98050369 was written to correct problems.
F01.050.084	3-51A-H308	51A	08/19/1998	CLR	---	N	N	
F01.050.085	3-51A-H309	51A	08/19/1998	CLR	---	N	N	
F01.050.086	3-51A-H294	51A	08/19/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.087	3-51A-H304	51A	08/19/1998	CLR	---	N	N	
F01.050.088	3-51A-H318	51A	10/31/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.089	3-01A-R13	01A	07/30/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.090	3-53B-SR46	53B	08/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.091	3-54A-R1000	54A	08/13/1998	CLR	---	N	N	
F01.050.092	3-54A-R1001	54A	08/06/1998	CLR	---	N	N	
F01.050.093	3-54A-SR23	54A	08/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order # 98052427 was written to correct problems.
F01.050.094	3-51B-H62	51B	10/30/1998	CLR	---	N	N	
F01.050.095	3-54A-SR12	54A	08/19/1998	CLR	---	N	N	
F01.050.096	3-01A-R10	01A	07/30/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.097	3-01A-R6	01A	07/30/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.098	3-01A-R9	01A	07/30/1998	CLR	---	N	N	

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F01.050.099	3-01A-R3	01A	07/22/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Piston setting acceptable by Section 9.2 of spec OS-0027.00-00-0002
F01.050.100	3-07A-H70	07A	07/22/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.101	3-07A-H71	07A	07/22/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.102	3-07A-H72	07A	07/22/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.103	3-07A-H74	07A	07/22/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.104	3-07A-DE031	07A	07/22/1998	CLR	---	N	N	
F01.050.105	3-13-DE002	13	07/22/1998	CLR	---	N	N	
F01.050.106	3-53B-SR31	53B	08/06/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.107	3-50-RCPM-3A1-SS1	50	10/14/1998	CLR	---	N	N	
F01.050.108	3-50-RCPM-3A1-SS2	50	10/14/1998	CLR	---	N	N	
F01.050.109	3-50-RCPM-3A1-SS3	50	10/14/1998	CLR	---	N	N	
F01.050.110	3-50-RCPM-3A2-SS1	50	10/25/1998	CLR	---	N	N	
F01.050.111	3-50-RCPM-3A2-SS2	50	10/14/1998	CLR	---	N	N	
F01.050.112	3-50-RCPM-3A2-SS3	50	10/14/1998	CLR	---	N	N	
F01.050.113	3-50-RCPM-3B1-SS1	50	10/13/1998	CLR	---	N	N	
F01.050.114	3-50-RCPM-3B1-SS2	50	10/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.115	3-50-RCPM-3B1-SS3	50	10/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.116	3-50-RCPM-3B2-SS1	50	10/13/1998	CLR	---	N	N	
F01.050.117	3-50-RCPM-3B2-SS2	50	10/13/1998	CLR	---	N	N	
F01.050.118	3-50-RCPM-3B2-SS3	50	10/13/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
G01.001.001	3-RCP-3A1	50	11/12/1998	CLR	---	N	N	
G01.001.002	3-RCP-3A2	50	11/12/1998	CLR	---	N	N	
G01.001.003	3-RCP-3B1	50	11/19/1998	CLR	---	N	N	
G01.001.004	3-RCP-3B2	50	10/23/1998	CLR	---	N	N	
G02.001.005A	3-PDA1-46	51A	10/25/1998	REC	---	N	N	Sizing was performed on indication # 3 from previous inspection reports. This was an area that showed up as a PT indication on

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G02.001.005B	3-PDA2-46	51A	10/25/1998	CLR	---	N	N	the nozzle bore. There was no change on the thru-wall depth reported on the previous inspection.
G02.001.005C	3-PDB1-46	51A	10/25/1998	CLR	---	N	N	
G02.001.005D	3-PDB2-46	51A	10/25/1998	CLR	---	N	N	
G02.001.006A	3-PDA1-11	51A	10/23/1998	CLR	---	N	N	
G02.001.006B	3-PDA2-11	51A	10/23/1998	CLR	---	N	N	
G02.001.006C	3-PDB1-11	51A	10/23/1998	CLR	---	N	N	
G02.001.006D	3-PDB2-11	51A	10/23/1998	CLR	---	N	N	
G02.001.007A	3-PDA1-47	51A	10/23/1998	CLR	---	N	N	
G02.001.007B	3-PDA2-47	51A	10/23/1998	CLR	---	N	N	
G02.001.007C	3-PDB1-47	51A	10/23/1998	CLR	---	N	N	
G02.001.007D	3-PDB2-47	51A	10/23/1998	CLR	---	N	N	
G02.001.008A	3RC-211-56	51A	10/24/1998	CLR	---	N	N	
G02.001.008B	3RC-210-24A	51A	10/24/1998	CLR	---	N	N	
G02.001.008C	3RC-212-44A	51A	10/23/1998	CLR	---	N	N	
G02.001.008D	3RC-213-26	51A	10/23/1998	CLR	---	N	N	
G02.001.009B	3RC-212-43C	51A	10/23/1998	CLR	---	N	N	
G02.001.010A	3RC-211-54	51A	10/24/1998	CLR	---	N	N	
G02.001.010B	3RC-210-31	51A	10/24/1998	CLR	---	N	N	
G02.001.010C	3RC-212-45	51A	10/23/1998	CLR	---	N	N	
G02.001.010D	3RC-213-27	51A	10/23/1998	CLR	---	N	N	
G02.001.011A	3A1-THERM SLEEVE	51A	10/25/1998	CLR	---	N	N	Film ID with permanent markers. "0" placed at 0 degrees, "1" placed at 90 degrees. 0 interval shot with (2) Fuji 50.
G02.001.011B	3A2-THERM SLEEVE	51A	10/25/1998	CLR	---	N	N	Film ID with permanent markers. "0" placed at 0 degrees, "1" placed at 90 degrees.
G02.001.011C	3B1-THERM SLEEVE	51A	10/24/1998	REC	---	N	N	ID's marked with permanent marker. Top view has 1/4" gap on nozzle side. Side view has 3/4" gap on nozzle side. The # 1 is at 270 degrees on the pipe side. The # 0 is at 0 degrees on the pipe side. PIP# 3-0-98-5073
G02.001.011D	3B2-THERM SLEEVE	51A	10/24/1998	REC	---	N	N	ID's marked with permanent marker. Top view has 9/16" gap on nozzle side. Side view has 1/4" gap on nozzle side. The # 1 is at 90 degrees. The # 0 is at 0 degrees. PIP # 3-0-98-5073
G09.001.002	3-51A-50-61	51A	09/24/1998	CLR	---	N	N	
G09.001.012	3-53B-38-25	53B	10/01/1998	CLR	---	N	N	

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G09.001.017	3-53B-LPB-2	53B	10/01/1998	CLR	---	N	N	
G09.001.033	3-56-14-61	56	09/23/1998	CLR	---	N	N	
G10.001.001	3-PHA-13	50	11/03/1998	CLR	---	N	N	Area next to weld ground out where pipe experienced boric acid attack as per W/O # 98098108.
G10.001.002	3-PHA-14	50	10/31/1998	CLR	---	N	N	
G10.001.003	3-PHA-15	50	10/31/1998	CLR	---	N	N	
G11.001.001	3RCP-3A2	50	10/20/1998	CLR	---	N	N	
G11.001.002	3RCP-3B1	50	10/29/1998	CLR	---	N	N	
G12.001.003	3-51B-30-28	51B	11/02/1998	CLR	---	N	N	
G12.001.008	3-51B-32-52	51B	11/02/1998	CLR	---	N	N	
G12.001.009	3-51B-32-77	51B	11/02/1998	CLR	---	N	N	
G12.001.015	3-51B-57-14	51B	09/24/1998	CLR	---	N	N	

- 5.2 Limited examinations (i.e., less than or equal to 90% of the required examination coverage obtained) identified during Outage 17 are shown below. A copy of the Requests for Relief are contained in Section 9.0 of this report

<u>Item Number</u>	<u>Request for Relief Serial Number</u>
B03.110.001	98-01
B03.110.006	98-03
B03.110.007	98-03
B03.110.008	98-03
B03.120.006	98-03
B03.120.007	98-03
B03.120.008	98-03
B03.130.003	99-01
B03.130.004	99-01
B03.140.003	99-01
B03.140.004	99-01
B03.150.001	98-01
B03.150.002	98-01
B03.160.001	ONS-009
B03.160.002	ONS-009

6.0 Reportable Indications

Outage 17 had no reportable indications.

7.0 Personnel, Equipment and Material Certifications

All personnel who performed or evaluated the results of inservice inspections from March 15, 1997 to December 19, 1998 at Oconee Nuclear Station, Unit 3, were certified in accordance with the requirements of 1989 Edition of ASME Section XI with no addenda. The appropriate certification records for each inspector are on file at Oconee Nuclear Station or copies can be obtained by contacting the Duke Energy's Corporate Office in Charlotte, North Carolina.

Records of periodic calibration of inspection equipment are on file at Oconee Nuclear Station or copies can be obtained by contacting the Duke Energy's Corporate Office in Charlotte, North Carolina.

Records of materials used, (i.e., NDE consumables) are on file at Oconee Nuclear Station or copies can be obtained by contacting the Duke Energy's Corporate Office in Charlotte, North Carolina.

8.0 Corrective Action

PIP 3-O98-5073 was written to document recordable indications identified during RT examination of item numbers G02.001.011C and G02.001.011D. A copy of PIP 3-O98-5073 is located in Section 9 of this report.

PIP 3-O98-5083 was written to document a problem found with weld locations identified on isometric 3RC-211. The problem was identified during the ISI preparation and inspection of a couple of welds that are on isometric 3RC-211. A copy of PIP 3-O98-5083 is located in Section 9 of this report.

9.0 Reference Documents

The following reference documents apply to the inservice inspection performed during Outage 17 at Oconee 3.

Letter dated February 11, 1999 to inform the NRC of our intent to use Code Case N-481

Code Case N-481

Evaluation of Reactor Coolant Pump 3B1 performed by Structural Integrity Associates, Inc.

Duke Power Company Request for Relief # 99-01

Duke Power Company Request for Relief # 98-01

Duke Power Company Request for Relief # 98-03

Duke Power Company Request for Relief # ONS-009

Duke Power Company Problem Investigation Process Report 3-O98-5073

Duke Power Company Problem Investigation Process Report 3-O98-5083



W. R. McCollum, Jr.
Vice President

February 11, 1999

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

Subject: Duke Power Company
Oconee Nuclear Station, Unit 3
Docket No. 50-287
Third Ten-Year Inservice Inspection Interval
Unit 3 EOC 17 Inservice Inspection
Use of NRC Approved Code Case

This is to inform you that Duke Energy Corporation has elected to apply ASME Code Case N-481 to Reactor Coolant Pump 3B1 during Oconee Unit 3 End of Cycle 17 Refueling Outage, in lieu of inservice inspection requirements of pressure retaining welds of pump casings (Category B-L-1) as delineated in Table IWB-2500-1 of ASME Boiler and Pressure Vessel Code, Section XI.

ASME Code Case N-481 has been listed in Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability ASME Section XI Division 1" as being approved by the NRC for use in Inservice Inspections.

This code case was previously used during the Unit 2 End of Cycle 16 Refueling Outage, as reported in a letter dated June 1, 1998, and in the Inservice Inspection Report, dated August 19, 1998, for that outage.

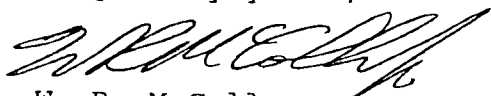
It is our expectation that this code case may be invoked in future outages on any of our Oconee Units. In accordance with the provisions of ASME Code Case N-481, an evaluation to demonstrate the safety and serviceability of the pump casing must be performed whenever this code case is used. The details of such evaluations for future outages will be included in the applicable Refueling Outage Inservice Inspection Report, when it is submitted to the NRC.

U. S. Nuclear Regulatory Commission
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A report containing the details of the latest inspection and evaluation will be included in the Oconee Unit 3, End of Cycle 17 Refueling Outage, Inservice Inspection Report when it is submitted to the NRC.

If there are any questions or further information is needed you may contact R. P. Todd at (864) 885-3418.

Very truly yours,



W. R. McCollum, Jr.
Site Vice President

xc:

Mr. D. E. LaBarge, Project Manager
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Mr. L. A. Reyes
Regional Administrator, Region II
U. S. Nuclear Regulatory Commission

Mr. M. A. Scott
Senior NRC Resident Inspector
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Virgil R. Autry, Director
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U. S. Nuclear Regulatory Commission
February 11, 1999
Page 3

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CASES OF ASME BOILER AND PRESSURE VESSEL CODE

Approval Date: March 5, 1990

See Numerical Index for expiration
and any reaffirmation dates.

Case N-481

Alternative Examination Requirements for Cast
Austenitic Pump Casings
Section XI, Division 1

Inquiry: When conducting examination of cast austenitic pump casings in accordance with Section XI, Division 1, what examinations may be performed in lieu of the volumetric examinations specified in Table IWB-2500-1, Examination Category B-L-1, Item B12.10?

Reply: It is the opinion of the Committee that the following requirements shall be met in lieu of performing the volumetric examination specified in Table IWB-2500-1, Examination Category B-L-1, Item B12.10:

(a) Perform a VT-2 visual examination of the exterior of all pumps during the hydrostatic pressure test required by Table IWB-2500-1, Category B-P.

(b) Perform a VT-1 visual examination of the external surfaces of the weld of one pump casing.

(c) Perform a VT-3 visual examination of the internal surfaces whenever a pump is disassembled for maintenance.

(d) Perform an evaluation to demonstrate the safety and serviceability of the pump casing. The evaluation shall include the following:

(1) evaluating material properties, including fracture toughness values;

(2) performing a stress analysis of the pump casing;

(3) reviewing the operating history of the pump;

(4) selecting locations for postulating flaws;

(5) postulating one-quarter thickness reference flaw with a length six times its depth;

(6) establishing the stability of the selected flaw under the governing stress conditions;

(7) considering thermal aging embrittlement and any other processes that may degrade the properties of the pump casing during service.

(e) A report of this evaluation shall be submitted to the regulatory and enforcement authorities having jurisdiction at the plant site for review.

December 1, 1998

Subject: ISI Item Number B12.010.003 and Code Case N-481

In lieu of conducting the volumetric examination specified by Section XI in Table IWB-2500-1, Examination Category B-L-1, Item B12.10, Oconee Nuclear Station choose to invoke Code Case N-481 for 3B1 Reactor Coolant Pump. This letter is to document using the evaluation furnished by Structural Integrity Associates, Inc. as a means to clear Item Number B12.010.003, I.D. Number 3-RCP-3B1, from the Unit #3 EOC 17 refueling outage.

Reviewed by: T. J. Porman . Date: 12, 1, 1998 .

ANII Review: YABC . Date: 12-9-98 .

Report No.: SIR-98-077
Revision No.: 0
Project No.: DUKE-20Q
File No.: DUKE-20Q-402
November 1998

**ASME Code Case N-481
Evaluation of Oconee Unit 3
Reactor Coolant Pump 3B1**

Prepared for:
Duke Energy

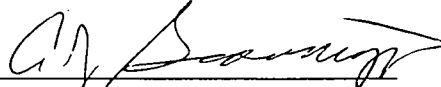
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Prepared by: 
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Date: 11/24/98

Reviewed by: 
R. L. Bax

Date: 11/24/98

Reviewed by: 
A. J. Giannuzzi

Date: 11/24/98

Approved by: 
N. G. Cofie

Date: 11/24/98



Structural Integrity Associates, Inc.

REVISION CONTROL SHEET

Document Number: SIR-98-077

Title: ASME Code Case N-481 Evaluation of Oconee Unit 3 Reactor Coolant Pump 3B1

Client: Duke Energy

SI Project Number: DUKE-20Q

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1.0 INTRODUCTION

1.1 Background

ASME Boiler and Pressure Vessel Code, Section XI requires periodic inservice inspection of various nuclear power plant components. Specifically, inservice inspection requirements of pressure retaining welds of pump casings (Category B-L-1) are delineated in Table IWB-2500-1 of the Code. The requirements call for periodic visual and volumetric examinations of the weldments using radiography or ultrasonic inspection (UT). However, inservice inspection of cast stainless steel pump casings using radiography or UT has proved to be a very difficult challenge in the nuclear industry. In recognition of this difficulty, alternate examination requirements have been provided in Code Case N-481 [1], shown in Appendix A of this document. These alternate requirements consist of visual inspections and an analytical evaluation to demonstrate the safety and serviceability of the pump casings in the presence of an assumed flaw. Duke Energy has opted to use Code Case N-481 in application to the reactor coolant pump (RCP) 3B1 at Oconee Unit 3. This document addresses the analytical aspects of Code Case N-481 as it applies to the RCP 3B1 at Oconee Unit 3.

1.2 Description of Reactor Coolant Pump Casing 3B1 at Oconee Unit 3

The four reactor coolant pumps at Oconee Unit 3, including RCP 3B1, were manufactured by Bingham Pump Company. All four pumps are identical and consists of vertical, single-stage bottom suction, horizontal-discharge centrifugal-diffuser casing units currently classified as Type F in ASME Code Section III, Subarticle NB-3400. As shown in Figure 1-1, the pump casing is a shell with a suction nozzle at the bottom and a bolted flange at the other end. The axis of symmetry of the suction nozzle is aligned with the axis of rotation of the pump shaft. All four pump casings were fabricated from ASTM A351, Grades CF8 and CF8M cast austenitic stainless steel and consisted of several components which were cast separately and welded together. The main components of the pump casing are

- a) lower case half
- b) upper case half



- c) suction piece
- d) quad volute and the lower case half. The upper case half are Grade CF8M while the suction piece and the quad volute are Grade CF8.

1.3 Objective and Organization

The objective of this document is to address the safety and serviceability requirements of ASME Code Case N-481 for RCP 3B1 at Oconee Unit 3 to assure that postulated flaws in the pump casing at critical locations will be stable, considering the operating stresses and material properties of the pump casings. Section 2 of this report discusses previous inspections that have been performed on the pump casing, and the inspection results. Section 3 discusses the background of Code Case N-481, the items covered by the ASME Code Case, and the safety factors used with this Code Case. Section 4 provides the specific evaluation performed using this Code Case. Section 5 presents the conclusions of the evaluation, and Section 6 provides the references used in the evaluation.



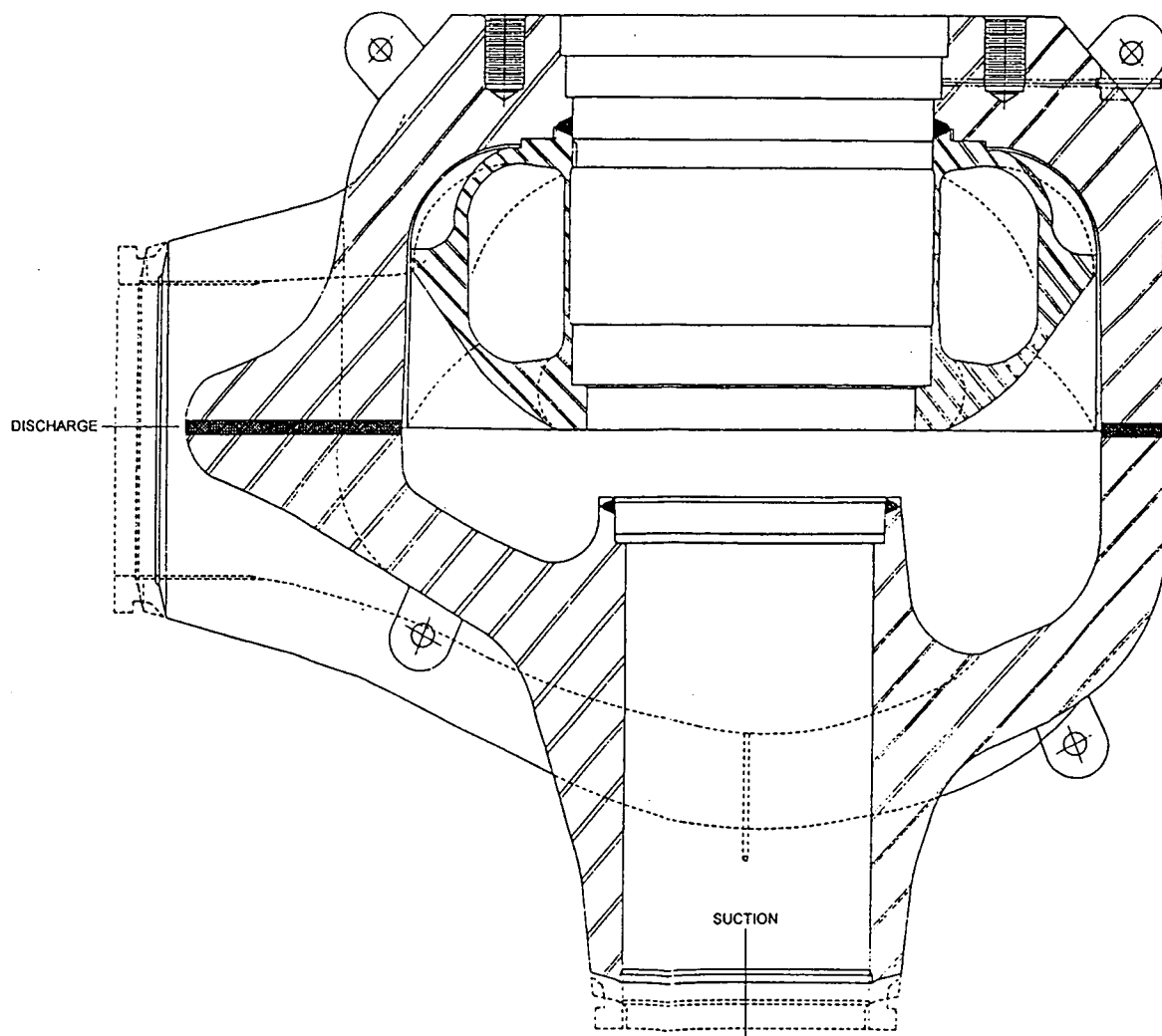


Figure 1-1. Oconee Unit 3 Reactor Coolant Pump Assembly

2.0 PREVIOUS INSPECTIONS

Pre-service inspections were performed on RC Pump 3B1 casing after fabrication. All relevant indications identified during the inspections which exceeded the acceptance standards were repaired. The pump casing was solution heat treated after the repairs to ensure that local weld residual stresses resulting from the repairs were minimized.

The casing was for RCP 3B1 inspected during end-of-cycle 9 (EOC-9) at Oconee Unit 3. The inspections were performed using radiographic techniques (RT). In addition, the internal surfaces received a visual examination. No indications were observed during these inspections.



3.0 BACKGROUND ON ASME CODE CASE N-481

A review of data collected in EPRI's "Cast Austenitic Stainless Steel Sourcebook" [2] shows that fabrication-related defects, such as slag inclusions and porosity, are not uncommon during the manufacturing process of stainless steel castings. However, whenever such defects are identified by surface or volumetric inspection during fabrication, they are usually excavated and weld repaired. Examinations and repairs during the fabrication process are accomplished with relative ease, since they are performed in a shop environment.

Ultrasonic examination and radiography of pump casings, once in service, are very difficult and time consuming. As noted by the NRR in response to a previous Relief Request, and the subsequent Safety Evaluation [3], the disassembly of a reactor coolant pump for the sole purpose of performing a volumetric examination of the pump casing welds is not practical. There is considerable personnel radiation exposure and significant outage time associated with removal of the pump shaft. Industry operating experience with cast stainless steel pressure components has been good. Furthermore, no detrimental service induced degradation of pump casing welds, detected with various inspection techniques, has been reported.

Because of the difficulties associated with the examination of pump casing welds after being placed in service, ASME Code Case N-481 (shown in Appendix A) addresses alternate examinations and evaluations that may be performed in lieu of the volumetric examinations specified in Table IWB-2500-1 of Section XI, Division 1 of the ASME Code for Examination Category B-L-1. Examination Category B-L-1 relates to pressure retaining welds in pump casings; hence, the application of this code case is limited to the pump casing welds, and the adjacent base metal. The internal diffuser vanes, their attachment welds, and other attachment welds, which are not pressure retaining, are, therefore, excluded from this evaluation.



In addition to performing visual examinations (VT-1, VT-2 and VT-3), the code case outlines a seven-step evaluation procedure to demonstrate the safety and serviceability of the pump casings. Key to this procedure is the demonstration that an assumed quarter-thickness flaw, with length six times its depth, will remain stable, considering the stresses and material properties (base and weld materials) of the pump casings.

The ASME Code Case N-481 evaluation procedure is very similar to that in Appendix G of Sections III and XI of the ASME Code, which provides fracture toughness criteria for protection against failure of reactor pressure vessels, in that a similar postulated flaw is assumed for the analysis in both cases. The Code Case does not provide any guidance on safety factors to be used in the evaluation. Therefore, for the evaluation presented herein, safety factors consistent with Appendix G for similar evaluations of pressure vessels have been used.

Although Code Case N-481 does not require that a fatigue crack growth evaluation be performed, and such analyses are not part of an Appendix G evaluation of the stability of a quarter-thickness deep flaw, calculations are done in this study to demonstrate that a small initial assumed flaw will not reach the quarter-thickness flaw during plant life.



4.0 ASME CODE CASE N-481 EVALUATION

In this section, the seven items listed in the Code Case are addressed in relation to Oconee Unit 3 in order to demonstrate the safety and serviceability of the pump casing 3B1.

4.1 Evaluation of Material Properties, Including Fracture Toughness

The pump casing material conforms to ASTM A351, Grades CF8 and CF8M, which is an austenitic stainless steel casting specification. A review of the fabrication records [18] indicates that during the fabrication process, the pump casing welds were made using either the shielded metal arc welding (SMAW) or submerged arc welding (SAW) process. The records also show that several weld repairs were performed during fabrication. After welding, the casings were solution heat treated at 1900-2050°F for ten hours, followed by rapid cooling (agitated quenching in water to a temperature at or below 700°F within five minutes).

The most important material property pertinent to this evaluation is the fracture toughness. The fracture toughness of the base material and the weld metal are addressed separately since they are affected by different mechanisms.

4.1.1 *Fracture Toughness of ASTM A351, Grades CF8 and CF8M*

The fracture toughness of cast austenitic stainless steels has been the subject of significant research in the U.S. and elsewhere in recent years. Three grades of cast austenitic stainless steel frequently used in nuclear power plant applications (CF3, CF8 and CF8M) have all been studied extensively to determine the kinetics and material parameters that control the toughness of these materials. The major conclusion drawn from most of the work done on these castings is that unaged cast austenitic stainless steels have relatively high toughness values. However, during service at LWR operating temperatures, they become embrittled with time, which results in a loss of toughness as shown in Figure 4-1.

The microstructure of stainless steel castings is significantly different from that of wrought products. Wrought products consist of a single phase, austenite (γ), as shown in Figure 4-2.



Castings, on the other hand, exhibit a two-phase, or "duplex," microstructure of austenite (γ) and delta ferrite (δ), as shown in Figure 4-3. The ferrite phase in the duplex structure in these castings increases the tensile strength, improves the weldability and soundness of the casting, and increases the resistance to stress corrosion cracking. However, various carbide phases, intermetallic compounds such as sigma and chi phases, and a chromium rich bcc phase (α') can precipitate in the ferrite phase during service and lead to substantial degradation in toughness properties. Research performed at the Argonne National Laboratory (ANL) and elsewhere [4 through 15] has shown that thermal embrittlement of cast stainless steel components will occur during the reactor design lifetime of 40 years.

As a result of such thermal aging embrittlement, the Charpy transition curve shifts to higher temperatures as shown in Figure 4-4. For cast stainless steel of all grades, the extent of thermal embrittlement increases with an increase in ferrite content. The low-carbon CF3 grades are the most resistant and the molybdenum-bearing high carbon CF8M grades are the least resistant to thermal embrittlement.

The embrittlement of cast stainless steels results in brittle fracture associated with either the cleavage of the ferrite or separation of the ferrite/austenite phase boundaries. The degree of embrittlement is controlled by the amount of delta ferrite and the extent of ferrite/austenite phase boundaries. Brittle failure occurs either when the ferrite phase is continuous, as is the case with high-ferrite cast material, or when the ferrite/austenite phase boundaries provide an easy path for crack propagation. Hence, the amount, size and distribution of the ferrite phase in the duplex microstructure and the presence of phase boundary carbides are important parameters in controlling the extent of thermal embrittlement.

The kinetics of thermal embrittlement have been explained in detail by Chopra, et al, [4 through 8]. The kinetics are controlled by several mechanisms that depend on material parameters and aging temperatures. During long term exposure at elevated temperature, additional phases are



precipitated in the ferrite matrix. These include the formation of a chromium (Cr) - rich α' phase by spinodal decomposition; nucleation and growth of α' ; precipitation of nickel (Ni) - and silicon (Si) -rich G phase, $M_{23}C_6$ carbide and γ_2 (austenite); and additional precipitation and/or growth of existing carbides at the ferrite/austenite phase boundaries.

The chemical composition of the casting and the ferrite morphology are important parameters that influence embrittlement. A procedure and correlations for predicting the fracture toughness of aged, cast stainless steels from known material information is provided by Chopra [16]. The methodology for determining the fracture toughness of cast stainless steels, considering embrittlement, is summarized in the flow chart of Figure 4-5 (from Reference 16). The approach consists of determining the ferrite content of the cast stainless steel from known chemical composition as stated on CMTRs. From the ferrite content, the minimum impact energy is calculated, and the material resistance J-R curve is determined. An estimate of the fracture toughness, J_{Ic} , is then obtained from the J-R curve.

The only information required in these correlations is the chemical composition from the certified material test report (CMTR). A correlation for the extent of thermal embrittlement at "saturation" (the minimum impact energy that would be achieved for the material after long term aging at a given operating temperature) is given in terms of the chemical composition. The extent of thermal embrittlement as a function of time and temperature of reactor service is then estimated from the extent of embrittlement at saturation and from the correlations describing the kinetics of embrittlement, which are also given in terms of the chemical composition. In this evaluation, the fracture toughness associated with the minimum impact energy assuming aging at LWR operating temperature (524 - 608°F) will be conservatively used.

Using the methodology of Reference 16, the chromium equivalent (Cr_{eq}) and nickel equivalent (Ni_{eq}) are determined from the chemical composition, based on Hull's equivalent factors [17]:

$$Cr_{eq} = (Cr) + 1.21 (Mo) + 0.48 (Si) - 4.99 \quad (4-1)$$

$$Ni_{eq} = (Ni) + 0.11 (Mn) - 0.0086 (Mn)^2 + 18.4 (N) + 24.5 (C) + 2.77 \quad (4-2)$$



where the chemical composition is in wt%. Per Reference 16, the value of N is assumed to be 0.04 if it is not available on the CMTR.

The ferrite content (δ_c) is then estimated from the relationship:

$$\delta_c = 100.3 (Cr_{eq}/Ni_{eq})^2 - 170.72 (Cr_{eq}/Ni_{eq}) + 74.22 \quad (4-3)$$

For CF8M cast stainless steel, the saturation (minimum) impact energy (Cv_{sat}) considering thermal embrittlement can be determined by two methods:

In the first method, the material parameter Φ is calculated from which Cv_{sat} is determined as follows:

$$\Phi = \delta_c (Ni + Si + Mn)^2 (C + 0.4N) / 5. \quad (4-4)$$

The saturation value of RT impact energy, Cv_{sat} , for steels with < 10% Ni is given by

$$\text{Log}_{10} Cv_{sat} = 1.10 + 2.12 \exp(-0.041 \Phi). \quad (4-5)$$

And for steels with >10% Ni by

$$\text{Log}_{10} Cv_{sat} = 1.10 + 2.64 \exp(-0.064 \Phi). \quad (4-6)$$

In the second method, Cv_{sat} is estimated directly from the chemical compositions of the steel and is given by:

$$\begin{aligned} \text{Log}_{10} Cv_{sat} = & 7.28 - 0.011 (\delta_c) - 0.185 (Cr) - 0.369 (Mo) - 0.451 (Si) \\ & - 0.007 (Ni) - 4.71 (C + 0.4N) \end{aligned} \quad (4-7)$$



The saturation impact energy is determined using both methods given in Equations 4-5/4-6 and 4-7 and the lower value is used for estimating the fracture toughness.

The material resistance J-R curve can be estimated from Cv_{sat} using a power law relationship:

$$J_d = C [Cv_{sat}]^m [\Delta a]^n \quad (4-8)$$

where: J_d is the deformation J-Integral (kJ/m²) per ASTM Specification E813-85
 Δa is the crack extension (mm)
 C is a constant
 m, n are power law exponents

The saturation fracture toughness J-R curve at room temperature for static-cast CF8M stainless steel is given by [16]:

$$J_d = 16 [Cv_{sat}]^{0.67} [\Delta a]^n \quad (4-9)$$

In English units, the J-R curve (units of J in in-kips/in² and Δa in inches) is given by:

$$J_d = 91 [25.4]^n [Cv_{sat}]^{0.67} [\Delta a]^n \quad (4-10)$$

The value of n at room temperature is given by:

$$n = 0.25 + 0.077 \log_{10} Cv_{sat} \quad (4-11)$$

Corresponding equations for the J-R curve at temperatures between 290°C and 320°C (554°F and 608°F) are given by:

$$J_d = 49 [Cv_{sat}]^{0.41} [\Delta a]^n \text{ (SI units)} \quad (4-12)$$



$$J_d = 280[25.4]^n [Cv_{sat}]^{0.41} [\Delta a]^n \text{ (English units)} \quad (4-13)$$

$$n = 0.23 + 0.057 \log_{10} Cv_{sat} \quad (4-14)$$

The corresponding equations for CF8 cast stainless steel is given by

$$\Phi = \delta_c (Cr + Si)(C + 0.4N). \quad (4-4a)$$

$$\log_{10} Cv_{sat} = 1.15 + 1.36 \exp(-0.035 \Phi). \quad (4-5a)$$

$$\log_{10} Cv_{sat} = 1.15 + 1.36 \exp(-0.035 \Phi). \quad (4-6a)$$

$$\begin{aligned} \log_{10} Cv_{sat} = & 5.64 - 0.006 (\delta_c) - 0.185 (Cr) + 0.273 (Mo) - 0.204 (Si) \\ & + 0.044 (Ni) - 2.12 (C + 0.4N) \end{aligned} \quad (4-7a)$$

$$J_d = C [Cv_{sat}]^m [\Delta a]^n \quad (4-8a)$$

$$J_d = 49[Cv_{sat}]^{0.52} [\Delta a]^n \quad (4-9a)$$

$$J_d = 280[25.4]^n [Cv_{sat}]^{0.52} [\Delta a]^n \quad (4-10a)$$

$$n = 0.22 + 0.139 \log_{10} Cv_{sat} \quad (4-11a)$$

$$J_d = 102[Cv_{sat}]^{0.28} [\Delta a]^n \text{ (SI units)} \quad (4-12a)$$

$$J_d = 582[25.4]^n [Cv_{sat}]^{0.28} [\Delta a]^n \text{ (English units)} \quad (4-13a)$$

Equations for 4-13 and 4-13a the J-R curve can be expressed in simple terms as:



$$J_d = C [\Delta a]^n \quad (4-15)$$

The calculation of all the above parameters, including C and n for the RCP casing 3B1 at Oconee Unit 3, are shown in Tables 4-1. The calculation was performed using information contained in the certified material test reports (CMTRs) for the various components of the pump casing [18].

The above correlations (Equations 4-1 through 4-15) account for degradation of toughness due to thermal aging, but do not explicitly consider the initial fracture properties of the original unaged material. Fracture toughness data in Reference 16 indicate that the J-R curve for some heats of unaged cast stainless steel may be lower than those for wrought stainless steel. To take into account the possibility of a relatively low initial unaged toughness, the methodology outlined in Figure 4-5 requires that the saturation J-R curves be compared to the lower bound J-R curve for the unaged cast stainless steel. The lower of the two curves is then used. For static cast stainless steel, the lower bound unaged J-R curve is given by:

$$J_d = 400 [\Delta a]^{0.40} \text{ (SI units)} \quad (4-16)$$

$$J_d = 8330 [\Delta a]^{0.40} \text{ (English units)} \quad (4-17)$$

The value of the fracture toughness, J_{Ic} , can be estimated from the J-R curve using the method outlined in ASTM Specification E813-85 [18]. This ASTM methodology is illustrated in Figure 4-6. In this figure, the line emanating from the origin, or the blunting line, is given by $J = 2\sigma_f \Delta a$, where σ_f is the flow stress (the average of the 0.2% offset yield strength and the ultimate tensile strength). Two exclusion lines are constructed parallel to the blunting line but offset by 0.15mm (0.006 in.) and 1.5 mm (0.06 in.). In the ASTM method where the J-R curve is determined by test, a straight line is fit to the test data between the 0.15mm and 1.5mm exclusion lines. This line is extrapolated back to the blunting line and the intersection is termed J_Q . J_{Ic} equals J_Q if various validity criteria are satisfied. In this study, where the J-R curve is established based on material properties and not on test data, a modified form of the ASTM E813 method

suggested by Hiser [9] for thermally-aged cast stainless steels is used. In this modified procedure, J_{Ic} is defined as the intersection of the power law J-R curve with the 0.15mm exclusion line. Comparison of this methodology with the ASTM E813 methodology in [9] for aged cast stainless steels has shown that both methods yield nearly identical J_{Ic} values.

Determination of J_{Ic} values for Pump 3B1 is shown in Figures 4-7. In constructing the blunting lines in Figures 4-7, the values of the yield and ultimate tensile strengths are required in order to determine the flow stress. The yield and ultimate tensile strength values are provided at room temperature in the CMTRs and shown in Tables 4-1. The yield and ultimate tensile strength values at 550°F were estimated by ratioing the room temperature CMTR values to the same ratio found in the ASME Code [20] for the decrease in strength between room temperature and operating temperature taken approximately at 550°F. Furthermore, it has been shown that thermal aging leads to an increase in yield and ultimate tensile strength, and a slight decrease in ductility [16], which results in an increased flow stress. For CF8M cast stainless steels, this increase in flow stress at room temperature and 550°F is 19% and 24%, respectively, as shown in Figures 4-8 and 4-9. The corresponding increase in flow stress for CF8 are 16% and 14%, respectively, as shown in Figures 4-8 and 4-9. To accurately determine the blunting line for J_{Ic} determination, the flow stress values were, therefore, increased accordingly.

The lower bound value of K_{Ic} used for linear elastic fracture mechanics analysis is determined from J_{Ic} using the relationship:

$$K_{Ic} = \sqrt{\frac{E J_{Ic}}{(1 - \nu^2)}} \quad (4-18)$$

where E is the elastic modulus (equals 25.5×10^6 psi [20]), and ν is Poisson's ratio (equals 0.3).

A summary of the results presented in Table 4-1 shows that for the cast stainless steel pump casing 3B1 at Oconee Unit 3, the range of J_{Ic} (including long-term aging effects (embrittlement)) is 1592.7 – 1043.4 in-lb/in². This minimum value of 1043.4 in-lb/in² translates into a K_{Ic} value of 171.0 ksi $\sqrt{\text{in}}$ at operating conditions.

4.1.2 Fracture Toughness of Pump Casing Weldments

As indicated earlier, the fabrication records indicate that the pump casing weldments were made using flux welding, either by submerged arc welding (SAW) or shielded metal arc welding (SMAW). Extensive work done in References 21 and 22 on the toughness of austenitic stainless steel weldments has shown that the toughness for SAW and SMAW weldments in the unaged condition is lower than for the base material. On the other hand, tungsten inert gas (TIG or GTAW) weldments have toughness more typical of the base metal. The lower toughness of SAW and SMAW weldments is due to nonmetallic inclusions in the weld metal that result from the flux welding process. Because of the low initial values, the fracture toughness of SMAW and SAW weld metals are only slightly affected by long-term aging. Limited data from Reference 21 suggests that J_{Ic} values of 1168 and 973 in-lb/in² may be used for SMAW and SAW weldment fracture assessments, respectively, in the as-welded condition. Corresponding values for solution-annealed weldments are 963 and 1260 in-lb/in². Values of 990 and 650 in-lb/in² are suggested in Reference 23 for SMAW and SAW, respectively, based on the work done in Reference 22.

The methodology used to determine the lower bound fracture toughness for the base metal was also employed for the weld metal and the results presented in Table 4-2. As can be seen from this table, the saturation fracture toughness values for the weld metals is in the range of values discussed above. The minimum fracture toughness of the welds considering embrittlement is 140.7 ksi $\sqrt{\text{in}}$. This value is conservatively used in this evaluation.



4.2 Stresses and Stress Evaluation

In performing the evaluations, the possibility of using previous stress analyses in the existing Stress Report [24,25] for the pump casing was explored. It was observed that detailed through-wall stress information was not available to perform flow evaluation of critical locations for all load cases. As such, an axisymmetric finite element model was developed for the purpose of determining the operating stresses in the pump casing.

The finite element model of the pump casing was developed using the ANSYS computer software [26]. The dimensions used for the model obtained from Reference 27 are shown in Figure 4-10. The finite element model is shown in Figure 4-11. It was generated using isoparametric finite elements for the casing. Three stress cases were run using this model to determine the stress response.

4.2.1 Pressure

A pressure of 2500 psig was applied to the inside surface of the model. This pressure corresponds to the design pressure but the stresses due to operating pressure can be determined by ratio of the pressures. The resulting stress intensity distribution for the design pressure case is shown in Figure 4-12. Summary of the axial and hoop pressure stresses for the six critical paths of the model are presented in Table 4-3.

4.2.2 Heatup Thermal Transient

The definition of the heatup transient for Oconee Unit 3 is taken from the Technical Specification Heatup Limitation [28]. The transient involves ramping the inside temperature from 70°F to 280°F in 4.2 hours followed by ramping the temperature to 555°F for the next 2.75 hours for a total duration of 6.95 hours. In the thermal analysis, the outside surface was initially kept at 70°F. A film coefficient of 1000 Btu/hr-ft²-°F was used on the inside surface consistent with the reactor coolant flow inside the pump. The outside surface was assumed to be insulated and therefore a conservative heat transfer coefficient of 1 Btu/hr-ft²-°F was used. The temperature distribution at the most critical time during heatup is shown in Figure 4-13. The



resulting temperature distribution was used to perform a stress analysis. The stress intensity plots at the most critical time is shown in Figure 4-14. Hoop and axial stresses for the six critical paths of the model are shown in Table 4-3.

4.2.3 Cooldown Thermal Transient

For the cooldown transient, the definition provided in Reference 29 was used. It involves multiple ramps of RCS temperature from 557°F to 70°F consistent with an initial average cooldown rate of 60°F/hr., and pressurizer pressure from 2185 psi to 0 psi in 10 hours. Figure 4-15 shows the temperature distribution at the most critical time (9692 seconds into the transient). The resulting stress distribution is shown in Figure 4-16. Summary of the hoop and axial stresses for the cooldown transient are presented in Table 4-3.

4.3 Review of Operating History of the Pumps

Oconee Unit 3 has been in commercial operation since July 19, 1974. The plant has undergone no more than eighty-two (82) heatups/cooldowns as of this date. At this point in time, these numbers are well below the expected number of heatup/cooldown cycles, based upon the design number of heatup/cooldown cycles (360 for a 40-year plant life). The normal operating pressure and temperature for the RCPs are 2185 psig and 550°F, respectively [29]. For this evaluation, a conservative operating pressure of 2250 psig is used.

4.4 Selection of Locations for Postulating Flaws

The following selection criteria was used for the determination of locations for postulating flaws:

- Areas of low fracture toughness
- Highly stressed locations
- Areas of geometric discontinuity
- Locations where flaws have been identified in previous inspections.



Since the lower bound fracture toughness is used in the evaluation and no flaws have been found in previous inspections, the most highly stressed locations (which correspond to areas of geometric discontinuities) were chosen as the location for potential flaws. Six highly stressed locations shown in Figure 4-11 are used in the evaluation.

4.5 Postulated Flaw

As required by the Code Case, the postulated flaw is a quarter-thickness semi-elliptical flaw with length six times the depth. The thickness of the pump casing at the six critical locations and the associated flaw sizes are shown in Table 4-4.

4.6 Determination of Stability of Postulated Flaw

To determine the stability of the postulated flaw, fracture mechanics evaluations are performed at the critical weld location to address the following:

- 1) Determination of applied stress intensity factors
- 2) Allowable stress intensity factor
- 3) Fatigue crack growth
- 4) Stress corrosion crack growth.

4.6.1 Determination of Applied Stress Intensity Factors

Even though austenitic stainless steels have been shown to be relatively ductile materials, linear elastic fracture mechanics (LEFM) techniques were conservatively used in lieu of elastic-plastic fracture mechanics (EPFM) techniques.

The stress intensity factors (K_I) associated with the applied stresses were conservatively determined using the flat plate model of ASME Code, Section XI, Appendix A [30]. The expression for K_I is given by:

$$K_I = \sigma_m M_m \sqrt{\pi \sqrt{a/Q}} + \sigma_b M_b \sqrt{\pi \sqrt{a/Q}}$$

where:

σ_m, σ_b	=	membrane and bending stresses, respectively
a	=	minor half-diameter of embedded flaw; flaw depth for surface flaw
Q	=	flaw shape parameter
M_m	=	correction factor for membrane stress
M_b	=	correction factor for bending stress

The above model is contained in the library of Structural Integrity Associates' computer software **pc-CRACK** [31]. This software was, therefore, used to determine the stress intensity factors at the various locations, using the stress information contained in Table 4-3.

4.6.2 Allowable Stress Intensity Factor

Stress intensity factors, for comparison to an allowable value, were calculated consistent with the safety factors provided in Appendix G of Section XI of the ASME Code. Paragraph G-2222 requires a safety factor of 2.0 on primary stresses and a safety factor of 1.0 on secondary stresses for Service Levels A and B.

The evaluation is performed for normal operating and upset conditions (Service Levels A and B) since no specific requirements are required for emergency and faulted conditions (Levels C and D) in Appendix G of ASME Section XI. The terms whose sum must be less than the allowable reference stress intensity factor (K_{IR}) for Service Levels A and B are:

- 1) $2K_{Im}$ for primary membrane stress
- 2) $2K_{Ib}$ for primary bending stress
- 3) K_{Im} for secondary membrane stress
- 4) K_{Ib} for secondary bending stress.

Table 4-5 presents the stress intensity factors with the appropriate safety factors at the critical location for normal/upset conditions, and their comparison to the allowable K_{IR} value of $140.6 \text{ ksi} \sqrt{\text{in}}$. In this evaluation, the conservative operating pressure of 2250 psig was used. The stress intensity factors associated with this pressure were conservatively added to either the heatup or cooldown transient stress intensity factors to determine the final value to compare with the



allowables. The analysis was performed using the postulated quarter-thickness flaw depth, assuming the flaw is either in the axial or hoop directions. It can be seen from Table 4-5 that at all locations, both in the axial and hoop directions, the stress intensity factors are below the allowable values.

4.6.3 *Fatigue Crack Growth*

Fatigue crack growth analyses were performed to assure that crack growth for a small initial assumed flaw will not grow beyond the quarter-thickness flaw considered in the Code Case. Since the previous inspections performed during the second ISI interval did not identify any flaws in the pump casing welds, an initial flaw corresponding to the acceptance standards of ASME Code, Section XI, Subarticle IWB-3500 was assumed. For the pump casing welds, this corresponds to an initial depth of 10% of wall thickness. All six critical locations identified in Table 4-3 were considered in this evaluation assuming both axial and circumferential flaws. The flaws were conservatively postulated on the inside surface of the pump casing, which would require consideration of the PWR water environment at 550 F. A fatigue crack growth law for a water environment is not currently in the ASME Code Section XI; however, a crack growth law for austenitic stainless steel in an air environment is provided in ASME Code, Section XI, Appendix C [30]. Per the recommendation of ASME Code, Section XI Task Group for Piping Flaw Evaluation [32], a factor of 2 was applied to the air environment law to account for the PWR water environment. The ASME Code, Section XI fatigue crack growth law for air is given as:

$$\frac{da}{dN} = C_o (\Delta K_I)^n$$

where n equals 3.3, and

$$C_o = C(S)$$

where C is a scaling parameter to account for temperature, and is given by:

$$C = 10 [-10.009 + 8.12 \times 10^{-4} T - 1.13 \times 10^{-6} T^2 + 1.02 \times 10^{-9} T^3]$$

T is the metal temperature in °F ($T \leq 800^\circ\text{F}$). S is a scaling parameter to account for the R ratio (K_{\min}/K_{\max}), and is given by:

$$\begin{aligned} S &= 1.0 && \text{when } R \leq 0 \\ &= 1.0 + 1.8R && \text{when } 0 < R \leq 0.79 \\ &= -43.35 + 57.97R && \text{when } 0.79 < R \leq 1.0 \end{aligned}$$

At a temperature of 550°F, and for $R \leq 0$ as in this case, C_0 was calculated as 1.84×10^{-10} for an air environment. A value of C_0 of 3.68×10^{-10} was, therefore, used for the PWR water environment to determine crack growth for flaws on the inside surface.

Fatigue crack growth analysis requires cyclic loading information. Cyclic information for Oconee Unit 3 RCP casing design transients provided in Reference 29 was reviewed to determine the transients to be considered in the fatigue analysis. The only significant transients determined from Reference 29 are heatup/cooldowns, since these are associated with very high pressure and temperature changes. The total number of cycles associated with these transients is 360. All other transients are judged to contribute insignificantly to crack growth. The analysis was performed using **pc-CRACK** for Windows and using the stress information shown in Table 4-3..

The results of the fatigue crack growth analysis are presented in Table 4-6. The results show that at all locations, fatigue crack growth is relatively small (maximum of 0.31 in. for an axial flaw at Path No. 6) during the 40-year plant life (360 cycles). In fact, it takes at least 1100 cycles for the initial assumed axial flaw at Path No. 6 to reach the quarter-thickness flaw, indicating that the quarter-thickness flaw bounds any flaw that may be identified during service. The crack growth that results for an axial flaw at Path No. 6 is shown in Figure 4-17. Considering the fact that Oconee Unit 3 has gone through no more than 82 heatups/cooldowns, it is predicted that the quarter-thickness flaw will not be reached during the lifetime of the plant.



4.6.4 Stress Corrosion Crack Growth

Stress corrosion cracking (SCC) in pressurized water reactor plants is not generally of concern, since the environment is not usually conducive to SCC due to its reducing nature. Moreover, stainless steel castings have been shown to have superior resistance to SCC when compared to wrought products. A wrought material consists of a single phase austenite (γ). When such a material is welded, the thermal cycles cause chromium carbides to precipitate from solution preferentially at austenite-austenite (γ - γ) grain boundaries. The diffusion of chromium from the austenite matrix results in a chromium-depleted zone at the grain boundary, resulting in sensitization. On the other hand, when a stainless steel casting (a two-phase duplex microstructure) is exposed to the same thermal cycle, carbon and chromium also combine to form grain boundary carbides; however, these carbides form exclusively at the austenite-ferrite (γ - δ) boundaries, with the majority of the chromium diffusing from the delta ferrite side of the boundary (diffusion of chromium in the ferrite is approximately 1000 times faster than that in austenite at a temperature of 1100°F). Thus, the chromium content of the austenite is not reduced significantly, and corrosion resistance, even near the γ - δ grain boundary, is maintained. Crack growth due to SCC will, therefore, not be considered in this evaluation.

4.7 Effect of Thermal Embrittlement and Other Degradation Mechanisms that May Degrade Properties of the Pump Casing

Structural material degradation mechanisms for various components in light water reactors have been discussed extensively in Reference 33. Of all the degradation mechanisms addressed in the Reference 33 EPRI report, only thermal and irradiation embrittlement could potentially degrade the fracture toughness properties of the cast stainless steel pump casings. Thermal embrittlement effects have been included in the consideration of crack growth and fracture toughness (K_{IR}) properties in this study. Irradiation embrittlement is not of concern since the RCPs are far removed from the reactor core.

Table 4-1

Determination of Lower Bound Fracture Toughness of Casing for RCP 3B1
at 290°C – 320°C Considering Thermal Embrittlement

	Lower Case Half, Ht# 21795-1	Upper Case Half, Ht# 24245-1	Suction Piece, Ht# 16728-3	Quad Volute Ht# 19801-1
Material	A351 Gr. CF8M	A351 Gr. CF8M	A351 Gr. CF8	A351 Gr. CF8
Mechanical Properties				
Yield Strength (psi)	37000	39600	37500	34400
Ultimate Tensile Str. (psi)	87500	83200	80000	76200
Elongation (%)	58	52	52	61
Reduction in Area (%)	73	71	67	71
Chemical Properties				
Cr	19.05	19.4	19.99	19.1
Si	1.41	1.21	1.48	1.25
Mo	2.16	2.36	0	0
Ni	9.57	9.96	9.36	9.3
C	0.05	0.04	0.06	0.06
Mn	0.85	0.64	0.85	0.85
N (assumed)	0.04	0.04	0.04	0.04
Cr _{eq}	17.4	17.8	15.7	14.7
Ni _{eq}	14.4	14.5	14.4	14.4
Ferrite (δ_c)	14.2	16.0	7.3	4.6
Φ	26.2	24.9	11.9	7.1
Cv _{sat} (J/cm ²) [Polynomial]	61.5	58.3	70.3	118.1
Cv _{sat} (J/cm ²) [Φ]	66.5	73.0	111.7	162.7
Minimum Cv _{sat} (J/cm ²)	61.5	58.3	70.3	118.1
C (J-R Curve Constant)	4434.9	4320.0	6069.9	7406.0
N (J-R Curve Exponent)	0.332	0.331	0.357	0.373
J _{1c} (in-lb/in ²)	1070.1	1043.4	1338.3	1592.7
K _{1c} (ksi-in ^{1/2})	173.2	171.0	193.7	211.3



Table 4-2

Determination of Lower Bound Fracture Toughness of Casing Welds
for RCP 3B1 at 280°C – 320°C

	5/32; X-4979; Lot# 03003	3/16; X-4979; Lot# 03036	3/16; X-4979; Lot# 03036A	3/16; X-4979; Lot# 03027	1/8; 316; Lot# D9697F316	3/16; X-4979; Lot# 03036B
Chemical Properties						
Cr	19.11	19.01	18.69	18.54	19.35	20.43
Si	0.44	0.47	0.47	0.42	0.4	0.55
Mo	2.48	2.81	2.84	2.79	2.39	2.85
Ni	9.89	9.7	9.89	9.7	12.6	10.29
C	0.04	0.032	0.038	0.038	0.023	0.036
Mn	1.54	1.53	1.52	1.53	1.95	1.7
N (assumed)	0.04	0.04	0.04	0.04	0.04	0.04
C _{req}	17.3	17.6	17.4	17.1	17.4	19.2
Ni _{eq}	14.5	14.1	14.5	14.3	16.9	14.8
Ferrite (δ_c)	13.3	17.4	13.8	13.7	5.0	21.0
Φ	21.0	22.8	21.0	20.1	8.7	34.3
Cv _{sat} (J/cm ²) [Polynomial]	141.8	106.9	122.3	143.9	204.8	45.0
Cv _{sat} (J/cm ²) [Φ]	99.0	85.3	99.4	107.1	412.5	24.8
Minimum Cv _{sat} (J/cm ²)	99.0	85.3	99.4	107.1	204.8	24.8
C (J-R Curve Constant)	5600.2	5206.1	5613.3	5820.7	7998.2	2842.6
N (J-R Curve Exponent)	0.344	0.340	0.344	0.346	0.362	0.309
J _{Ic} (in-lb/in ²)	1347.3	1252.3	1350.4	1401.0	1954.1	706.2
K _{Ic} (ksi-in ^{1/2})	194.3	187.3	194.5	198.1	234.0	140.7



Table 4-2
(Continued)

Determination of Lower Bound Fracture Toughness of Casing Welds
for RCP 3B1 at 280°C – 320°C

	1/8; 316; Lot# D9525F316	3/32; 316- ELC, X-4997 Lot# 02914	3/32; X-4997; Lot# 02915	3/32; X-4997; Lot# 03052	3/32; 316; Lot# 03054	3/16; X-4979; Lot# 03063
Chemical Properties						
Cr	19.09	19.34	19.05	19.72	18.44	19.89
Si	0.36	0.48	0.43	0.41	0.46	0.53
Mo	2.33	2.44	2.87	2.88	2.38	2.81
Ni	12.42	12.42	9.39	9.45	13.35	10.29
C	0.02	0.023	0.02	0.02	0.036	0.036
Mn	1.97	1.59	1.67	1.7	1.52	1.7
N (assumed)	0.035	0.04	0.04	0.04	0.04	0.04
Cr _{eq}	17.1	17.5	17.7	18.4	16.6	18.6
Ni _{eq}	16.5	16.6	13.5	13.6	17.9	14.8
Ferrite (δ_c)	5.0	5.7	22.7	26.8	2.1	17.6
Φ	7.4	9.3	21.5	25.8	5.2	28.6
Cv _{sat} (J/cm ²) [Polynomial]	265.7	178.7	104.3	71.3	263.7	65.2
Cv _{sat} (J/cm ²) [Φ]	558.2	358.8	94.7	68.4	982.4	33.3
Minimum Cv _{sat} (J/cm ²)	265.7	178.7	94.7	68.4	263.7	33.3
C (J-R Curve Constant)	9085.9	7481.1	5481.7	4673.9	9053.3	3284.1
N (J-R Curve Exponent)	0.368	0.358	0.343	0.335	0.368	0.317
J _{1c} (in-lb/in ²)	2246.8	1818.7	1318.6	1126.1	2237.9	805.8
K _{1c} (ksi-in ^{1/2})	250.9	225.8	192.2	177.6	250.4	150.3

Table 4-2
(Continued)

Determination of Lower Bound Fracture Toughness of Casing Welds
for RCP 3B1 at 280°C – 320°C

	5/32; X-4979; Lot# 03063-A	3/16; X-4979; Lot# 02953	5/32; X-4979; Lot# 01830-B	5/32; X-4979; Lot# 01749-A	5/32; X-4979; Lot# 01734
Chemical Properties					
Cr	20.19	18.7	19.2	18.72	18.76
Si	0.54	0.47	0.44	0.44	0.52
Mo	2.79	2.84	2.87	2.84	3
Ni	9.92	9.78	10	9.85	9.66
C	0.038	0.038	0.052	0.062	0.071
Mn	1.64	1.5	1.5	1.45	1.57
N (assumed)	0.04	0.04	0.04	0.04	0.04
Cr _{eq}	18.8	17.4	17.9	17.4	17.6
Ni _{eq}	14.5	14.4	14.9	15.0	15.1
Ferrite (δ_c)	21.6	14.5	13.7	11.0	11.9
Φ	34.1	21.6	26.6	23.6	28.6
Cv _{sat} (J/cm ²) [Polynomial]	51.4	119.9	85.0	103.1	72.3
Cv _{sat} (J/cm ²) [Φ]	42.0	94.5	38.2	80.4	56.9
Minimum Cv _{sat} (J/cm ²)	42.0	94.5	38.2	80.4	56.9
C (J-R Curve Constant)	3679.1	5476.1	3511.1	5059.2	4271.2
N (J-R Curve Exponent)	0.323	0.343	0.320	0.339	0.330
J _{Ic} (in-lb/in ²)	895.7	1317.2	857.3	1217.2	1032.0
K _{Ic} (ksi-in ^{1/2})	158.4	192.1	155.0	184.7	170.1



Table 4-3

Summary of Stresses

Path Number	Axial Stress (ksi)						Hoop Stress (ksi)					
	Pressure		Heatup		Cooldown		Pressure		Heatup		Cooldown	
	Membrane	Bending	Membrane	Bending	Membrane	Bending	Membrane	Bending	Membrane	Bending	Membrane	Bending
1	3.857	0.69	-0.437	10.44	0.342	8.176	8.794	1.426	0.456	10.19	-0.17	8.039
2	1.727	7.443	-1.005	13.87	0.173	8.455	13.57	0.157	0.079	21.89	0.779	14.17
3	5.623	4.929	-0.076	22.23	-0.699	11.98	5.88	4.638	2.732	29.83	-1.43	17.85
4	7.397	13.16	-1.234	30.19	0.725	18.99	2.456	3.555	1.579	28.31	-0.323	17.21
5	6.127	6.467	-0.862	31.26	0.54	19.56	7.936	1.217	1.614	26.7	-1.033	16.97
6	4.626	8.507	1.417	18.13	-1.256	10.15	3.939	2.835	-1.189	32.47	1.859	18.03

Table 4-4

Thickness and Postulated Flaw Dimensions at Postulated Flaw Locations

Path Number	Wall Thickness	Flaw Depth (in)	Flaw Length (in)
1	4.0000	1.0000	6.0000
2	6.9120	1.7280	10.3680
3	8.4280	2.1070	12.6420
4	7.1307	1.7827	10.6961
5	7.0000	1.7500	10.5000
6	9.2343	2.3086	13.8515

Table 4-5

Comparison of Calculated and Allowable Stress Intensity Factors

Pressure + Heatup Axial Stress Case						
Path Number	Stress Intensity Factor (ksi $\sqrt{\text{in}}$)					
	2 x Pressure		Heatup		Total	Allowable
	Membrane	Bending	Membrane ⁽¹⁾	Bending		
1	15.05	1.78	0.00	13.49	30.32	140.7
2	8.86	25.28	0.00	23.56	57.70	140.7
3	31.84	18.49	0.00	41.70	92.03	140.7
4	38.53	45.41	0.00	52.09	136.03	140.7
5	31.62	22.11	0.00	53.44	107.17	140.7
6	27.42	33.40	4.20	35.60	100.62	140.7

Pressure + Heatup Hoop Stress Case						
Path Number	Stress Intensity Factor (ksi $\sqrt{\text{in}}$)					
	2 x Pressure		Heatup		Total	Allowable
	Membrane	Bending	Membrane ⁽¹⁾	Bending		
1	34.31	3.69	0.89	13.17	52.05	140.7
2	69.59	0.53	0.20	37.18	107.51	140.7
3	33.30	17.40	7.74	55.95	114.39	140.7
4	12.79	12.27	4.11	48.84	78.02	140.7
5	40.96	4.16	4.16	45.64	94.93	140.7
6	23.35	11.13	0.00	63.75	98.23	140.7

Pressure + Cooldown Axial Stress Case						
Path Number	Stress Intensity Factor (ksi $\sqrt{\text{in}}$)					
	2 x Pressure		Cooldown		Total	Allowable
	Membrane	Bending	Membrane ⁽¹⁾	Bending		
1	15.05	1.78	0.67	10.57	28.06	140.7
2	8.86	25.28	0.44	14.36	48.95	140.7
3	31.84	18.49	0.00	22.47	72.81	140.7
4	38.53	45.41	1.89	32.76	118.59	140.7
5	31.62	22.11	1.39	33.44	88.56	140.7
6	27.42	33.40	0.00	19.93	80.75	140.7

Pressure + Cooldown Hoop Stress Case						
Path Number	Stress Intensity Factor (ksi $\sqrt{\text{in}}$)					
	2 x Pressure		Cooldown		Total	Allowable
	Membrane	Bending	Membrane ⁽¹⁾	Bending		
1	34.31	3.69	0.00	10.39	48.38	140.7
2	69.59	0.53	2.00	24.07	96.19	140.7
3	33.30	17.40	0.00	33.48	84.18	140.7
4	12.79	12.27	0.00	29.69	54.75	140.7
5	40.96	4.16	0.00	29.01	74.13	140.7
6	23.35	11.13	5.51	35.40	75.39	140.7

⁽¹⁾Negative membrane stress intensity factors are conservatively assumed to be zero.



Table 4-6
Fatigue Crack Growth Evaluation Results

Path No.	Axial Flaw				Circumferential Flaw			
	Initial Flaw Size		Final Flaw Size		Initial Flaw Size		Final Flaw Size	
	Depth (a) (in)	a/t	Depth (a) (in)	a/t	Depth (a) (in)	a/t	Depth (a) (in)	a/t
1	0.4000	0.1000	0.4016	0.1004	0.4000	0.1000	0.4023	0.1006
2	0.6912	0.1000	0.7383	0.1068	0.6912	0.1000	0.7028	0.1017
3	0.8428	0.1000	0.9531	0.1131	0.8428	0.1000	0.8899	0.1056
4	0.7131	0.1000	0.7998	0.1122	0.7131	0.1000	0.8756	0.1228
5	0.7000	0.1000	0.7668	0.1095	0.7000	0.1000	0.8691	0.1242
6	0.9234	0.1000	1.2330	0.1335	0.9234	0.1000	0.9444	0.1023

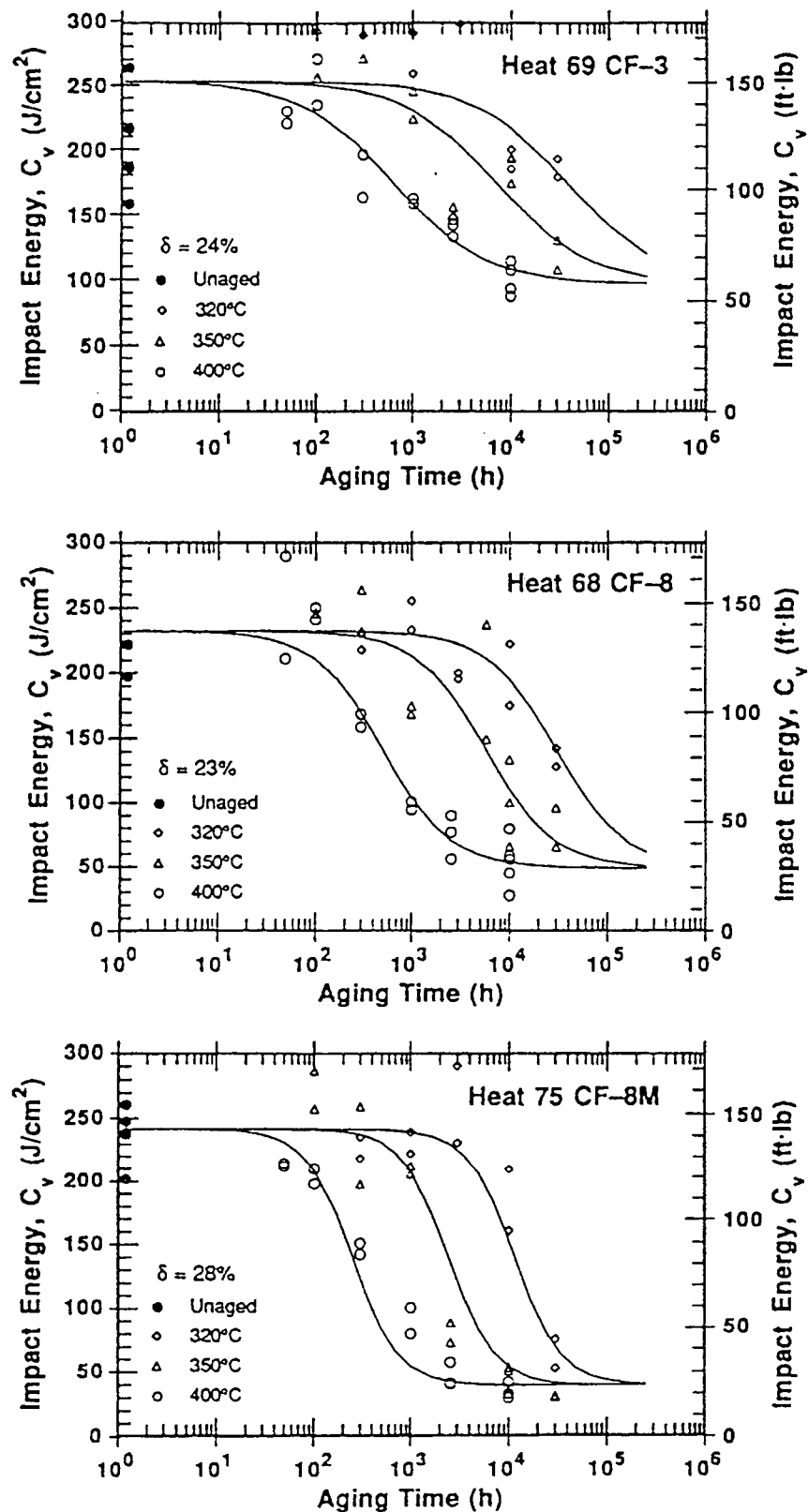


Figure 4-1. Effect of Thermal Aging on Room Temperature Impact Energy of CF3, CF8 and CF8M Cast Stainless Steel [10]



Figure 4-2. Microstructure of Solution Heat Treated Wrought Type 316 Stainless Steel



Figure 4-3. Microstructure of Solution Heat Treated Grade CF8 Stainless Steel Casting (Showing Ferrite Phase in Austenitic Matrix)

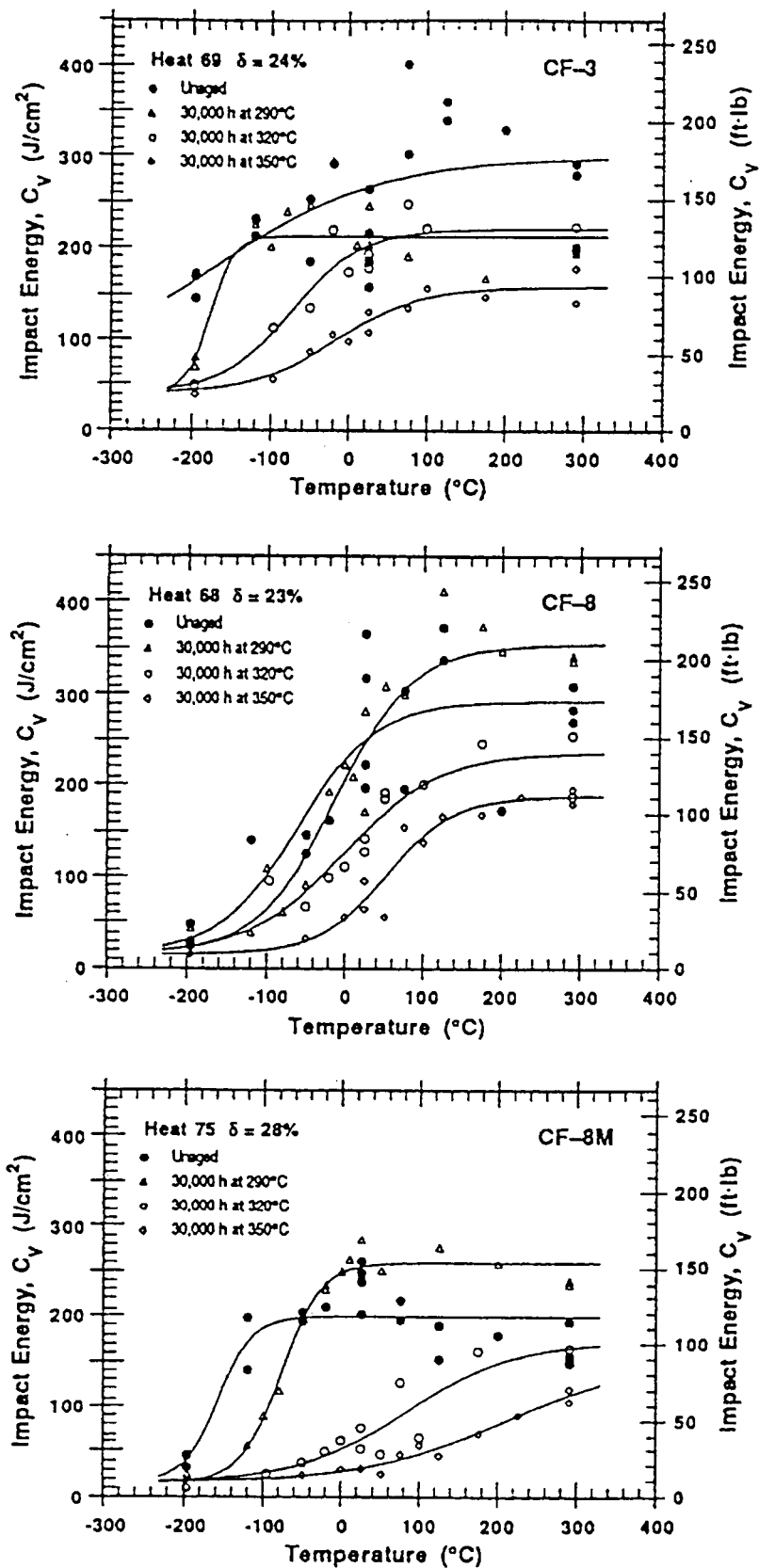


Figure 4-4. Effect of Temperature on Charpy Transition Curves of CF3, CF8 and CF8M Steels Aged for 30,000 hours [10]

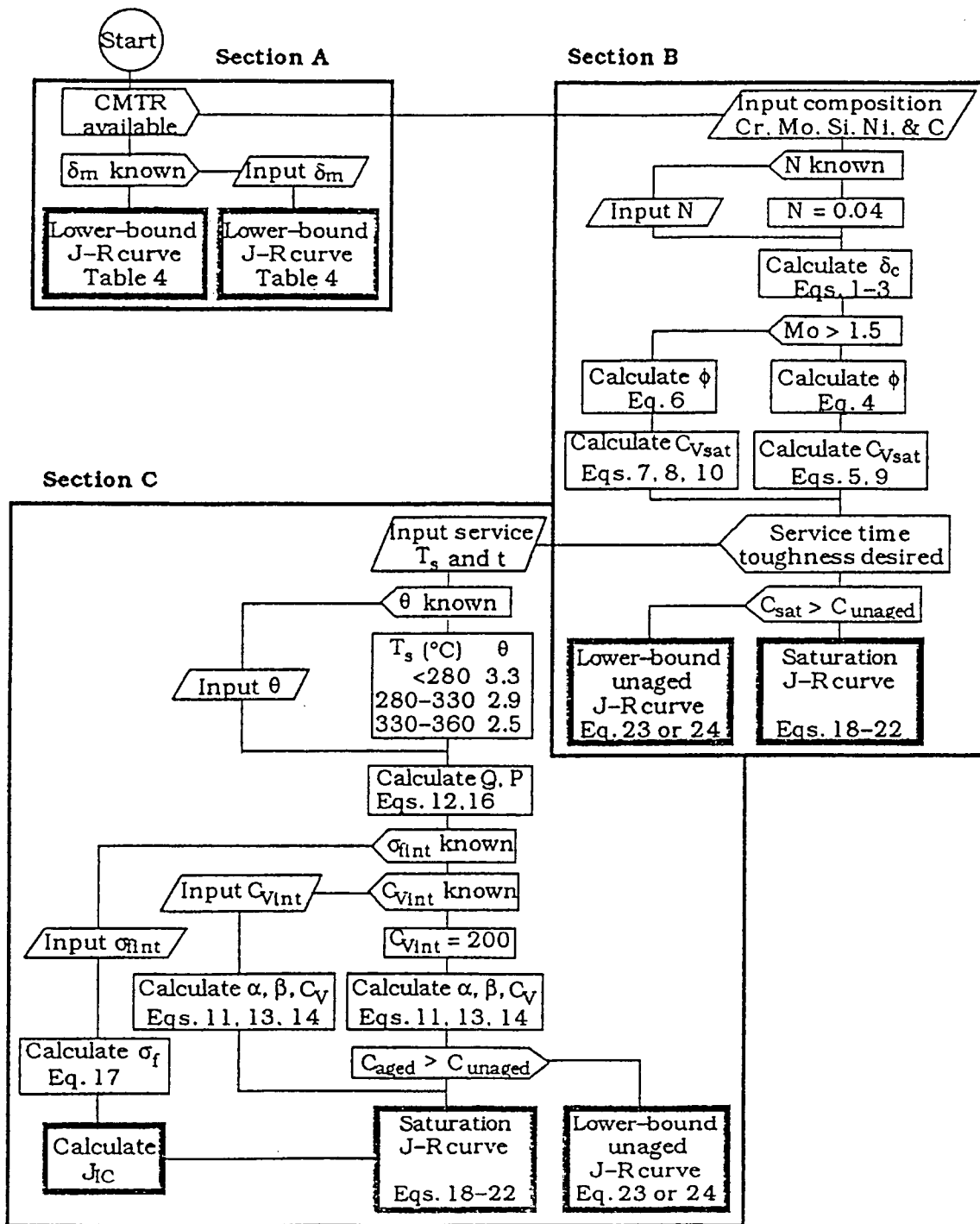


Figure 4-5. Flow Diagram for Estimating Mechanical Properties of Aged Cast Stainless Steels in LWR Systems [16]

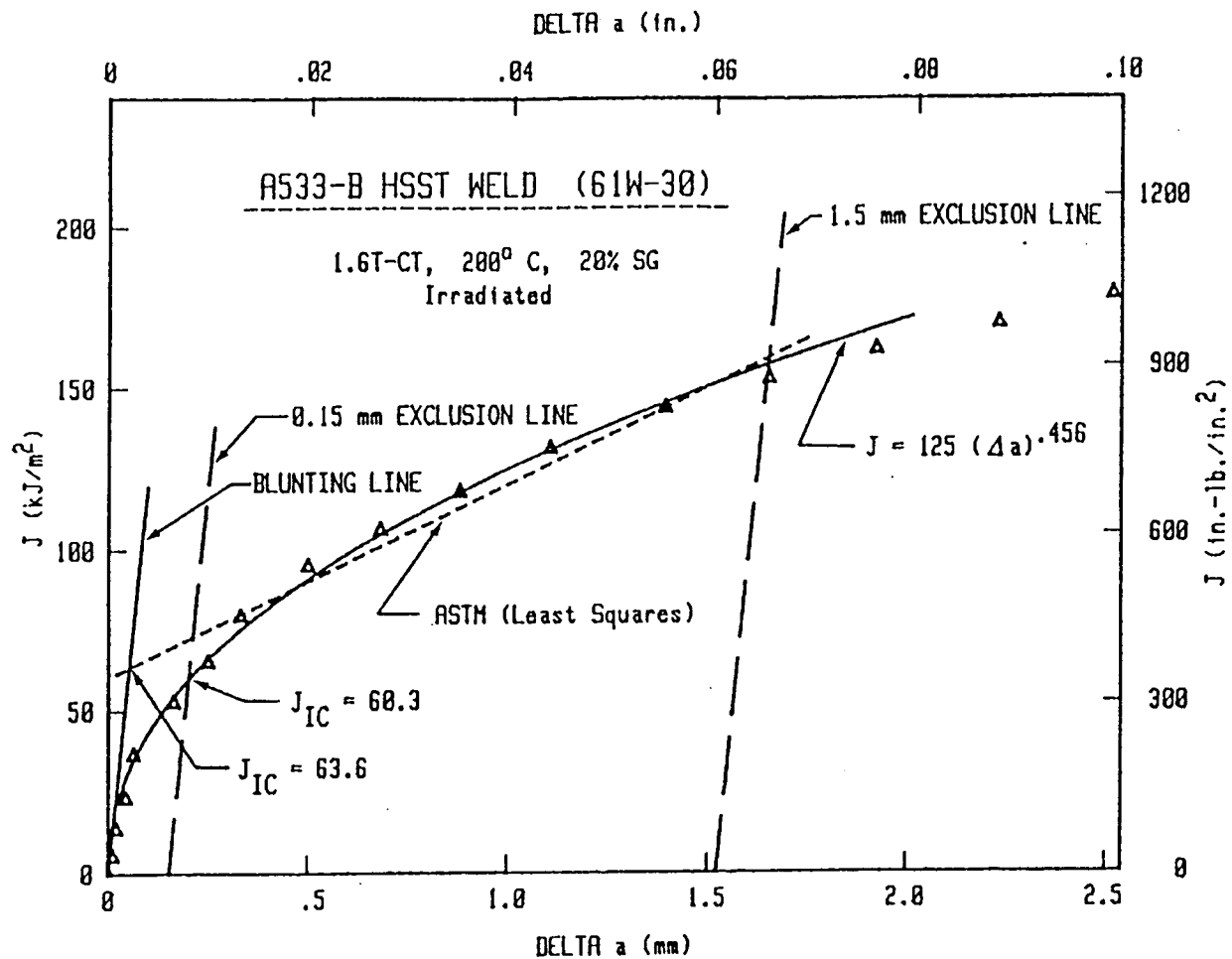


Figure 4-6. Example of a Typical J-R Curve and Determination of J_{IC} Using the ASTM E 813-81 Methodology [9]

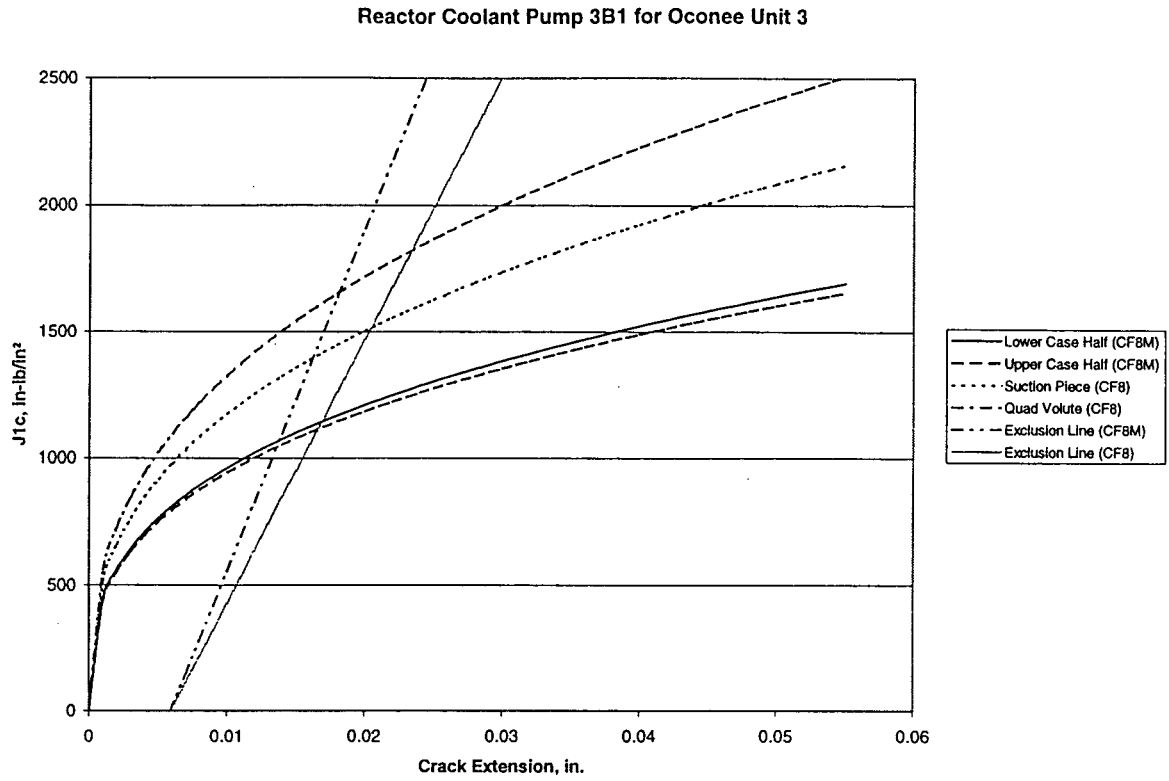


Figure 4-7. Determination of J_{Ic} for Oconee Unit 3 Reactor Coolant Pump 3B1 Casing



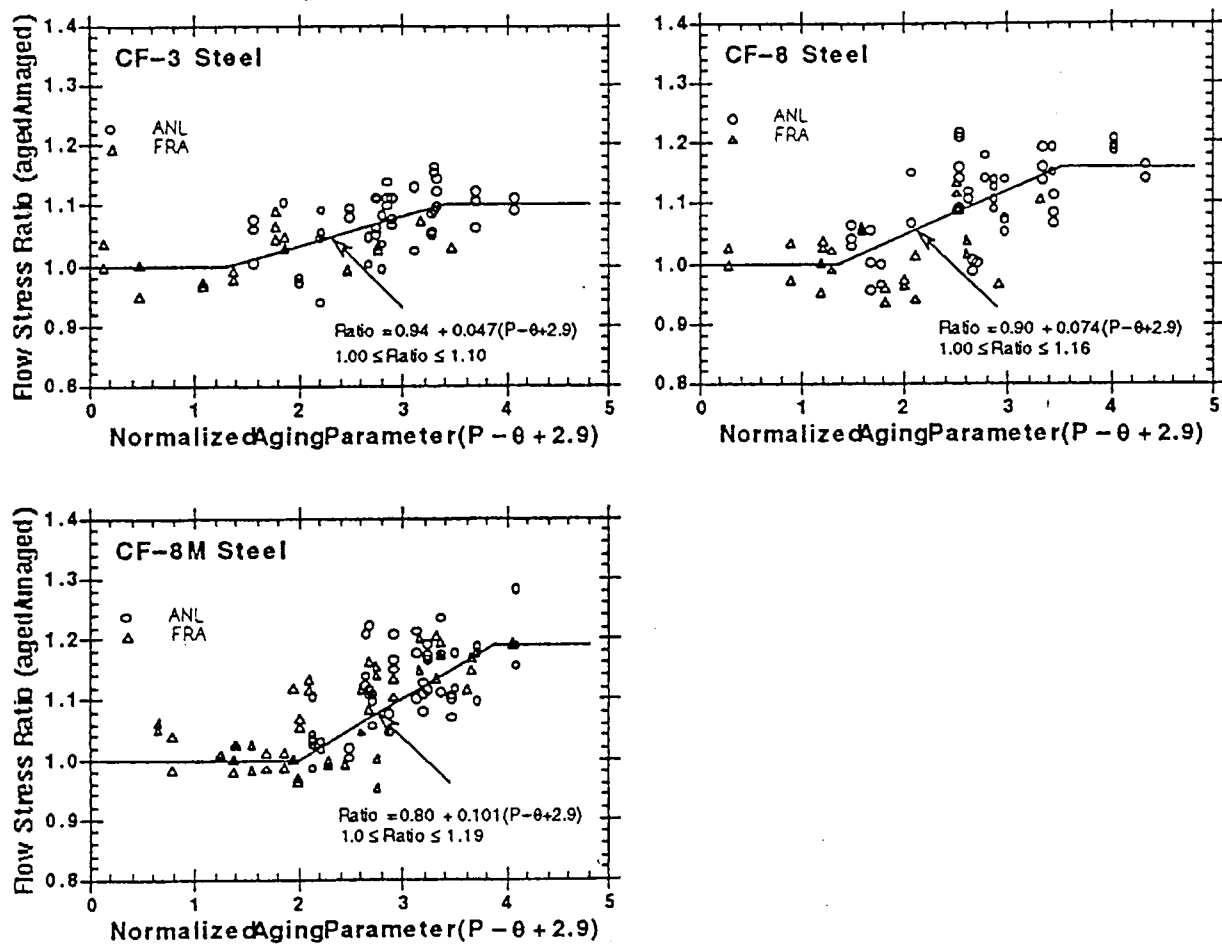


Figure 4-8. Flow Stress Ratio of Aged Cast Stainless Steels at Room Temperature as a Function of Normalized Aging Parameter [16]

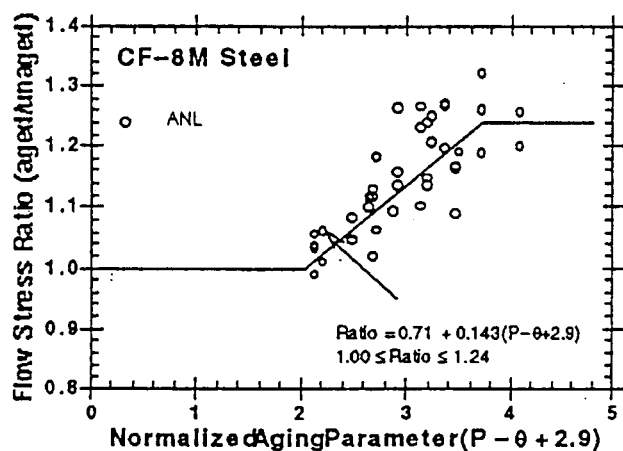
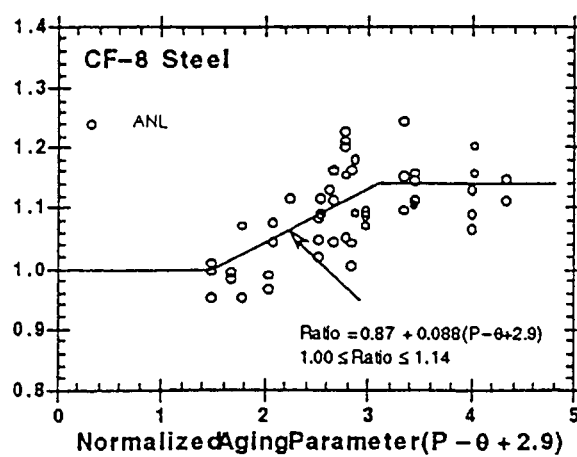
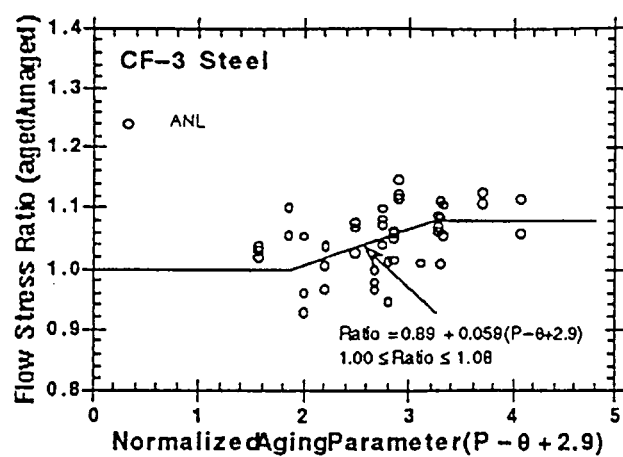


Figure 4-9. Flow Stress Ratio of Aged Cast Stainless Steels at 290°C as a Function of Normalized Aging Parameter [16]

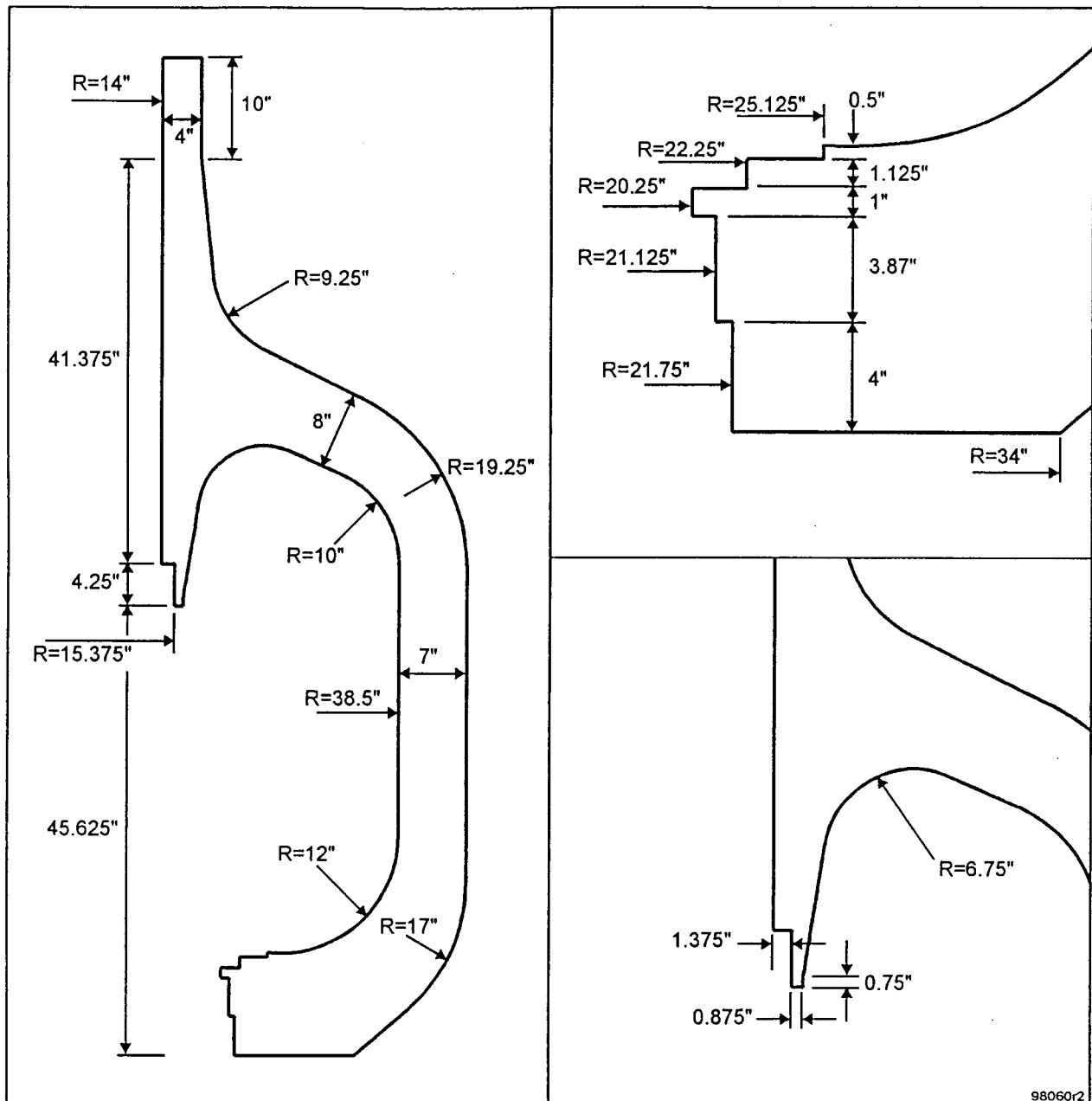


Figure 4-10. Dimensions Used for Finite Element Model for Oconee Unit 3 Pump Casing 3B1

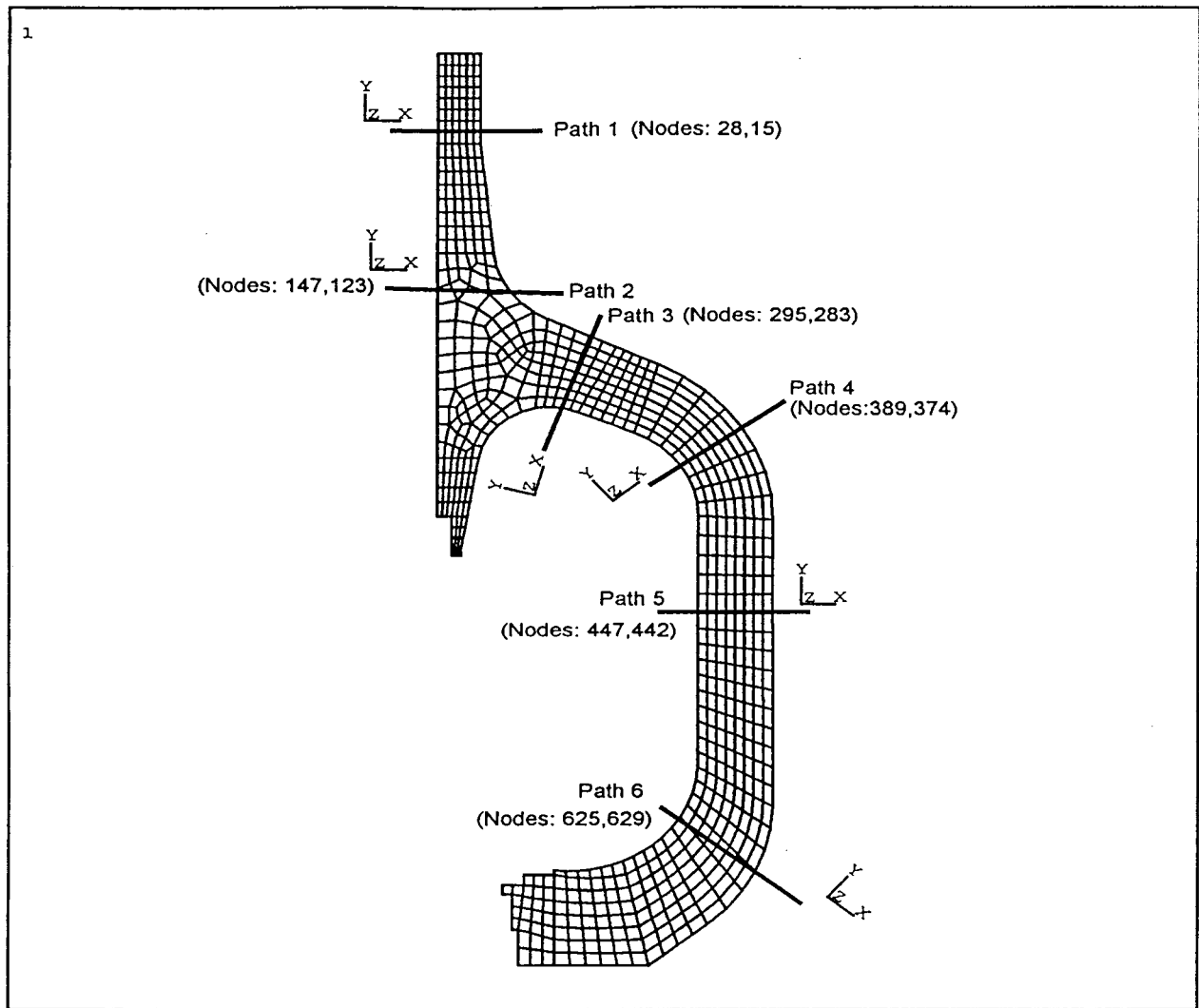


Figure 4-11. Overall Finite Element Model for Oconee Unit 3 Pump Casing 3B1

ANSYS 5.3
 MAR 25 1998
 14:31:29
 PLOT NO. 2
 NODAL SOLUTION
 STEP=1
 SUB =1
 TIME=1
 SINT (AVG)
 DMX =.038287
 SMN =479.987
 SMNB=40.916
 SMX =25975
 SMXB=27943
 479.987
 3313
 6146
 8978
 11811
 14644
 17477
 20310
 23142
 25975

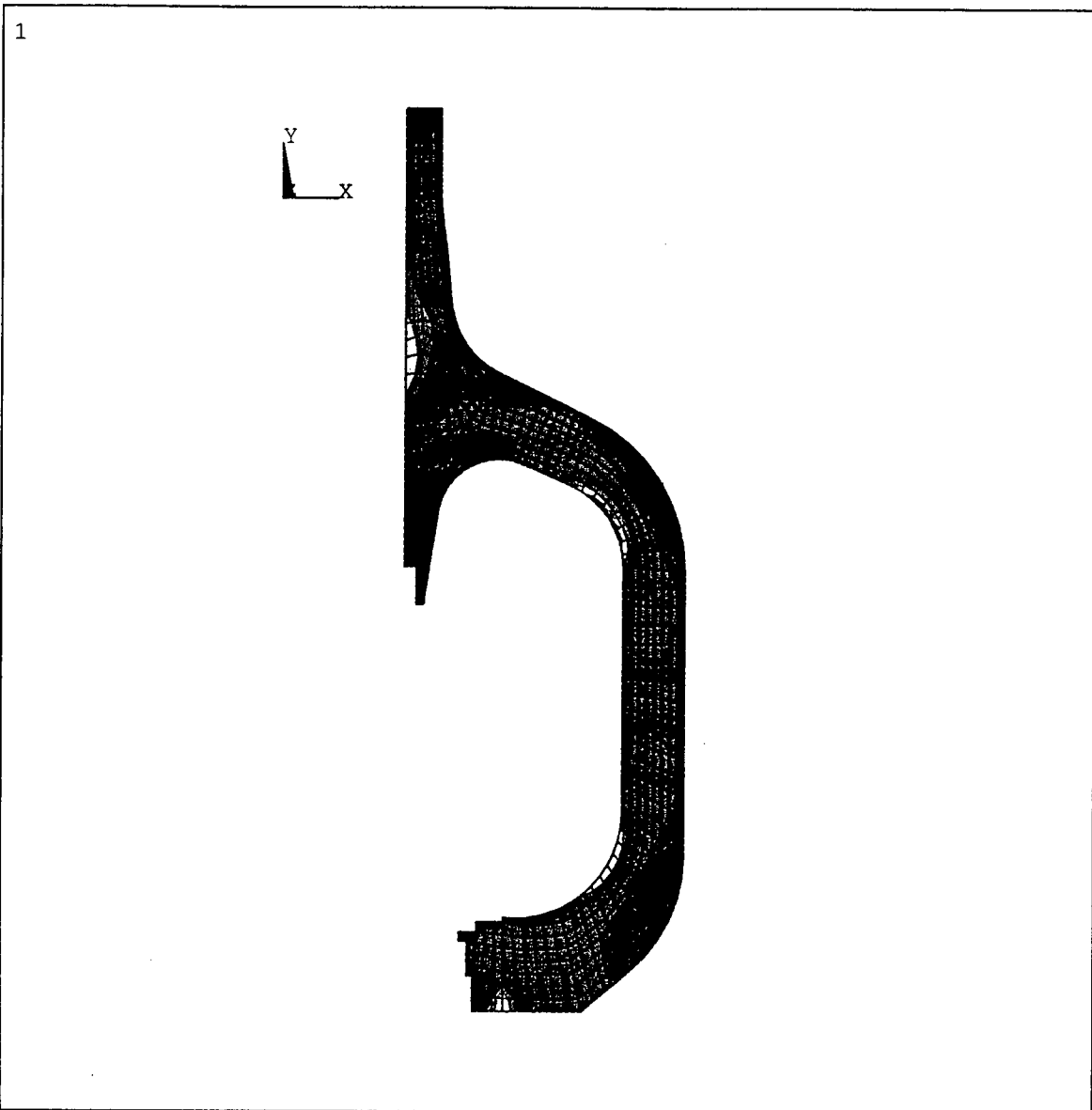
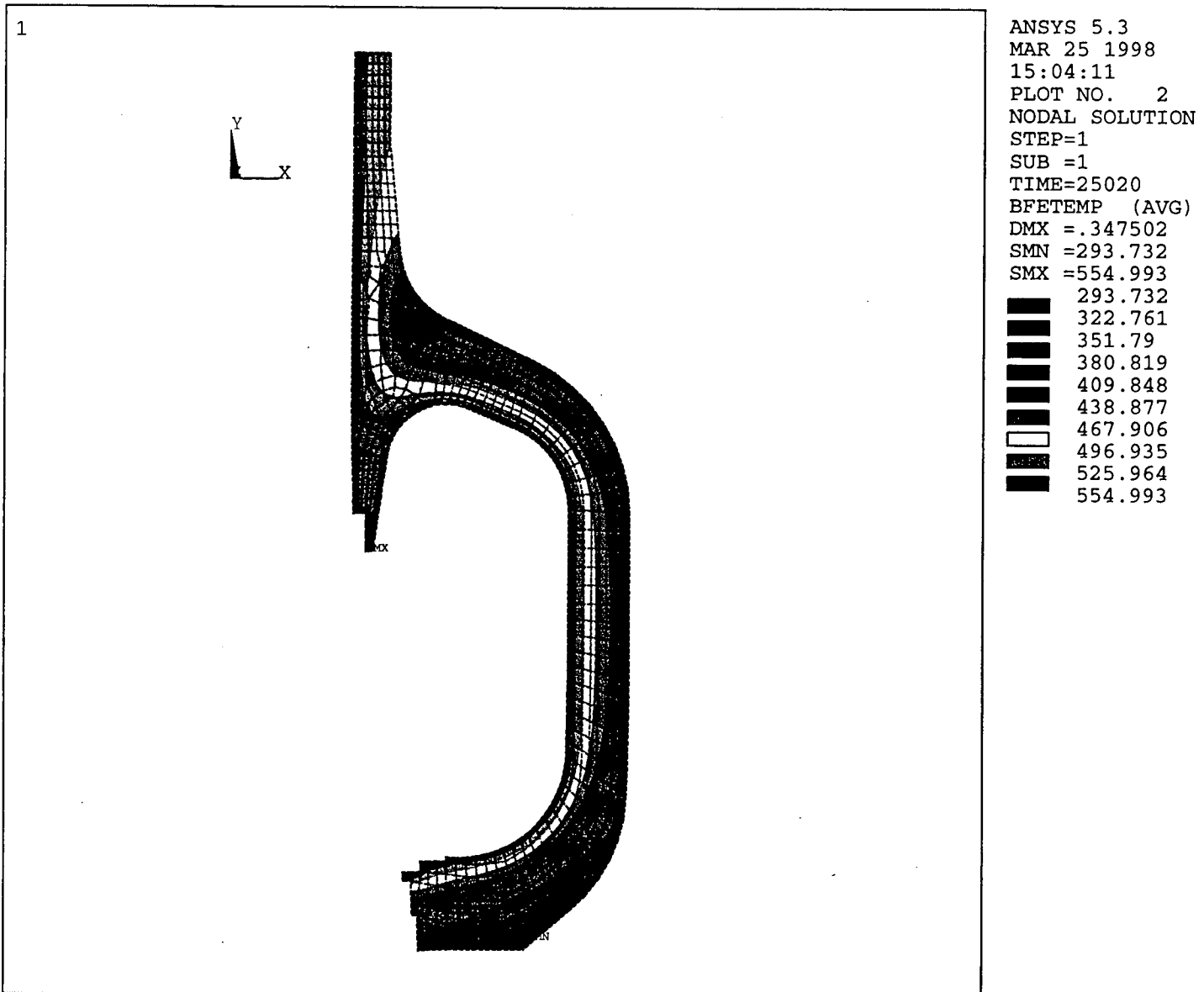


Figure 4-12. Stress Distribution Due to Internal Pressure of 2500 psig

Figure 4-13. Temperature Distribution at End of Heatup



ANSYS 5.3
 MAR 25 1998
 15:03:59
 PLOT NO. 1
 NODAL SOLUTION
 STEP=1
 SUB =1
 TIME=25020
 SINT (AVG)
 DMX =.347502
 SMN =660.564
 SMX =63479
 SMXB=69218
 660.564
 7640
 14620
 21600
 28580
 35560
 42539
 49519
 56499
 63479

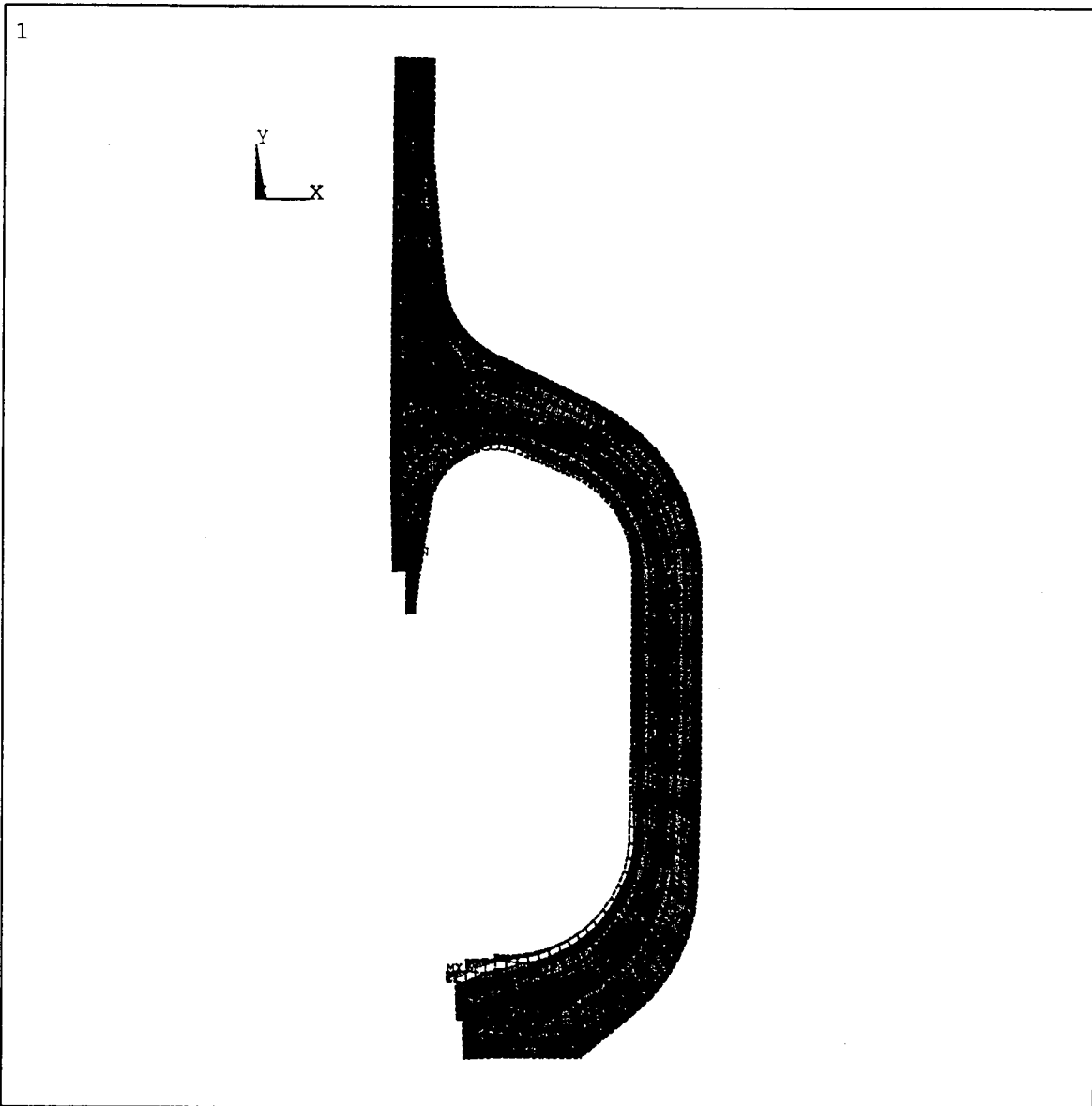


Figure 4-14. Stress Distribution at the End of Heatup

ANSYS 5.3
 MAR 25 1998
 15:08:12
 PLOT NO. 2
 NODAL SOLUTION
 STEP=13
 SUB =1
 TIME=9692
 BFTEMP (AVG)
 DMX =.289329
 SMN =280.051
 SMX =454.819
 280.051
 299.47
 318.888
 338.307
 357.726
 377.144
 396.563
 415.982
 435.4
 454.819

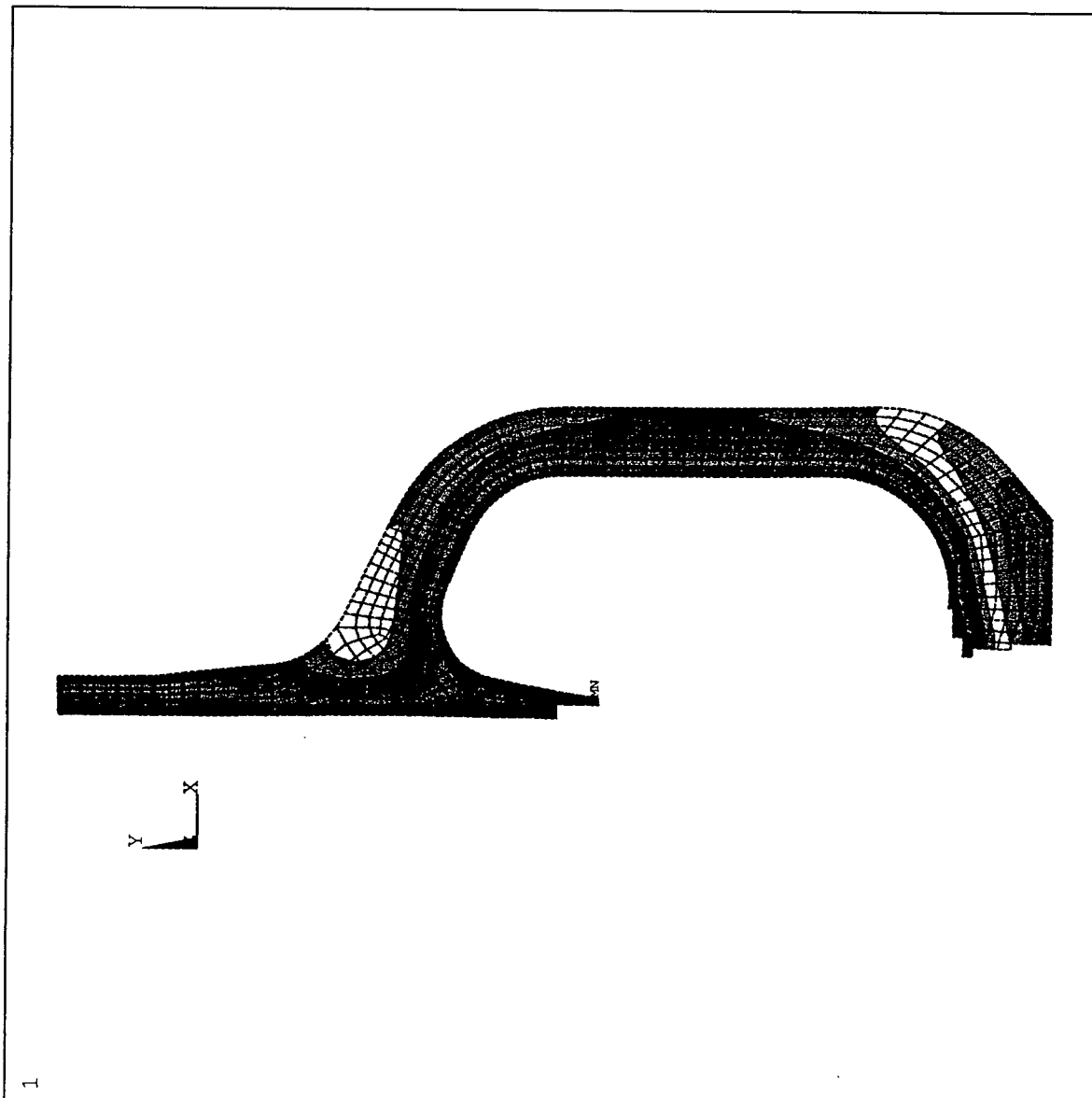


Figure 4-15. Temperature Distribution at Time = 9692 Seconds of Cooldown

ANSYS 5.3
 MAR 25 1998
 15:07:58
 PLOT NO. 1
 NODAL SOLUTION
 STEP=13
 SUB =1
 TIME=9692
 SINT (AVG)
 DMX =.289329
 SMN =595.078
 SMX =46004
 SMXB=50764
 595.078
 5640
 10686
 15731
 20777
 25822
 30868
 35913
 40958
 46004

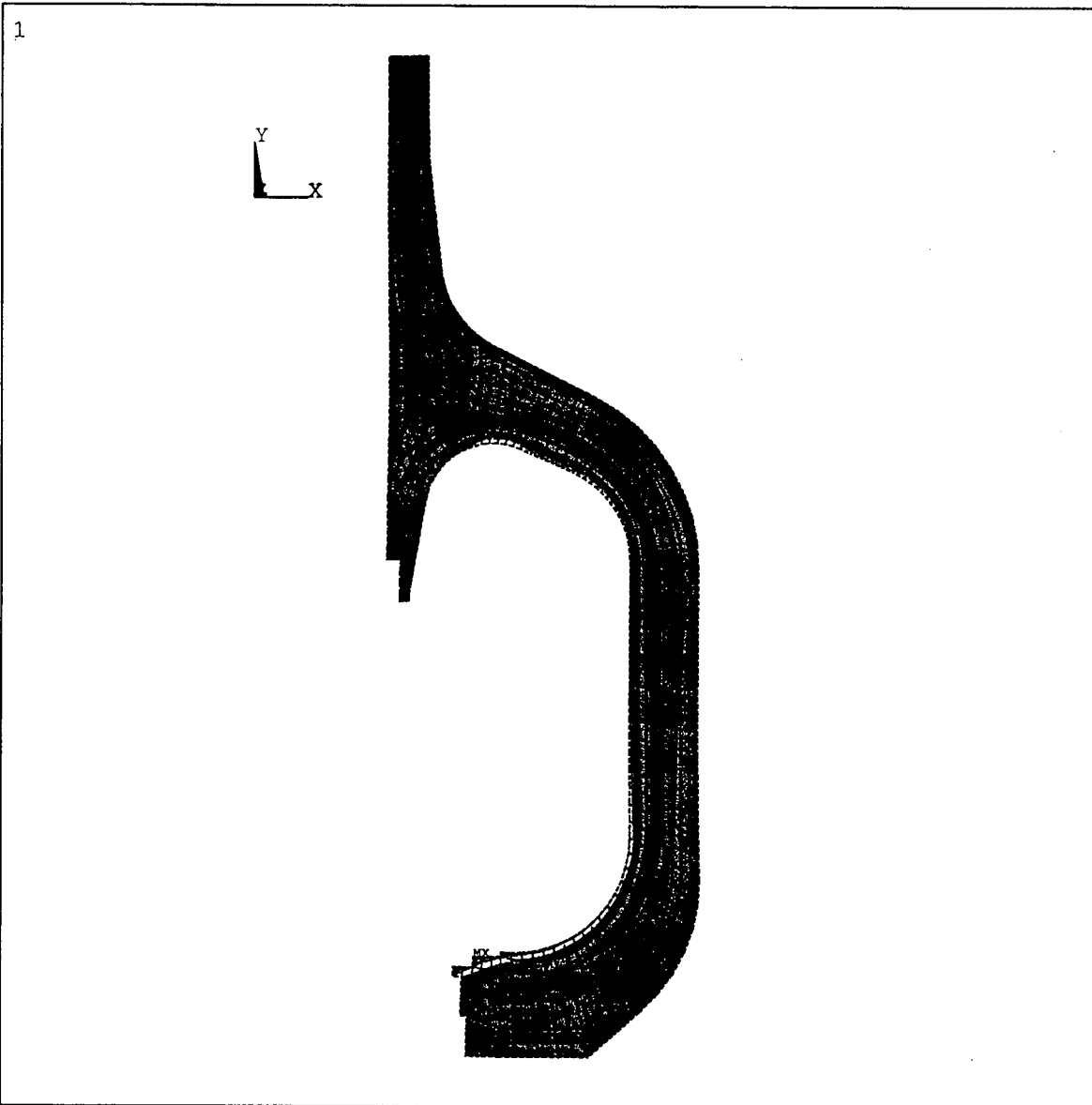


Figure 4-16. Stress Distribution Time = 9692 Seconds of Cooldown

2 Primary Outlet Nozzle

AREA SCANNED.

$$= \Delta 26A - \Delta 26A - \text{MISSO.}$$

$$4,37 = .5 \times 1.5$$

3.62" = AREA SCANNING.

lower
wash

AREA CALC FOR INNER ZONE

6.0 x .5 = 3.0

$$\frac{\pi \times 2^2}{4} - \frac{\pi \times 1.5^2}{4} = 1.57 \text{ sq in}$$

total	41.37 sq in
-------	-------------

TITLE: INNER RADIUS AREA CALC.

ITEM #: 803,140:003

Page 4 of 4

BY: James S. Sigafoos Level III
DATE: 11-21-95

DATE: 11.21.95

DUKE POWER COMPANY Limited Examination Coverage Worksheet						NDE-91-1	
						Revision 0	
Examination Volume/Area Defined							
<input type="checkbox"/> Base Metal <input type="checkbox"/> Weld <input type="checkbox"/> Near Surface <input type="checkbox"/> Bolting <input checked="" type="checkbox"/> Inner Radius							
Area Calculation				Volume Calculation			
Area = 4.37" sq. in.				Volume = 124" x 4.37 sq. in. = 542 cu. in.			
Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
1	60°	cw & ccw	3.62	66	239	542	44.10

Item No: B03.140.003		
Prepared By: Jay A Eaton	Level: II	Date: 11/16/98
Reviewed By: Gary Moss	Level: II	Date: 11-16-98

SHEET 3 OF 4

DUKE POWER COMPANY ISI LIMITATION REPORT				FORM NDE-UT-4
Item No: B03.140.003				Revision 1
Component/Weld ID: 3-SGB-WG50-2		Remarks:		
<input checked="" type="checkbox"/> NO SCAN <input type="checkbox"/> LIMITED SCAN FROM L _____ to L _____ ANGLE: <input checked="" type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 <input type="checkbox"/> Other _____		BEAM DIRECTION <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> cw <input type="checkbox"/> ccw INCHES FROM WO _____ C/L _____ to _____ Beyond _____ FROM _____ 0 _____ DEG to _____ 360 _____ DEG		
<input type="checkbox"/> NO SCAN <input checked="" type="checkbox"/> LIMITED SCAN FROM L _____ 96" _____ to L _____ 24" _____ ANGLE: <input checked="" type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 <input type="checkbox"/> Other _____		BEAM DIRECTION <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> cw <input type="checkbox"/> ccw INCHES FROM WO _____ C/L _____ to _____ 11" _____ FROM _____ _____ DEG to _____ _____ DEG		
<input type="checkbox"/> NO SCAN <input type="checkbox"/> LIMITED SCAN FROM L _____ to L _____ ANGLE: <input type="checkbox"/> 0 <input type="checkbox"/> 45 <input type="checkbox"/> 60 <input type="checkbox"/> Other _____		BEAM DIRECTION <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> cw <input type="checkbox"/> ccw INCHES FROM WO _____ to _____ FROM _____ _____ DEG to _____ _____ DEG		
<input type="checkbox"/> NO SCAN <input type="checkbox"/> LIMITED SCAN FROM L _____ to L _____ ANGLE: <input type="checkbox"/> 0 <input type="checkbox"/> 45 <input type="checkbox"/> 60 <input type="checkbox"/> Other _____		BEAM DIRECTION <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> cw <input type="checkbox"/> ccw INCHES FROM WO _____ to _____ FROM _____ _____ DEG to _____ _____ DEG		
Prepared By: Larry Mauldin Reviewed By: Jay A Eaton		Date: 11/16/98 Level: III Sketch(s) attached <input checked="" type="checkbox"/> yes <input type="checkbox"/> no Sheet 2 of 4 Date: 11-23-98		

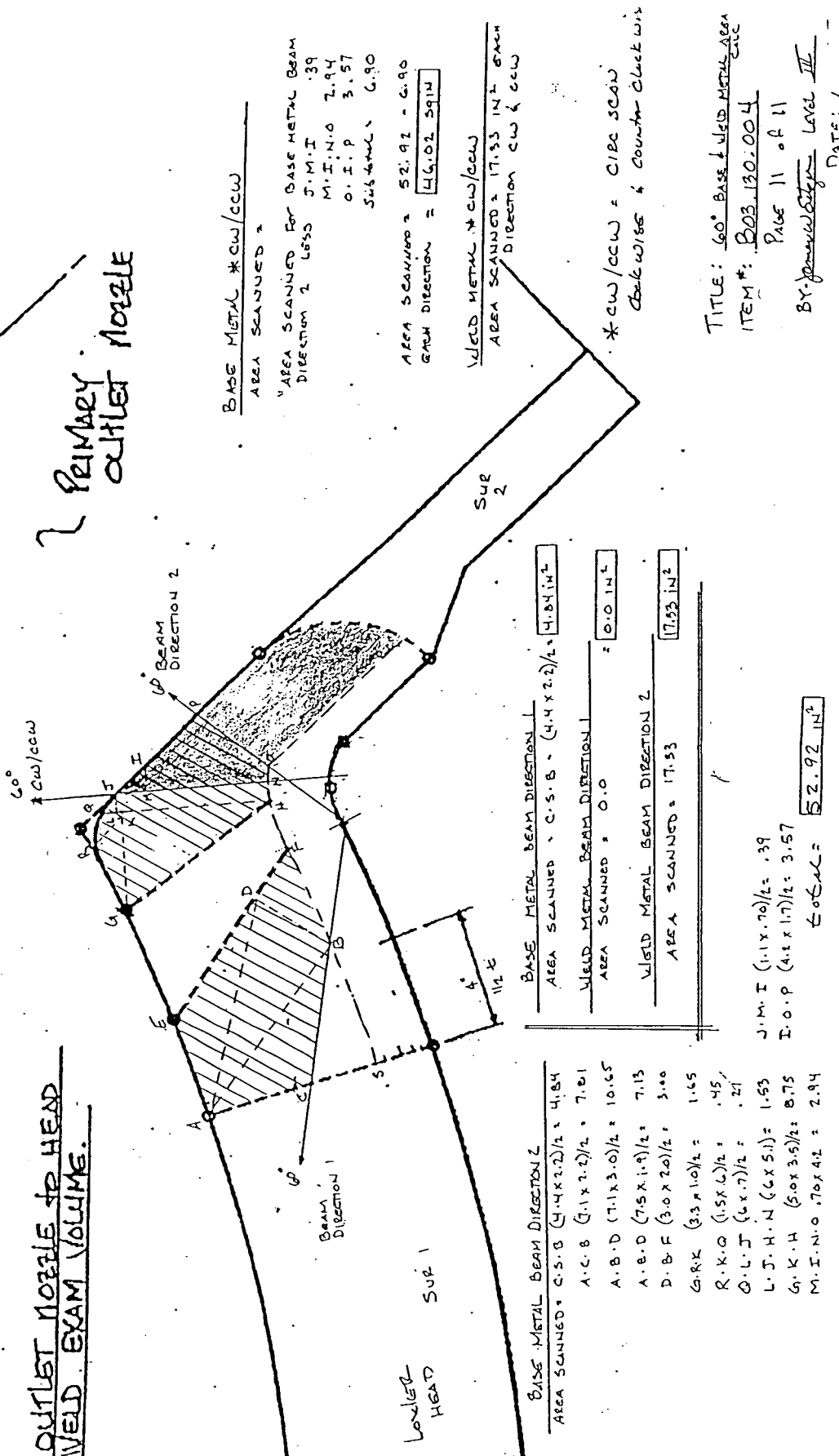
DUKE POWER COMPANY										Exam Start: 0943		Form NDE-UT-2A	
ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS										Exam Finish: 1022		Revision 4	
Station: Oconee			Unit: 3		Component/Weld ID: 3-SGB-WG50-2					Date: 11/7/98			
Weld Length (in.): N/A			Surface Condition: As Ground			Lo: 9.2.3		Surface Temperature: 75 ° F					
Examiner: Winfred C. Leeper			Level: II		Scans: 45 <input type="checkbox"/> _____ dB 70 <input type="checkbox"/> _____ dB 45T <input type="checkbox"/> _____ dB 70T <input checked="" type="checkbox"/> 82 dB 60 <input type="checkbox"/> _____ dB 60T <input checked="" type="checkbox"/> 69 dB Other: _____ dB					Pyrometer S/N: MCNDE 27017			
Examiner: Larry Mauldin			Level: III							Cal Due: 2/12/99			
Procedure: NDE-680 Rev: 1			FC: N/A							Configuration: Inner Radius			
Calibration Sheet No: 9803092, 9803093										N/A Flow N/A			
										N/A to N/A			
										Scan Surface: OD			
										Applies to NDE-680 only			
										Skew Angle: 20.5°			

IND #	4	Max % Ref	Mp Max	W Max	L Max	L1	L2	W1	Mp1	W2	Mp2	Beam Dir.	Exam Surf.	Scan	Damps
		DO NOT WRITE IN THIS SPACE				20%dac HMA	20%dac HMA	20%dac HMA	20%dac HMA	20%dac HMA	20%dac HMA		DO NOT WRITE IN THIS SPACE		
						50%dac	50%dac	50%dac	50%dac	50%dac	50%dac				
						100%dac	100%dac	100%dac	100%dac	100%dac	100%dac				
NRI	60°														
NRI	70°														

Remarks:			
Limitations: (see NDE-UT-4) <input checked="" type="checkbox"/> 90% or greater coverage obtained: yes <input checked="" type="checkbox"/> no <input checked="" type="checkbox"/>		Sheet 1 of 4	
Reviewed By: Jay A Eaton	Level: II	Date: 11/16/98	Authorized Inspector: <i>MBC</i> Date: 11-25-98
		Item No: B03.140.003	

OUTLET NOZZLE TO HEAD
WELD EXAM VOLUME.

PRIMARY
OUTLET NOZZLE



BASE METAL BEAM DIRECTION 2

AREA SCANNED = C.S.B (4.4 x 2.2)/2 =	4.84
A.C.B (7.1 x 2.2)/2 =	7.81
A.B.D (7.1 x 3.0)/2 =	10.65
A.B.D (7.5 x 1.9)/2 =	7.13
D.B.F (3.0 x 2.0)/2 =	3.00
G.R.K (3.3 x 1.0)/2 =	1.65
R.K.O (1.5 x .6)/2 =	.45
O.L.J (6 x .7)/2 =	.21
L.J.H.N (6 x 5.1)/2 =	1.53
G.K.H (3.0 x 3.5)/2 =	8.75
M.I.N.O (7.0 x 4.2)/2 =	2.94

BASE METAL BEAM DIRECTION 1

AREA SCANNED = C.S.B = (4.4 x 2.2)/2 =	4.84 in ²
WELD METAL BEAM DIRECTION 1	
AREA SCANNED = 0.0	0.0 in ²
WELD METAL BEAM DIRECTION 2	
AREA SCANNED = 17.53	17.53 in ²

J.M.I (1.1 x .70)/2 = .39
I.O.P (4.2 x 1.7)/2 = 3.57
TOTAL = 52.92 in²

BASE METAL * CW/CCW
AREA SCANNED =

AREA SCANNED FOR BASE METAL BEAM
DIRECTION 2 LOSS

J.M.I	.39
M.I.N.O	2.94
O.I.P	3.57
SUB TOTAL	6.90

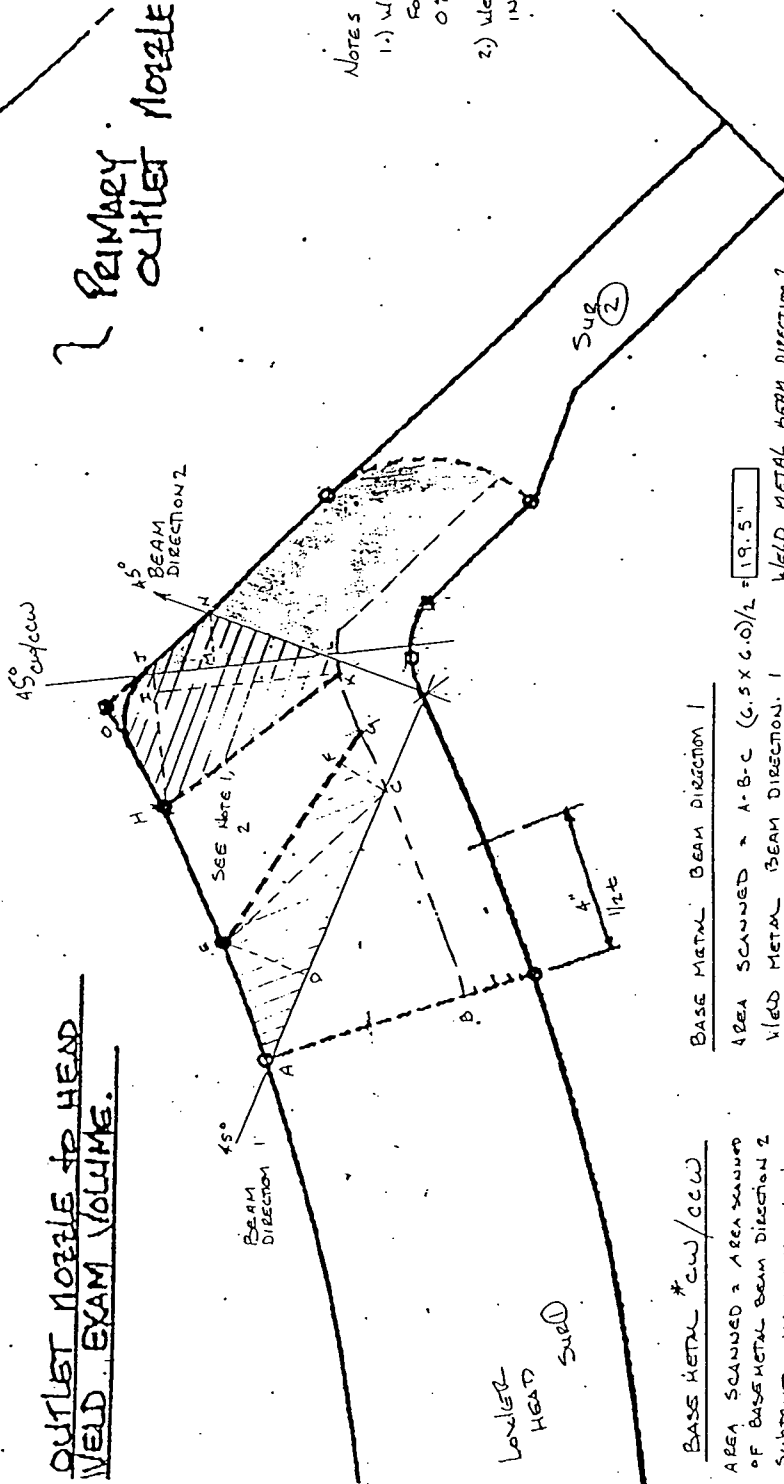
AREA SCANNED = 52.92 - 6.90
EACH DIRECTION = 46.02 sq in

WELD METAL * CW/CCW
AREA SCANNED = 17.53 in² EACH
DIRECTION CW & CCW

* CW/CCW = CIRC SCAN
Clockwise & Counter Clockwise

TITLE: 60° BASE & WELD METAL AREA
ITEM #: B03.130.004
Page 11 of 11
BY: James W. Steyer Level III
Date: / /

OUTLET NOZZLE TO HEAD
WELD EXAM VOLUME.



- Notes:
- 1.) Weld area received 100% for beam direction 2 & 0% for beam direction 1.
 - 2.) Weld also received 100% in CW & CCW direction.

BASE METAL BEAM DIRECTION 1
AREA SCANNED = A-B-C (6.5 X 6.0) / 2 = 19.5"
WELD METAL BEAM DIRECTION 1
AREA SCANNED = 0.0"
BASE METAL BEAM DIRECTION 2
AREA SCANNED = 17.33 in Sq.

BASE METAL # CW/CCW
AREA SCANNED = AREA SCANNED OF BASE METAL BEAM DIRECTION 2
SUBTRACT MIN 142 sq in & MIN 285 sq in
3.67 #/52.20

AREA SCANNED = 52.20 - 3.67
EXAM DIRECTION = 48.53 sq in
CW & CCW

* CIRC SCANS clockwise

TITLE: 45° WELD & BASE AREA
ITEM #: B03.130.004
PAGE 10 of 11
BY: [Signature]
DATE: 11.21.95

WELD: 52.20 Sq. in.

Penney. Nozzle

6° WARD METAL

17.53 IN2

0° BASE METAL

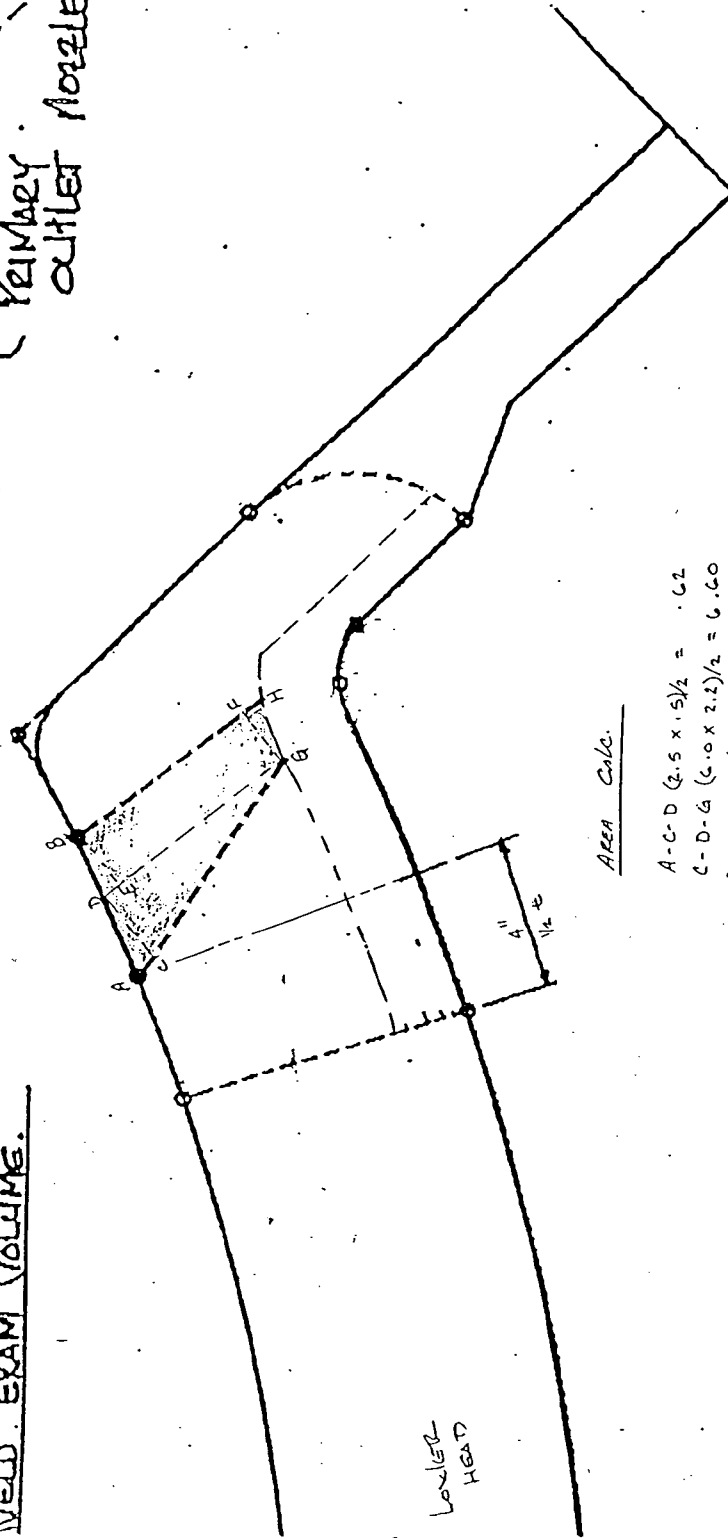
A.B.J.I $6.0 \times 4.0 = 24.0$
 B.I.H $(6.0 \times 3.7)/2 = 11.1$
 C.G.D $(6.0 \times 2.8)/2 = 8.4$
 G.F.D.E $(5.9 \times .40)/2 = 1.18$

total: 44.68 in^2

Lowler
Hest

OUTLET NOZZLE TO HEAD
VELD EXAM VOLUME.

PRIMARY
OUTLET NOZZLE



AREA Calc.

$$\begin{aligned} A-C-D &= (2.5 \times .5)/2 = .62 \\ C-D-G &= (2.0 \times 2.2)/2 = 2.20 \\ D-E-B &= (1.7 \times .5)/2 = .42 \\ E-B-G-F &= 5.4 \times 1.7 = 9.18 \\ F-G-H &= (1.7 \times .6)/2 = .51 \end{aligned}$$

$$\text{TOTAL} = 17.93 \text{ sq. in.}$$

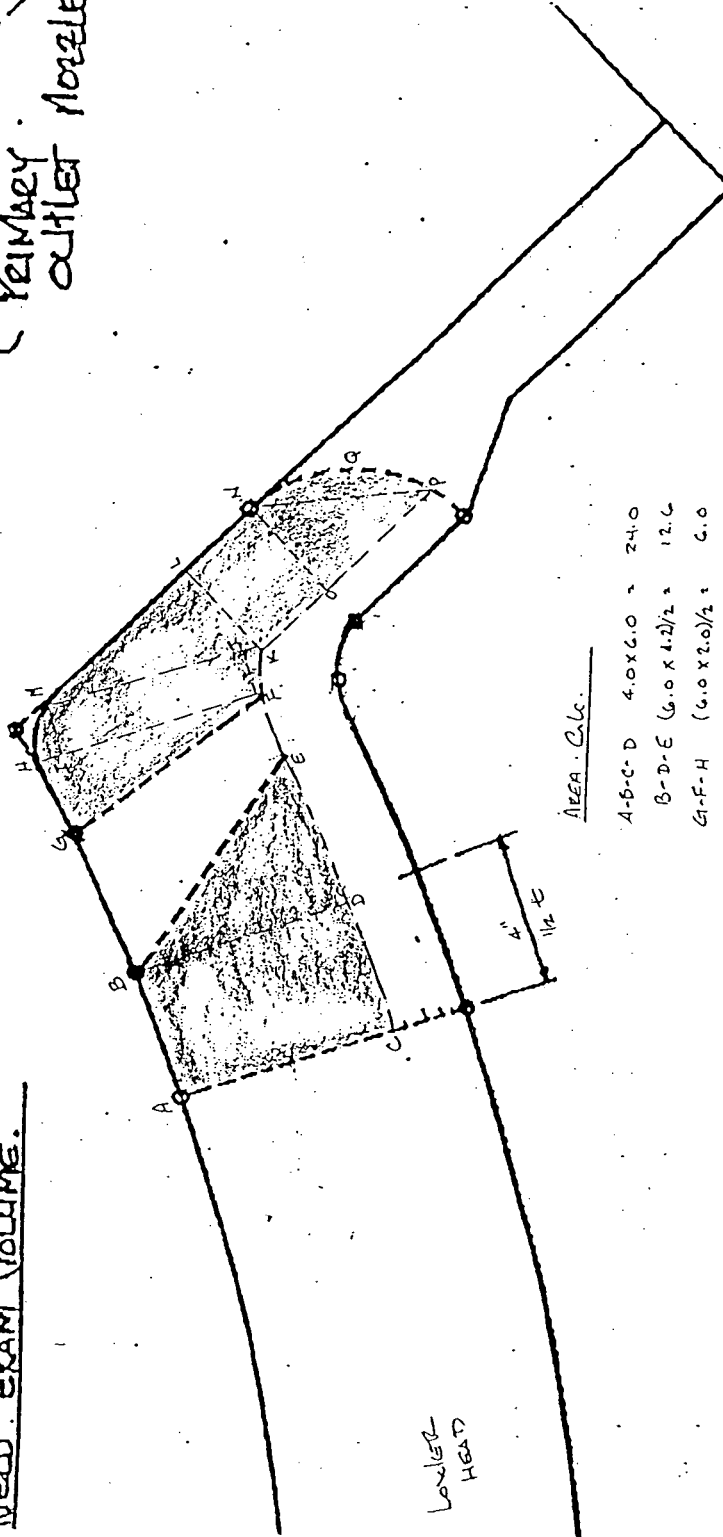
TITLE: VELD METAL AREA Calc.
ITEM #: B03.130.004

PAGE 8 of 11

BY: JAMES W. STILES LEVEL III
DATE: 11.21.95

OUTLET NOZZLE TO HEAD
VELD. EXAM VOLUME.

Primary
OUTLET NOZZLE



LOWER
HEAD

AREA. Calc.

A-B-C-D	$4.0 \times 6.0 = 24.0$
B-D-E	$(6.0 \times 4.2)/2 = 12.6$
G-F-H	$(6.0 \times 2.0)/2 = 6.0$
H-I-M	$(1.4 \times 1.0)/2 = .70$
I-M-F-J	$1.4 \times 5.3 = 7.42$
M-K-L	$(3.0 \times 5.0)/2 = 7.50$
K-L-O-N	$2.4 \times 3.0 = 7.20$
O-N-P	$(3.0 \times 3.9)/2 = 5.85$
N-P-Q	$(.80 \times 5.0)/2 = 2.00$

total

73.27 sq. in.

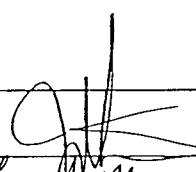
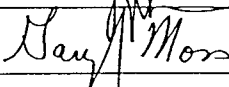
TITLE: BASE METAL AREA Calc.

ITEM #: B03.130.00.4

PAGE 7 of 11


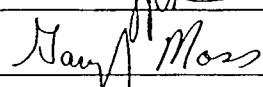
BY: Jamie W. Stiles Level III
DATE: 11-21-95

DUKE POWER COMPANY						NDE-91-1	
Limited Examination Coverage Worksheet						Revision 0	
Examination Volume/Area Defined							
<input checked="" type="checkbox"/> Base Metal <input type="checkbox"/> Weld <input type="checkbox"/> Near Surface <input type="checkbox"/> Bolting <input type="checkbox"/> Inner Radius							
Area Calculation				Volume Calculation			
Area = 73.27 sq. in.				Volume = 124" x 73.27 = 9085 cu. in.			
Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
N/A	0	N/A	44.68	94	4199	9085	46.22
AXIAL	45	S1	19.5	94	1833	9085	20.18
AXIAL	45	S2	52.20	94	4906	9085	54.00
AXIAL	60	S1	4.84	66	319	9085	3.51
AXIAL	60	S2	52.92	66	3492	9085	38.44
CIRC	45	CW	48.53	94	4561	9085	50.20
CIRC	45	CCW	48.53	94	4561	9085	50.20
CIRC	60	CW	46.02	66	3037	9085	33.43
CIRC	60	CCW	46.02	66	3037	9085	33.43

		Item No:	B03.130.004
Prepared By: Jay A Eaton		Level: II	Date: 11/16/98
Reviewed By: Gary Moss		Level: II	Date: 11-17-98

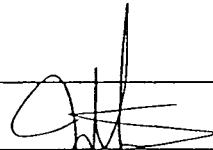
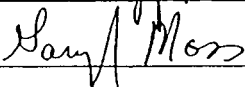
SHEET 6 OF 11

DUKE POWER COMPANY						NDE-91-1	
Limited Examination Coverage Worksheet						Revision 0	
Examination Volume/Area Defined							
<input type="checkbox"/> Base Metal <input checked="" type="checkbox"/> Weld <input type="checkbox"/> Near Surface <input type="checkbox"/> Bolting <input type="checkbox"/> Inner Radius							
Area Calculation				Volume Calculation			
Area = 17.33 sq. in.				Volume = 124" x 17.33 = 2149 cu. in.			
Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
N/A	0	N/A	17.33	94	1629.02	2149	75.80
AXIAL	45	S1	0.0	66	0	2149	0.00
AXIAL	45	S2	17.33	66	1629.02	2149	75.80
AXIAL	60	S1	0.0	66	0	2149	0.00
AXIAL	60	S2	17.33	66	1143.78	2149	53.22
CIRC	60	S1	17.33	66	1143.78	2149	53.22
CIRC	60	S2	17.33	66	1143.78	2149	53.22
CIRC	45	S1	17.33	94	1629.02	2149	75.80
CIRC	45	S2	17.33	94	1629.02	2149	75.80

			Item No: B03.130.004
Prepared By: Jay A Eaton		Level: II	Date: 11/16/98
Reviewed By: Gary Moss		Level: II	Date: 11-17-98

SHEET 5 OF 11

DUKE POWER COMPANY Limited Examination Coverage Worksheet						NDE-91-1 Revision 0	
Examination Volume/Area Defined							
<input checked="" type="checkbox"/> Base Metal <input checked="" type="checkbox"/> Weld <input type="checkbox"/> Near Surface <input type="checkbox"/> Bolting <input type="checkbox"/> Inner Radius							
Area Calculation				Volume Calculation			
SEE ATTACHED SHEET				SEE ATTACHED SHEET			
Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
					29945	81765	36.62
					9947.42	19341	51.43
		TOTAL	AGGREGATE	COVERAGE	39892.42	101106	39.46

			Item No:	B03.130.004
Prepared By: Jay A Eaton		Level:	II	Date: 11/16/98
Reviewed By: Gary Moss		Level:	II	Date: 11-17-98

SHEET 4 OF 11

DUKE POWER COMPANY ISI LIMITATION REPORT

FORM NDE-UT-4

Revision 1

Component/Weld ID: 3-SGB-WG50-1

Item No: B03.130.004

Remarks:

☒ NO SCAN SURFACE BEAM DIRECTION
☐ LIMITED SCAN ☐ 1 ☒ 2 ☒ 1 ☐ 2 ☒ cw ☒ ccw
 FROM L _____ to L _____ INCHES FROM WO _____ C/L _____ to _____ Beyond _____
 ANGLE: ☒ 0 ☒ 45 ☒ 60 ☐ Other _____ FROM _____ 0 _____ DEG to _____ 360 _____ DEG

Due to Nozzle Configuration

☐ NO SCAN SURFACE BEAM DIRECTION
☒ LIMITED SCAN ☒ 1 ☐ 2 ☐ 1 ☒ 2 ☒ cw ☒ ccw
 FROM L _____ 96" _____ to L _____ 24" _____ INCHES FROM WO _____ C/L _____ to _____ 11" _____
 ANGLE: ☒ 0 ☒ 45 ☒ 60 ☐ Other _____ FROM _____ DEG to _____ DEG

Due to Support Skirt

☐ NO SCAN SURFACE BEAM DIRECTION
☐ LIMITED SCAN ☐ 1 ☐ 2 ☐ 1 ☐ 2 ☐ cw ☐ ccw
 FROM L _____ to L _____ INCHES FROM WO _____ to _____
 ANGLE: ☐ 0 ☐ 45 ☐ 60 ☐ Other _____ FROM _____ DEG to _____ DEG

☐ NO SCAN SURFACE BEAM DIRECTION
☐ LIMITED SCAN ☐ 1 ☐ 2 ☐ 1 ☐ 2 ☐ cw ☐ ccw
 FROM L _____ to L _____ INCHES FROM WO _____ to _____
 ANGLE: ☐ 0 ☐ 45 ☐ 60 ☐ Other _____ FROM _____ DEG to _____ DEG

Prepared By: Larry Mauldin

Level: III

Date: 11/7/98

Sketch(s) attached ☒ yes ☐ no

Sheet 3 of 11

Reviewed By: Jay A Eaton

Date: 11/17/98

Authorized Inspector: YMC

Date: 11-25-98

DUKE POWER COMPANY										Exam Start: 0943		Form NDE-UT-2A	
ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS										Exam Finish: 1016		Revision 4	
Station: Oconee			Unit: 3		Component/Weld ID: 3-SGB-WG50-1					Date: 11/7/98			
Weld Length (in.): 120.51			Surface Condition: As Ground			Lo: 9.2.3		Surface Temperature: 75 ° F					
Examiner: Winfred C. Leeper			Level: II		Scans: 45 <input type="checkbox"/> _____ dB 70 <input type="checkbox"/> _____ dB 45T <input type="checkbox"/> _____ dB 70T <input type="checkbox"/> _____ dB 60 <input checked="" type="checkbox"/> 69 dB 60T <input checked="" type="checkbox"/> 69 dB Other: _____ dB					Pyrometer S/N: MCNDE 27017			
Examiner: Larry Mauldin			Level: III							Cal Due: 2/12/99			
Procedure: NDE-620 Rev: 5			FC: N/A							Configuration: Nozzle to Head			
Calibration Sheet No: 9803091										S1 _____ Flow _____ S2 _____ Head _____ to _____ Nozzle _____ Scan Surface: OD Applies to NDE-680 only Skew Angle: N/A			

IND #	<input checked="" type="checkbox"/>	Max % Ref	Mp Max	W Max	L Max	L1	L2	W1	Mp1	W2	Mp2	Beam Dir.	Exam Surf.	Scan	Damps
		DO NOT WRITE IN THIS SPACE				20%dac HMA	20%dac HMA	20%dac HMA	20%dac HMA	20%dac HMA	20%dac HMA		DO NOT WRITE IN THIS SPACE		
						50%dac	50%dac	50%dac	50%dac	50%dac	50%dac				
						100%dac	100%dac	100%dac	100%dac	100%dac	100%dac				
NRI	60°														

Remarks:			
Limitations: (see NDE-UT-4) <input checked="" type="checkbox"/> 90% or greater coverage obtained: yes <input type="checkbox"/> no <input checked="" type="checkbox"/>			Sheet <u>2</u> of <u>11</u>
Reviewed By: Jay A Eaton	Level: II	Date: 11/17/98	Authorized Inspector: <u>MBC</u> Date: <u>11-25-98</u> Item No: B03.130.004

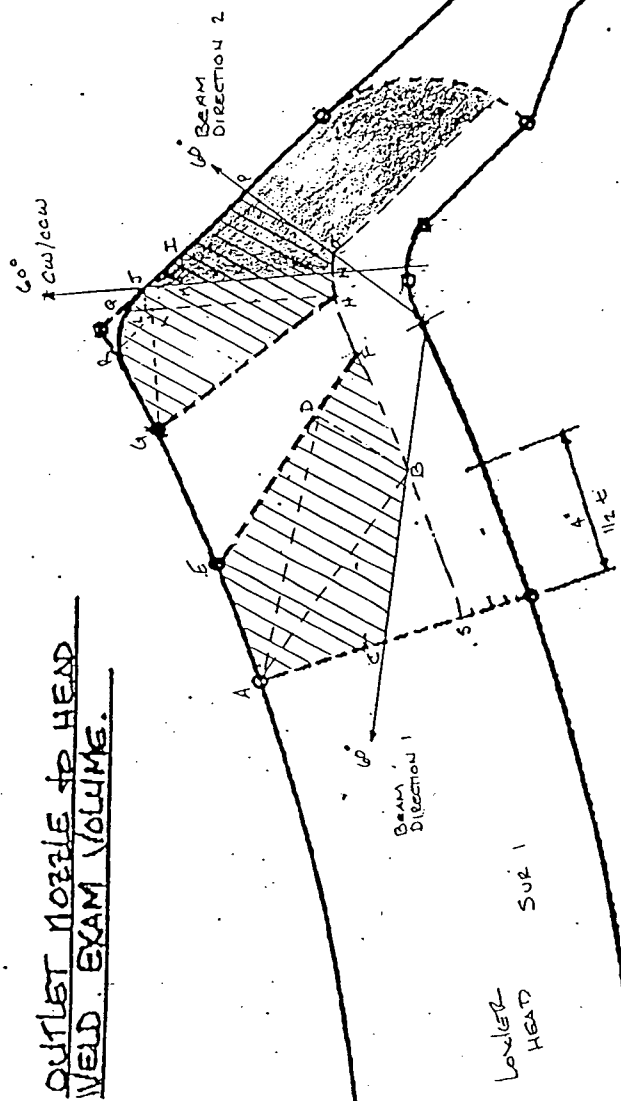
DUKE POWER COMPANY						Exam Start: 0915		Form NDE-UT-2A	
ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS						Exam Finish: 0959		Revision 4	
Station: Oconee		Unit: 3	Component/Weld ID: 3-SGB-WG50-1				Date: 11/7/98		
Weld Length (in.): 120.51		Surface Condition: As Ground		Lo: 9.2.3		Surface Temperature: 75 ° F			
Examiner: Gayle E. Houser <i>GE Houser</i>		Level: II	Scans: 45 <input checked="" type="checkbox"/> 56 dB 70 <input type="checkbox"/> _____ dB 45T <input checked="" type="checkbox"/> 56 dB 70T <input type="checkbox"/> _____ dB 60 <input type="checkbox"/> _____ dB 60T <input type="checkbox"/> _____ dB Other: 0°-20.5 dB			Pyrometer S/N: MCNDE 27017			
Examiner: David Zimmerman <i>David Zimmerman</i>		Level: II				Cal Due: 2/12/99			
Procedure: NDE-620 Rev: 5 NDE-640 1		FC: N/A 95-18&19				Configuration: Nozzle to Head S1 S2 Head to Nozzle Scan Surface: OD Applies to NDE-680 only Skew Angle: N/A			
Calibration Sheet No: 9803089, 9803090									

IND #	<input checked="" type="checkbox"/>	Max % Ref	Mp Max	W Max	L Max	L1	L2	W1	Mp1	W2	Mp2	Beam Dir.	Exam Surf.	Scan	Damps
		DO NOT WRITE IN THIS SPACE				20%dac HMA	20%dac HMA	20%dac HMA	20%dac HMA	20%dac HMA	20%dac HMA		DO NOT WRITE IN THIS SPACE		
						50%dac	50%dac	50%dac	50%dac	50%dac	50%dac				
						100%dac	100%dac	100%dac	100%dac	100%dac	100%dac				
NRI	0°														
NRI	45°														

Remarks:	
Limitations: (see NDE-UT-4) <input checked="" type="checkbox"/> 90% or greater coverage obtained: yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	
Reviewed By: <i>JAE</i> Jay A Eaton	Level: II Date: 11/17/98 Authorized Inspector: <i>MBC</i> Date: 11-25-98
Sheet 1 of 11 Item No: B03.130.004	

OUTLET NOZZLE TO HEAD
WELD EXAM VOLUME

PRIMARY
OUTLET NOZZLE



BASE METAL BEAM DIRECTION 2
AREA SCANNED = C.S.B $(4.1 \times 2.2)/2 = 4.84$
A.C.B $(3.1 \times 2.2)/2 = 3.41$
A.B.D $(7.1 \times 3.0)/2 = 10.65$
A.B.D $(7.5 \times 1.4)/2 = 5.25$
D.B.F $(3.0 \times 2.0)/2 = 3.00$
G.R.K $(3.3 \times 1.0)/2 = 1.65$
R.K.O $(1.5 \times 6)/2 = 4.5$
O.L.J $(6 \times 7)/2 = 21$
L.J.H.N $(6 \times 5.1)/2 = 15.3$
G.K.H $(5.0 \times 3.5)/2 = 8.75$
M.I.N.O $(7.0 \times 4.2)/2 = 14.7$

BASE METAL BEAM DIRECTION 1
AREA SCANNED = C.S.B = $(4.4 \times 2.2)/2 = 4.84 \text{ in}^2$
WELD METAL BEAM DIRECTION 1
AREA SCANNED = 0.0 = 0.0 in^2
WELD METAL BEAM DIRECTION 2
AREA SCANNED = 17.53 = 17.53 in^2

J.M.I $(1.1 \times 7.0)/2 = 3.85$
I.O.P $(4.2 \times 1.7)/2 = 3.57$
TOTAL = 52.92 in^2

BASE METAL * CW/CCW
AREA SCANNED =

AREA SCANNED FOR BASE METAL BEAM
DIRECTION 2 LESS
J.M.I .39
M.I.N.O 2.94
O.I.P 3.57
SUBTOTAL 6.90

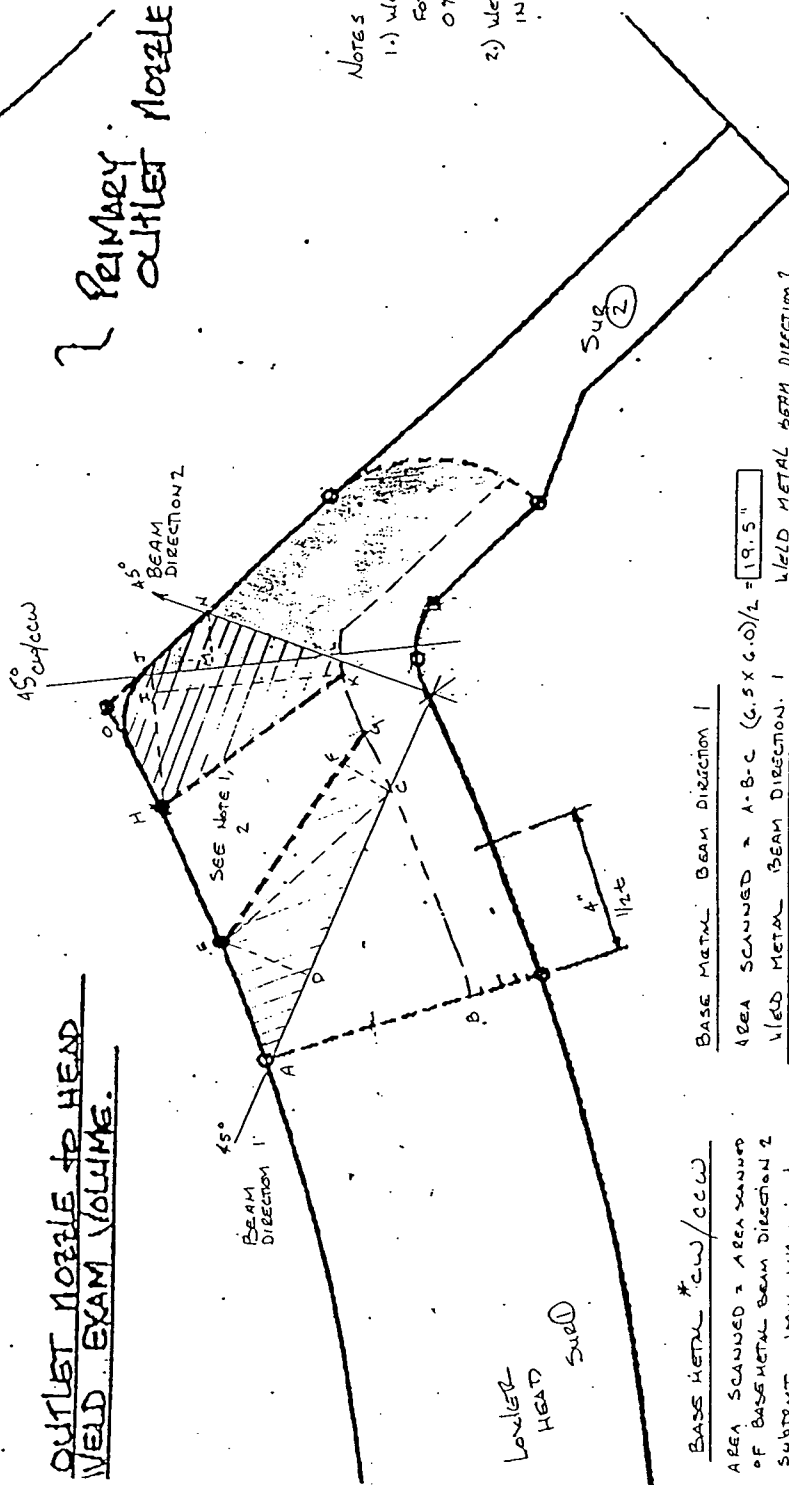
AREA SCANNED = 52.92 - 6.90
EXAM DIRECTION = 46.02 SQIN

WELD METAL * CW/CCW
AREA SCANNED = 17.53 in^2 EXAM
DIRECTION CW & CCW

* CW/CCW = CIRC SCAN
Clockwise & Counter Clockwise

TITLE: 60° BASE & WELD METAL AREA
ITEM #: B03.130.003
PAGE 11 of 11
BY: James D. Gentry LEVEL III
DATE: 11.21.95

OUTLET NOZZLE TO HEAD
WELD EXAM VOLUME.



Notes:

- 1.) Weld area received 100% for beam direction 1 & 0% for beam direction 2.
- 2.) Weld also received 100% in CW & CCW directions.

BASE METAL * CW/CCW

AREA SCANNED = AREA SCANNED OF BASE METAL BEAM DIRECTION 2
SUBTRACT MIN 1.42 sq in
MIN 2.25 sq in

3.67 ± / 52.20

AREA SCANNED = 52.20 - 3.67
EXAM DIRECTION = 48.53 sq in
CW & CCW

* CIRC SCANS clockwise

BASE METAL BEAM DIRECTION 1

AREA SCANNED = A-B-C (6.5 x 6.0) / 2 = 19.5"

WELD METAL BEAM DIRECTION 1

AREA SCANNED = 0.0"

BASE METAL BEAM DIRECTION 2

AREA SCANNED =

A-B-C (6.5 x 6.0) / 2 = 19.5
A-D-E (2.5 x 3.0) / 2 = 3.75
D-E-C (3.0 x 5.6) / 2 = 8.40
E-C-F (4.0 x 1.5) / 2 = 3.00
C-F-G (1.5 x 1.0) / 2 = .75
H-I-K-I (3.3 x 5.2) / 2 = 8.58
I-J-K-L (5.2 x .5) / 2 = 1.30
H-O-J (1 x 1.5) / 2 = 1.75
J-M-N (1.9 x 1.5) / 2 = 1.42
M-U-L (1.5 x 3.0) / 2 = 2.25

WELD METAL BEAM DIRECTION 2

AREA SCANNED = 17.33 sq in

total: 52.20 sq in

TITLE: 45° WELD & BASE SCAN
ITEM #: 203.130.003

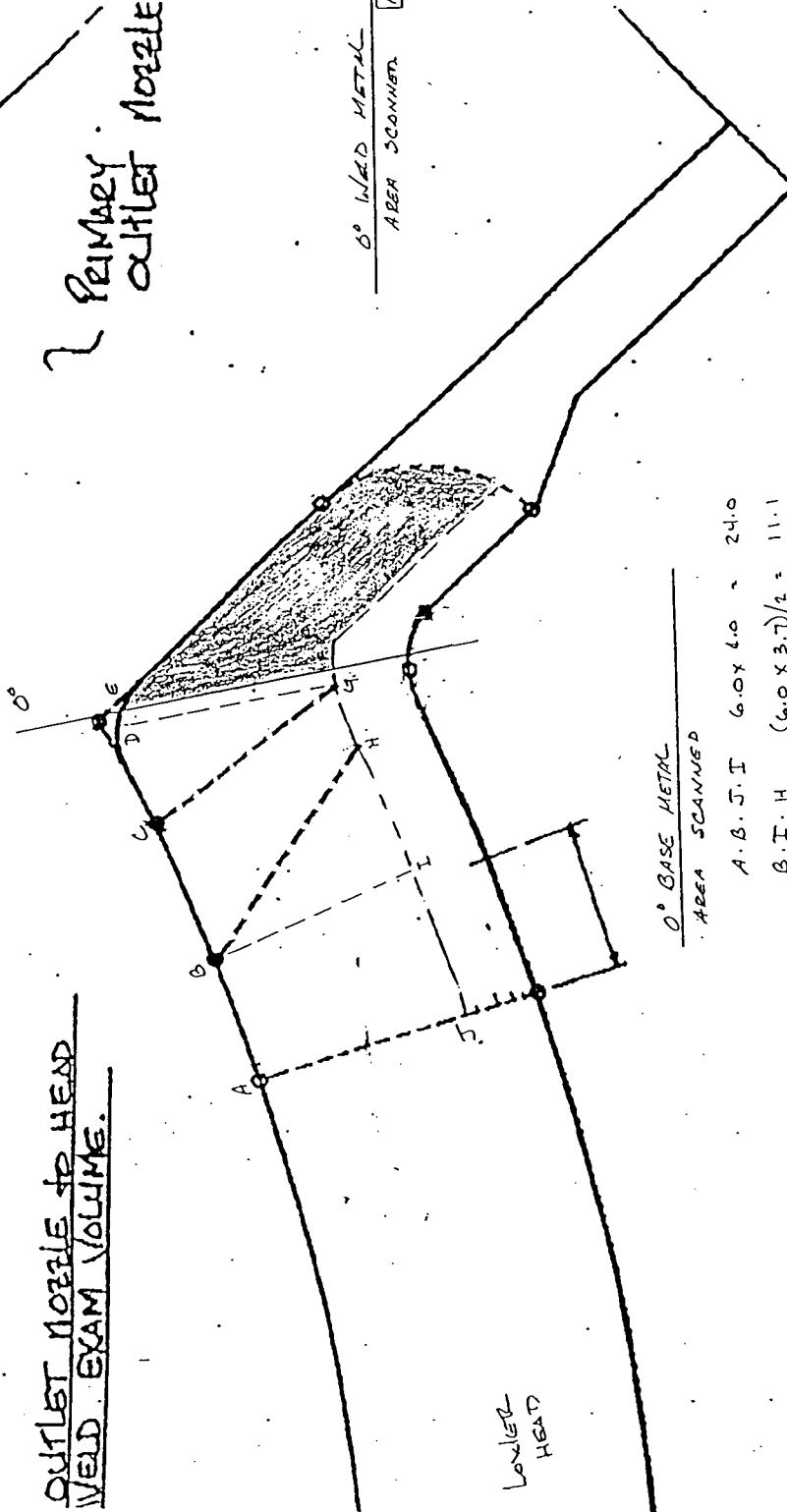
PAGE 10 of 11

BY: [Signature] DATE: 11.21.95

TITLE: 0° BASE & WELD METAL
ITEM #: B03.130.003
PAGE 9 of 11
BY: James W. Styles LEVEL III
DATE: 11-21-95

PRIMARY
OUTLET NOZZLE

0° WELD METAL
AREA SCANNED 17.93 in²



TITLE: WELD METAL AREA CALC.

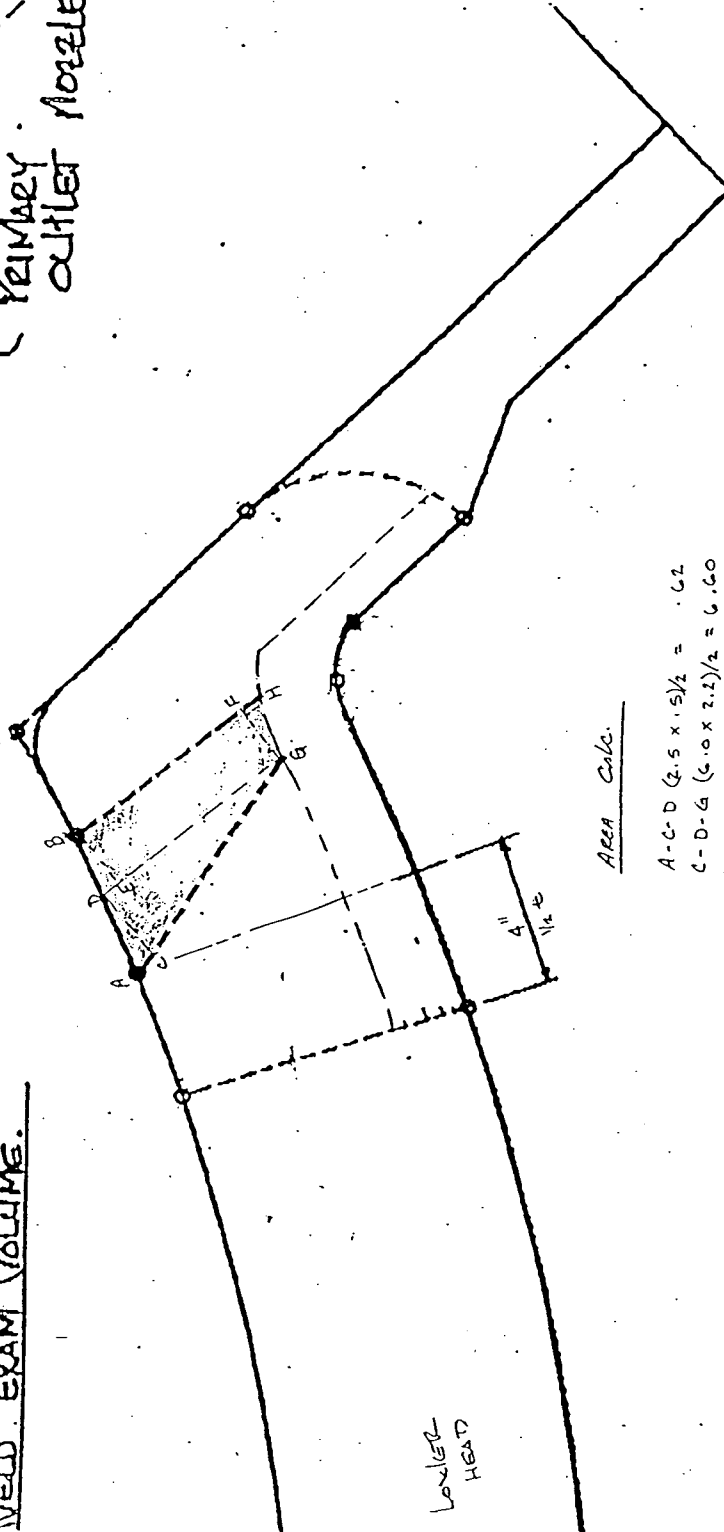
ITEM #: B03.130.003

PAGE 8 OF 11

BY: JAMES W. STILES, LEVEL III
DATE: 11-21-95

OUTLET NOZZLE TO HEAD
WELD EXAM VOLUME.

PRIMARY
OUTLET NOZZLE



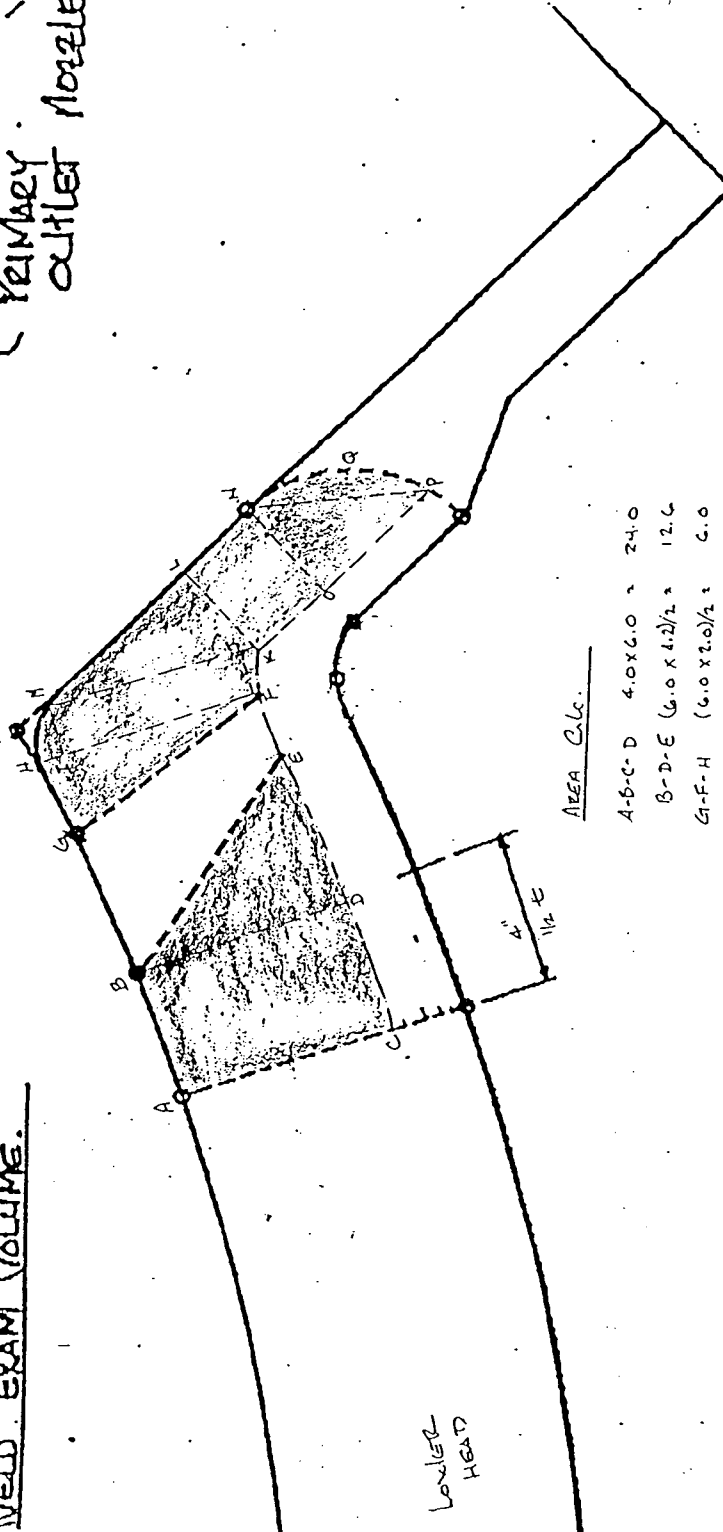
AREA CALC.

$$\begin{aligned} A-C-D &= (2.5 \times 1.5)/2 = .62 \\ C-D-G &= (6.0 \times 2.2)/2 = 6.60 \\ D-E-B &= (1.7 \times 1.5)/2 = .42 \\ E-B-G-F &= 5.4 \times 1.7 = 9.18 \\ F-G-H &= (1.7 \times 1.6)/2 = .51 \end{aligned}$$

$$\text{TOTAL} = 17.33 \text{ sq. in.}$$

OUTLET NOZZLE TO HEAD
WELD EXAM VOLUME.

PRIMARY
OUTLET NOZZLE



AREA Calc.

A-B-C-D $4.0 \times 6.0 = 24.0$
 B-D-E $(6.0 \times 4.2)/2 = 12.6$
 G-F-H $(6.0 \times 2.0)/2 = 6.0$
 H-I-M $(1.4 \times 1.0)/2 = .70$
 J-M-F-J $1.4 \times 5.3 = 7.42$
 M-K-L $(3.0 \times 5.0)/2 = 7.50$
 K-L-O-N $2.4 \times 3.0 = 7.20$
 O-N-P $(3.0 \times 3.9)/2 = 5.85$
 N-P-Q $(.80 \times 5.0)/2 = 2.00$

total

73.27 sq. in.

TITLE: BASE METAL AREA CALC.

ITEM #: B03.130.003

PAGE 7 of 11

BY: Jamawala


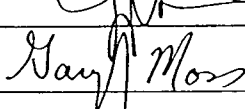
DATE: 11.21.95

DUKE POWER COMPANY Limited Examination Coverage Worksheet						NDE-91-1 Revision 0	
Examination Volume/Area Defined							
<input checked="" type="checkbox"/> Base Metal <input type="checkbox"/> Weld <input type="checkbox"/> Near Surface <input type="checkbox"/> Bolting <input type="checkbox"/> Inner Radius							
Area Calculation				Volume Calculation			
Area = 73.27 sq. in.				Volume = 124" x 73.27 = 9085 cu. in.			
Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
N/A	0	N/A	44.68	94	4199	9085	46.22
AXIAL	45	S1	19.5	94	1833	9085	20.18
AXIAL	45	S2	52.20	94	4906	9085	54.00
AXIAL	60	S1	4.84	66	319	9085	3.51
AXIAL	60	S2	52.92	66	3492	9085	38.44
CIRC	45	CW	48.53	94	4561	9085	50.20
CIRC	45	CCW	48.53	94	4561	9085	50.20
CIRC	60	CW	46.02	66	3037	9085	33.43
CIRC	60	CCW	46.02	66	3037	9085	33.43

Prepared By: Jay A Eaton		Level: II	Date: 11/16/98
Reviewed By: Gary Moss		Level: II	Date: 11-17-98

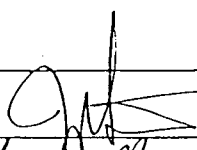
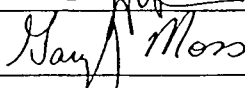
SHEET 6 OF 11

DUKE POWER COMPANY						NDE-91-1	
Limited Examination Coverage Worksheet						Revision 0	
Examination Volume/Area Defined							
<input type="checkbox"/> Base Metal <input checked="" type="checkbox"/> Weld <input type="checkbox"/> Near Surface <input type="checkbox"/> Bolting <input type="checkbox"/> Inner Radius							
Area Calculation				Volume Calculation			
Area = 17.33 sq. in.				Volume = 124" x 17.33 = 2149 cu. in.			
Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
N/A	0	N/A	17.33	94	1629.02	2149	75.80
AXIAL	45	S1	0.0	66	0	2149	0.00
AXIAL	45	S2	17.33	66	1629.02	2149	75.80
AXIAL	60	S1	0.0	66	0	2149	0.00
AXIAL	60	S2	17.33	66	1143.78	2149	53.22
CIRC	60	S1	17.33	66	1143.78	2149	53.22
CIRC	60	S2	17.33	66	1143.78	2149	53.22
CIRC	45	S1	17.33	94	1629.02	2149	75.80
CIRC	45	S2	17.33	94	1629.02	2149	75.80

		Item No:	B03.130.003
Prepared By: Jay A Eaton		Level: II	Date: 11/16/98
Reviewed By: Gary Moss		Level: II	Date: 11-17-98

SHEET 5 OF 11

DUKE POWER COMPANY						NDE-91-1	
Limited Examination Coverage Worksheet						Revision 0	
Examination Volume/Area Defined							
<input checked="" type="checkbox"/> Base Metal		<input checked="" type="checkbox"/> Weld		<input type="checkbox"/> Near Surface		<input type="checkbox"/> Bolting	
						<input type="checkbox"/> Inner Radius	
Area Calculation				Volume Calculation			
SEE ATTACHED SHEET				SEE ATTACHED SHEET			
Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
BM					29945	81765	36.62
WELD					9947.42	19341	51.43
TOTAL			AGGREGATE	COVERAGE	39892.42	101106	39.46

		Item No:	B03.130.003
Prepared By: Jay A Eaton		Level: II	Date: 11/16/98
Reviewed By: Gary Moss		Level: II	Date: 11-17-98

SHEET 4 OF 11

DUKE POWER COMPANY ISI LIMITATION REPORT				FORM NDE-UT-4
				Revision 1
Component/Weld ID: 3-SGB-WG50-2		Item No: B03.130.003		Remarks:
Due to Nozzle Configuration				
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input checked="" type="checkbox"/> NO SCAN</p> <p><input type="checkbox"/> LIMITED SCAN</p> <p>FROM L _____ to L _____</p> <p>ANGLE: <input checked="" type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 <input type="checkbox"/> Other _____</p> </div> <div style="width: 45%;"> <p>SURFACE <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2</p> <p>INCHES FROM WO _____ C/L _____ to Beyond _____</p> <p>FROM _____ 0 _____ DEG to 360 _____ DEG</p> </div> </div>				
Due to Support Skirt				
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input type="checkbox"/> NO SCAN</p> <p><input checked="" type="checkbox"/> LIMITED SCAN</p> <p>FROM L _____ 96" _____ to L _____ 24" _____</p> <p>ANGLE: <input checked="" type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 <input type="checkbox"/> Other _____</p> </div> <div style="width: 45%;"> <p>SURFACE <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2</p> <p>INCHES FROM WO _____ C/L _____ to 11" _____</p> <p>FROM _____ _____ DEG to _____ DEG</p> </div> </div>				
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input type="checkbox"/> NO SCAN</p> <p><input type="checkbox"/> LIMITED SCAN</p> <p>FROM L _____ to L _____</p> <p>ANGLE: <input type="checkbox"/> 0 <input type="checkbox"/> 45 <input type="checkbox"/> 60 <input type="checkbox"/> Other _____</p> </div> <div style="width: 45%;"> <p>SURFACE <input type="checkbox"/> 1 <input type="checkbox"/> 2</p> <p>INCHES FROM WO _____ to _____</p> <p>FROM _____ _____ DEG to _____ DEG</p> </div> </div>				
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input type="checkbox"/> NO SCAN</p> <p><input type="checkbox"/> LIMITED SCAN</p> <p>FROM L _____ to L _____</p> <p>ANGLE: <input type="checkbox"/> 0 <input type="checkbox"/> 45 <input type="checkbox"/> 60 <input type="checkbox"/> Other _____</p> </div> <div style="width: 45%;"> <p>SURFACE <input type="checkbox"/> 1 <input type="checkbox"/> 2</p> <p>INCHES FROM WO _____ to _____</p> <p>FROM _____ _____ DEG to _____ DEG</p> </div> </div>				
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input type="checkbox"/> NO SCAN</p> <p><input type="checkbox"/> LIMITED SCAN</p> <p>FROM L _____ to L _____</p> <p>ANGLE: <input type="checkbox"/> 0 <input type="checkbox"/> 45 <input type="checkbox"/> 60 <input type="checkbox"/> Other _____</p> </div> <div style="width: 45%;"> <p>SURFACE <input type="checkbox"/> 1 <input type="checkbox"/> 2</p> <p>INCHES FROM WO _____ to _____</p> <p>FROM _____ _____ DEG to _____ DEG</p> </div> </div>				
Prepared By: Larry Mauldin		Level: III Date: 11/17/98		Sketch(s) attached <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
Reviewed By: Jay A Eaton		Date: 11/17/98		Authorized Inspector: <i>YMB</i> Date: 11-25-98

DUKE POWER COMPANY										Exam Start: 0943	Form NDE-UT-2A
ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS										Exam Finish: 1016	Revision 4
Station: Oconee		Unit: 3	Component/Weld ID: 3-SGB-WG50-2								Date: 11/7/98
Weld Length (in.): 120.51		Surface Condition: As Ground		Lo: 9.2.3		Surface Temperature: 75 ° F					
Examiner: Winfred C. Leeper		Level: II		Scans:		Pyrometer S/N: MCNDE 27017					
Examiner: Larry Mauldin		Level: III		45 □ dB 70 □ dB		Cal Due: 2/12/99					
Procedure: NDE-620		Rev: 5		45T □ dB 70T □ dB		Configuration: Nozzle to Head					
		FC: N/A		60 □ 69 dB		S1 Flow S2					
				60T □ 69 dB		Head to Nozzle					
Calibration Sheet No: 9803091				Other: dB		Scan Surface: OD					
						Applies to NDE-680 only					
						Skew Angle: N/A					

IND #	Max % Ref	Mp Max	W Max	L Max	L1	L2	W1	Mp1	W2	Mp2	Beam Dir.	Exam Surf.	Scan	Damps
	DO NOT WRITE IN THIS SPACE				20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac		DO NOT WRITE IN THIS SPACE		
NRI 60°														

Remarks:

Limitations: (see NDE-UT-4) ☒ 90% or greater coverage obtained: yes ☐ no ☒

Reviewed By: Jay A Eaton Date: 11/17/98 Authorized Inspector: JMC Date: 11-25-98

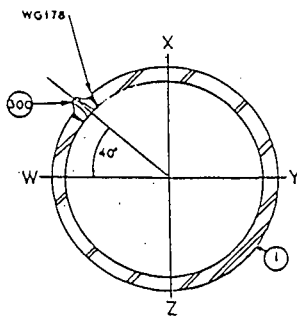
Level: II

Sheet 2 of 11 Item No: B03.130.003

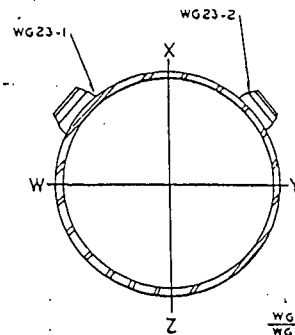
DUKE POWER COMPANY										Exam Start: 0915		Form NDE-UT-2A	
ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS										Exam Finish: 0959		Revision 4	
Station: Ocone			Unit: 3		Component/Weld ID: 3-SGB-WG50-2						Date: 11/7/98		
Weld Length (in.): 120.51			Surface Condition: As Ground			Lo: 9.2.3		Surface Temperature: 75 ° F					
Examiner: Gayle E. Houser <i>GE Houser</i>			Level: II		Scans: 45 <input checked="" type="checkbox"/> 56 dB 70 <input type="checkbox"/> dB 45T <input checked="" type="checkbox"/> 56 dB 70T <input type="checkbox"/> dB 60 <input type="checkbox"/> dB 60T <input type="checkbox"/> dB Other: 0°-20.5 dB					Pyrometer S/N: MCNDE 27017			
Examiner: David Zimmerman <i>David Zimmerman</i>			Level: II							Cal Due: 2/12/99			
Procedure: NDE-620 Rev: 5			FC: N/A		Configuration: Nozzle to Head S1 Flow S2 Head to Nozzle Scan Surface: OD Applies to NDE-680 only Skew Angle: N/A								
NDE-640 1			95-18&19										
Calibration Sheet No: 9803089, 9803090													

IND #	<i>A</i>	Max % Ref	Mp Max	W Max	L Max	L1	L2	W1	Mp1	W2	Mp2	Beam Dir.	Exam Surf.	Scan	Damps
		DO NOT WRITE IN THIS SPACE				20%dac HMA	20%dac HMA	20%dac HMA	20%dac HMA	20%dac HMA	20%dac HMA		DO NOT WRITE IN THIS SPACE		
						50%dac	50%dac	50%dac	50%dac	50%dac	50%dac				
						100%dac	100%dac	100%dac	100%dac	100%dac	100%dac				
NRI	45°														
NRI	0°														

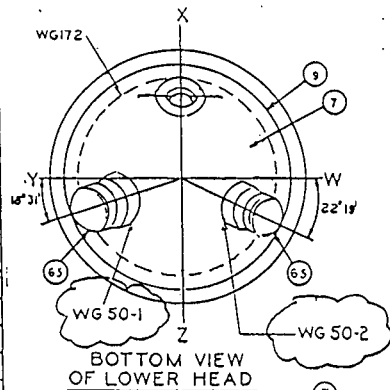
Remarks:			
Limitations: (see NDE-UT-4) <input checked="" type="checkbox"/> 90% or greater coverage obtained: yes <input type="checkbox"/> no <input checked="" type="checkbox"/>			Sheet 1 of 11
Reviewed By: Jay A Eaton <i>JAE</i>	Level: II	Date: 11/17/98	Authorized Inspector: <i>MBC</i> Date: 11-25-98
			Item No: B03.130.003

[illegible]

SECTION A-A



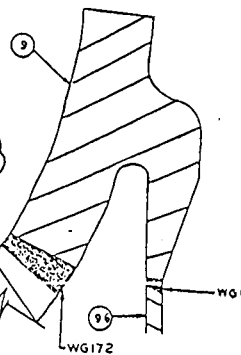
SECTION B-B



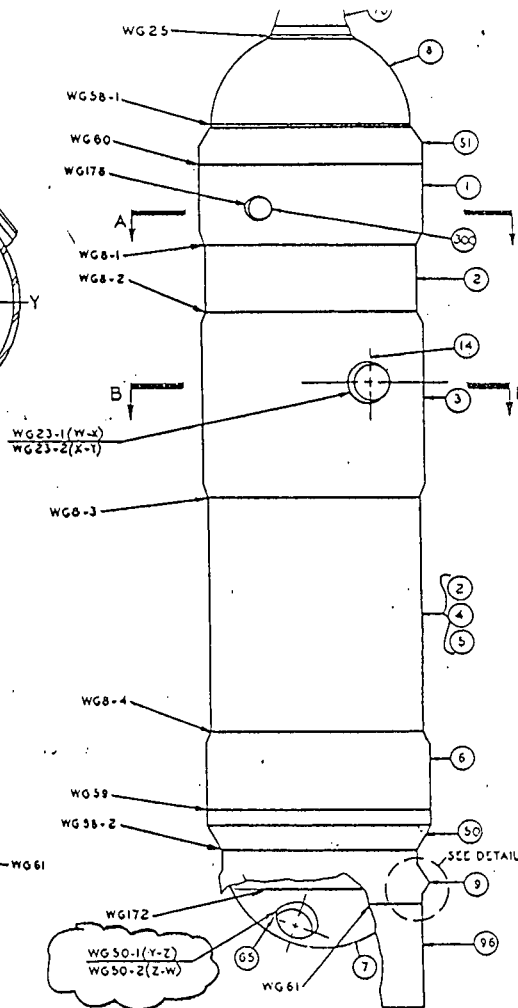
BOTTOM VIEW
OF LOWER HEAD

REFERENCE DWGS.

OM 2201-6
OM 2201-222
OM 2201-480
B&W III 450
B&W I 49830



DETAIL A



NOTES:

1. ALL I.D. NUMBERS SHALL BE PRECEDED BY "JSGA-".
2. PIECE NUMBERS ARE SHOWN IN CIRCLES.

1	DESIGN NO. FOR WG58-1	TLT	IFN	WRH	TITLE	
		11-26-84	11-27-84	11-29-84	STEAM GENERATOR 'A'	
0	ORIGINAL	WSB	TPH	JFC	WELD OUTLINE	
		2-1-92	2-2-92	2-18-92		
NO.	REVISION	DRWN	RVWD	APPD	DWG NO.	RI
		DATE	DATE	DATE	ISI-OCN3-003	

VII. Implementation Schedule:

Unit 3, Refueling Outage 17

Unit 1, Refueling Outage 19

Unit 2, Refueling Outage 17

Evaluated By: RC Rouse Date 2/1/99
Reviewed By: Larry C. Kuth Date 2-2-99
Reviewed By: James J. McQuillan III Date 2-11-99
NDE Level III:
Approved By: R. Kevin Thorne Date 2/11/99

property or the common defense and security and is 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."

Part 2 Examination Category B-D, Item B3.140, Steam Generator Outlet Nozzle Inside Radius Sections

The Code requires 100% volumetric examination of all Steam Generator Outlet Nozzle Inside Radius Sections. However, single-sided access and the support skirt restricts scanning and prevents complete volumetric coverage of the Steam Generator Outlet Nozzle Inside Radius Sections 3-SGB-WG50-2 and 3-SGB-WG50-1. Therefore, the 100% volumetric examination is impractical for these nozzle inside radius sections. To meet Code examination requirements, modifications to the Steam Generator support skirt would be necessary to allow complete volumetric coverage of the weld. Modifications to this portion of the Steam Generator would create a considerable burden on Duke Energy.

Duke Energy obtained 44.10% coverage of the Steam Generator Outlet Nozzle Inside Radius Sections 3-SGB-WG50-2 and 3-SGB-WG50-1. It is recognized that this represents a small part of the required Code examination volume. However, Duke Energy believes this provides reasonable assurance of the continued structural integrity of the subject nozzle-to-vessel welds.

Pursuant to 10 CFR 50.55a(g)(6)(i), granting this relief for the Steam Generator Outlet Nozzle Inside Radius Sections will provide reasonable assurance of weld/component integrity, ... "is authorized by law and will not endanger life or property or the common defense and security and is 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."

have been achieved, and public health and safety will not be endangered by allowing relief from the aforementioned Code requirements.

Part 2 Examination Category B-D, Item B3.140, Steam Generator Outlet Nozzle Inside Radius Sections

The use of radiography as an alternate volumetric examination of the Steam Generator Outlet Nozzle Inside Radius Sections referenced in this request is not a viable option. Restrictions to performing radiography are primarily due to inability to access the inside of the Steam Generator to place film or to position a radiographic source.

Duke Energy has examined the welds referenced in this request to the maximum extent possible utilizing the latest in examination techniques and equipment. Duke Energy will continue to perform ultrasonic examination of all welds identified in Section I of this request (for all units) to the maximum extent practical, within the limits of original design and construction, in accordance with the requirements of ASME Section V, Article 4, and ASME Section XI, Appendix 1, 1989 Edition, and Code Case N-460. This will provide reasonable assurance of weld/component integrity. Thus, an acceptable level of quality and safety will have been achieved, and public health and safety will not be endangered by allowing relief from the aforementioned Code requirements.

VI. Justification for the Granting of Relief:

Part 1 Examination Category B-D, Item B3.130, Steam Generator Outlet Nozzle-to-Vessel Welds

The Code requires 100% volumetric examination of all Steam Generator Outlet Nozzle-to-Vessel Welds. However, single-sided access and the support skirt restricts scanning and prevents complete volumetric coverage of the Steam Generator Outlet Nozzle-to-Vessel Welds 3-SGB-WG50-2 and 3-SGB-WG50-1. Therefore, the 100% volumetric examination is impractical for these nozzle-to-vessel welds. To meet Code examination requirements, modifications to the Steam Generator support skirt would be necessary to allow complete volumetric coverage of the weld. Modifications to this portion of the Steam Generator would create a considerable burden on Duke Energy.

Duke Energy obtained 39.46% coverage of the Steam Generator Outlet Nozzle-to-Vessel Welds 3-SGB-WG50-2 and 3-SGB-WG50-1. It is recognized that this represents a small part of the required Code examination volume. However, Duke Energy believes this provides reasonable assurance of the continued structural integrity of the subject nozzle-to-vessel welds.

Pursuant to 10 CFR 50.55a(g)(6)(i), granting this relief for the Steam Generator Outlet Nozzle-to-Vessel Welds will provide reasonable assurance of weld/component integrity, ... "is authorized by law and will not endanger life or

IV. Basis for Relief:

Part 1 Examination Category B-D, Item B3.130, Steam Generator Outlet Nozzle-to-Vessel Welds

Steam Generator Outlet Nozzle-to-Lower Head Welds 3-SGB-WG50-2 and 3-SGB-WG50-1 (Item Numbers B03.130.003 and B03.130.004) were examined to the maximum extent practical using ultrasonic techniques in accordance with the requirements of ASME Section V, Article 4, and ASME Section XI, Appendix 1, 1989 Edition. Reference Attachment A for drawing.

Because of geometric conditions, (i.e. single-sided access and support skirt location) only 39.46% coverage of the required volume was examined. In order to achieve more coverage the support skirt would have to be cut away from the nozzle. Reference Attachment B for inspection results.

Part 2 Examination Category B-D, Item B3.140, Steam Generator Outlet Nozzle Inside Radius Sections

Steam Generator Outlet Nozzle-to-Lower Head Inside Radius Sections 3-SGB-WG50-2 and 3-SGB-WG50-1 (Item Numbers B03.140.003 and B03.140.004) were examined to the maximum extent practical using ultrasonic techniques in accordance with the requirements of ASME Section V, Article 4, and ASME Section XI, Appendix 1, 1989 Edition. Reference Attachment A for drawing.

Because of geometric conditions, (i.e. single-sided access and support skirt location) only 44.10% coverage of the required volume was examined. In order to achieve more coverage the support skirt would have to be cut away from the nozzle. Reference Attachment B for inspection results.

V. Alternate Examinations or Testing:

Part 1 Examination Category B-D, Item B3.130, Steam Generator Outlet Nozzle-to-Vessel Welds

The use of radiography as an alternate volumetric examination of the Steam Generator Outlet Nozzle-to-Lower Head Welds referenced in this request is not a viable option. Restrictions to performing radiography are primarily due to inability to access the inside of the Steam Generator to place film or to position a radiographic source.

Duke Energy has examined the welds referenced in this request to the maximum extent possible utilizing the latest in examination techniques and equipment. Duke Energy will continue to perform ultrasonic examination of all welds identified in Section I of this request (for all units) to the maximum extent practical, within the limits of original design and construction, in accordance with the requirements of ASME Section V, Article 4, and ASME Section XI, Appendix 1, 1989 Edition, and Code Case N-460. This will provide reasonable assurance of weld/component integrity. Thus, an acceptable level of quality and safety will

as described in NRC Inspection Report No. 50-269/95, 50-270/95, 50-287 dated May 5, 1995.

While the examinations have been completed only for Unit 3 at this time, relief is also being sought for Units 1 and 2 for the same welds. If, for some reason, the actual examination coverages of the welds referenced in this Request for Relief for Units 1 and 2 are less than those listed for Unit 3 in Section IV of this request, additional Requests for Relief will be submitted on a case by case basis.

II. Code Requirement:

ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition with no Addenda, Examination Category B-D, Items B3.130 and B3.140 requires, 100% volumetric examination of all Steam Generator Outlet Nozzle-to-Vessel Welds and Inside Radiuses as defined by Figure IWB-2500-7. ASME Section XI 1989 Edition with no Addenda, Appendix 1, including Supplement 9 as clarified by Code Inquiry 95-11 requires scanning using two different angles when scanning from the outside surface of the component. When scanning for reflectors parallel to the weld, the angle beams shall be aimed at right angles to the weld axis, with the search unit(s) manipulated so that the ultrasonic beams pass through the entire volume of weld metal. The adjacent base metal in the examination volume must be completely scanned by both angle beams from both directions (any combination of two angle beams will satisfy the requirement).

When scanning for reflectors transverse to the weld, the angle beam search units shall be aimed parallel to the axis of longitudinal and circumferential welds. The search unit shall be manipulated so that the ultrasonic beams pass through all of the examination volume. Scanning shall be done in two directions 180 degrees to each other to the extent possible. Areas blocked by geometric conditions shall be examined from at least one direction.

Code Case N-460 allows credit for full volume coverage of welds if it can be shown that greater than 90% of the required volume has been examined.

III. Code Requirement from which Relief is Requested:

Relief is requested from the requirement to examine 100% of the required volume ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition with no Addenda (Code) required volumetric examinations of the Steam Generator Outlet Nozzle-to-Vessel Welds and the Steam Generator Outlet Nozzle Inside Radius Sections described in Section I above.

Due to part geometry, obtaining greater than 90% of the required volume as outlined in Code Case N-460 is not possible.

Duke Energy Corporation

Station Oconee Units 1, 2 & 3

10-YEAR INTERVAL REQUEST FOR RELIEF NO. 99-01

Pursuant to 10 CFR 50.55a(g)(5)(iii), Duke Energy has determined that compliance with the specified requirements of ASME Boiler and Pressure Vessel Code, Section XI is not practical for Oconee Nuclear Station. Accordingly, information is being submitted in support of our determination and relief is being sought from the applicable ASME Boiler and Pressure Vessel Code, Section XI requirement(s).

I. System/Component(s) for Which Relief is Requested:

Part 1 Steam Generator Outlet Nozzle-to-Vessel Welds;

<u>Unit</u>	<u>ID Number</u>	<u>Item Number</u>
1	1-SGB-WG50-2	B03.130.003
1	1-SGB-WG50-1	B03.130.004
2	2-SGA-WG50-2	B03.130.001
2	2-SGA-WG50-1	B03.130.002
3	3-SGB-WG50-2	B03.130.003
3	3-SGB-WG50-1	B03.130.004

Part 2 Steam Generator Outlet Nozzle Inside Radius Sections;

<u>Unit</u>	<u>ID Number</u>	<u>Item Number</u>
1	1-SGB-WG50-2	B03.140.003
1	1-SGB-WG50-1	B03.140.004
2	2-SGA-WG50-2	B03.140.001
2	2-SGA-WG50-1	B03.140.002
3	3-SGB-WG50-2	B03.140.003
3	3-SGB-WG50-1	B03.140.004

For welds listed in this Request for Relief (both Parts 1 and 2), all configurations, including interferences, are the same for both steam generators of Units 1, 2, and 3. Therefore, all three units are being documented in this Request for Relief

CASES OF ASME BOILER AND PRESSURE VESSEL CODE

Approval Date: March 5, 1990

See Numerical Index for expiration
and any reaffirmation dates.

Case N-481

Alternative Examination Requirements for Cast
Austenitic Pump Casings
Section XI, Division 1

Inquiry: When conducting examination of cast austenitic pump casings in accordance with Section XI, Division 1, what examinations may be performed in lieu of the volumetric examinations specified in Table IWB-2500-1, Examination Category B-L-1, Item B12.10?

Reply: It is the opinion of the Committee that the following requirements shall be met in lieu of performing the volumetric examination specified in Table IWB-2500-1, Examination Category B-L-1, Item B12.10:

(a) Perform a VT-2 visual examination of the exterior of all pumps during the hydrostatic pressure test required by Table IWB-2500-1, Category B-P.

(b) Perform a VT-1 visual examination of the external surfaces of the weld of one pump casing.

(c) Perform a VT-3 visual examination of the internal surfaces whenever a pump is disassembled for maintenance.

(d) Perform an evaluation to demonstrate the safety and serviceability of the pump casing. The evaluation shall include the following:

(1) evaluating material properties, including fracture toughness values;

(2) performing a stress analysis of the pump casing;

(3) reviewing the operating history of the pump;

(4) selecting locations for postulating flaws;

(5) postulating one-quarter thickness reference flaw with a length six times its depth;

(6) establishing the stability of the selected flaw under the governing stress conditions;

(7) considering thermal aging embrittlement and any other processes that may degrade the properties of the pump casing during service.

(e) A report of this evaluation shall be submitted to the regulatory and enforcement authorities having jurisdiction at the plant site for review.

APPENDIX A

ASME CODE CASE N-481



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26. ANSYS Linear Plus/Thermal, Revision 5.3, Second Release, ANSYS Inc., October 1996.
27. Duke Power Company, Drawing No. OM 1201.D-0005-001, Sheets 1 of 2, Rev. DZ, "Oconee Unit 3 Final Machining – Pump Case Assembly," SI File No. DUKE-20Q-201(b).
28. Oconee Nuclear Station Technical Specification, Section 3.1.2, Pressurization, Heatup, Limitation, Table 3.1-1 and Cooldown Limitation, Table 3.1-2, Amendment 188 (Unit 1 and 2).
29. Structural Integrity Associates Report No. SIR-97-066, Rev. 0, "Oconee Units 1, 2 and 3 Definition of Plant Operating Models and Transients."
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14. Y. Meyzaud, P. Ould, P. Balladon, M. Bethmont, and P. Soulat, "Tearing Resistance of Aged Cast Austenitic Stainless Steel," presented at Intl. Conf. on Thermal Reactor Safety (NUCSAFE 88), October 1988, Avignon, France.
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17. L. S. Aubrey, P. F. Wieser, W. J. Pollard, and E. A. Schoefer, "Ferrite Measurement and Control in Cast Duplex Stainless Steel," in *Stainless Steel Castings*, V. G. Behal and A. S. Melilli, editors, ASTM STP 756, pp. 126-164 (1982).
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6.0 REFERENCES

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10. E. I. Landerman and W. H. Bamford, "Fracture Toughness and Fatigue Characteristics of Centrifugally Cast Type 316 Stainless Steel Pipe after Simulated Thermal Service Conditions," in Ductility and Toughness Considerations in Elevated Temperature Service, MPC 8, ASME, New York, pp. 99-127 (1978).



5.0 SUMMARY AND CONCLUSIONS

The evaluations contained in this report have demonstrated that the Oconee Unit 3 reactor coolant pump casing 3B1 meet the safety and serviceability requirements of ASME Code Case N-481. Highlights of these evaluations are provided as follows:

- The fracture toughness of the base material stainless steel, ASTM A351, Grades CF8 and CF8M casting, and the weld metal were addressed, including thermal embrittlement considerations. A lower bound fracture toughness of $140.7 \text{ ksi}\sqrt{\text{in}}$ was used in the analysis.
- Six most highly-stressed locations were chosen as the critical locations for evaluation based on finite element analyses performed for operating pressure and heatup/cooldown transients.
- Flaws were postulated both in the axial and hoop directions at the critical locations and the corresponding normal stresses were used in the fracture mechanics evaluation.
- Consistent with similar evaluations for pressure vessels with postulated large flaws, per Appendix G of ASME Code, Section III, safety factors of 2 for primary and 1 for secondary loads were used for Service Levels A and B conditions. At the critical locations, the applied stress intensity factors were below the allowable values. The stress intensity factors at these locations ranged from 28.06 to 136.03 $\text{ksi}\sqrt{\text{in}}$ compared to the allowable of $140.7 \text{ ksi}\sqrt{\text{in}}$.
- Fatigue crack growth analysis was performed assuming an initial flaw size corresponding to the acceptance standards of ASME Code, Section XI, and considering all the significant plant transients. The analysis indicated that fatigue crack growth is very small (maximum of 0.31 in. at the most critical location) during the 40-year plant design life (360 significant heatup/cooldown cycles). It takes approximately 1,100 cycles for the initial assumed flaw at the most critical location to reach the quarter-thickness flaw.



Crack Growth for Path No. 6 (Axial Flaw)

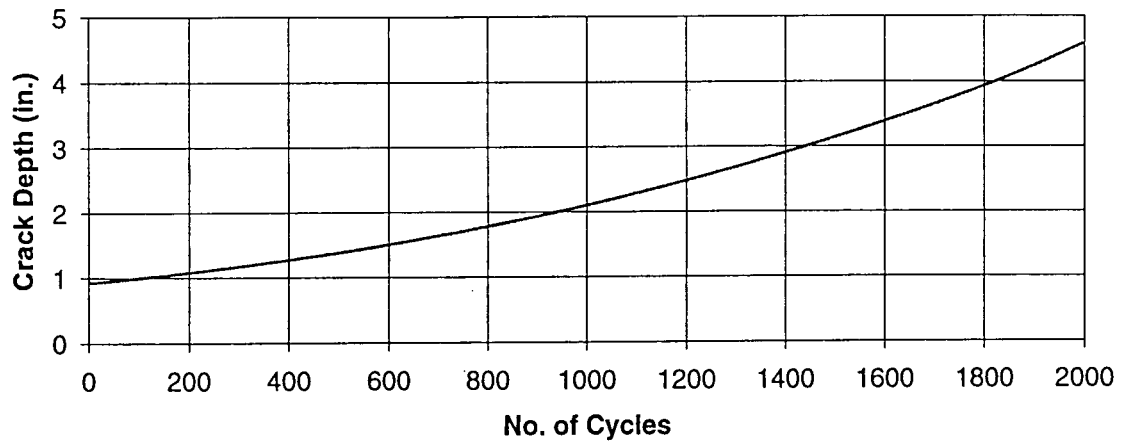


Figure 4-17. Results of Fatigue Crack Growth Analysis for Oconee Unit 3 Pump Casing

DUKE POWER COMPANY										Exam Start: 0942	Form NDE-UT-2A
ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS										Exam Finish: 1022	Revision 4
Station:	Oconee	Unit:	3	Component/Weld ID: 3-SGB-WG50-1			Date:		11/7/98		
Weld Length (in.):	N/A	Surface Condition:		As Ground		Lo: 9.2.3		Surface Temperature: 75 ° F			
Examiner:	Winfred C. Leeper	Level:	II	Scans:		45 <input type="checkbox"/> dB 70 <input type="checkbox"/> dB		Pyrometer S/N: MCNDE 27017			
Examiner:	Larry Mauldin	Level:	III	45T <input type="checkbox"/> dB 70T <input checked="" type="checkbox"/> 82 dB		Cal Due: 2/12/99					
Procedure:	NDE-680	Rev:	1	FC:	N/A	60T <input checked="" type="checkbox"/> 69 dB		Configuration: Inner Radius			
Calibration Sheet No:	9803092, 9803093			Other: _____ dB		N/A to N/A		Scan Surface: OD			
Applies to NDE-680 only										Skew Angle: 20.5°	

IND #	Max % Ref	Mp Max	W Max	L Max	L1	L2	W1	Mp1	W2	Mp2	Beam Dir.	Exam Surf.	Scan	Damps
					20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac		DO NOT WRITE IN THIS SPACE	DO NOT WRITE IN THIS SPACE	
NRI	60°													
NRI	70°													

Remarks:

Limitations: (see NDE-UT-4) ☒ 90% or greater coverage obtained: yes ☒ no ☒ NO

Reviewed By: Jay A Eaton Level: II Date: 11/16/98 Authorized Inspector: JMC Date: 11-25-98

Sheet 1 of 4
Item No: B03.140.004

DUKE POWER COMPANY ISI LIMITATION REPORT				FORM NDE-UT-4
			Revision 1	
Component/Weld ID: 3-SGB-WG50-1		Item No: B03.140.004		Remarks:
<input checked="" type="checkbox"/> NO SCAN <input type="checkbox"/> LIMITED SCAN		SURFACE <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2		Due to Nozzle Configuration
FROM L _____ to L _____ INCHES FROM WO _____ C/L _____ to _____ Beyond _____ ANGLE: <input checked="" type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 <input type="checkbox"/> Other _____		BEAM DIRECTION <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> cw <input checked="" type="checkbox"/> ccw		
FROM L _____ to L _____ INCHES FROM WO _____ C/L _____ to _____ ANGLE: <input checked="" type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 <input type="checkbox"/> Other _____		FROM _____ DEG to _____ DEG		
<input type="checkbox"/> NO SCAN <input checked="" type="checkbox"/> LIMITED SCAN		SURFACE <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2		Due to Support Skirt
FROM L _____ to L _____ INCHES FROM WO _____ C/L _____ to _____ ANGLE: <input checked="" type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 <input type="checkbox"/> Other _____		BEAM DIRECTION <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> cw <input checked="" type="checkbox"/> ccw		
FROM L _____ to L _____ INCHES FROM WO _____ C/L _____ to _____ ANGLE: <input checked="" type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 <input type="checkbox"/> Other _____		FROM _____ DEG to _____ DEG		
<input type="checkbox"/> NO SCAN <input type="checkbox"/> LIMITED SCAN		SURFACE <input type="checkbox"/> 1 <input type="checkbox"/> 2		
FROM L _____ to L _____ INCHES FROM WO _____ C/L _____ to _____ ANGLE: <input type="checkbox"/> 0 <input type="checkbox"/> 45 <input type="checkbox"/> 60 <input type="checkbox"/> Other _____		BEAM DIRECTION <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> cw <input type="checkbox"/> ccw		
FROM L _____ to L _____ INCHES FROM WO _____ C/L _____ to _____ ANGLE: <input type="checkbox"/> 0 <input type="checkbox"/> 45 <input type="checkbox"/> 60 <input type="checkbox"/> Other _____		FROM _____ DEG to _____ DEG		
<input type="checkbox"/> NO SCAN <input type="checkbox"/> LIMITED SCAN		SURFACE <input type="checkbox"/> 1 <input type="checkbox"/> 2		
FROM L _____ to L _____ INCHES FROM WO _____ C/L _____ to _____ ANGLE: <input type="checkbox"/> 0 <input type="checkbox"/> 45 <input type="checkbox"/> 60 <input type="checkbox"/> Other _____		BEAM DIRECTION <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> cw <input type="checkbox"/> ccw		
FROM L _____ to L _____ INCHES FROM WO _____ C/L _____ to _____ ANGLE: <input type="checkbox"/> 0 <input type="checkbox"/> 45 <input type="checkbox"/> 60 <input type="checkbox"/> Other _____		FROM _____ DEG to _____ DEG		
Prepared By: Larry Mauldin <i>Larry Mauldin</i>				Date: 11/16/98
Reviewed By: Jay A Eaton <i>Jay A Eaton</i>				Date: 11/16/98
Authorized Inspector: <i>JABC</i>				Date: 11/25/98
Sketch(s) attached <input checked="" type="checkbox"/> yes <input type="checkbox"/> no				Sheet 35 of 4

DUKE POWER COMPANY Limited Examination Coverage Worksheet						NDE-91-1	
						Revision 0	
Examination Volume/Area Defined							
<input type="checkbox"/> Base Metal <input type="checkbox"/> Weld <input type="checkbox"/> Near Surface <input type="checkbox"/> Bolting <input checked="" type="checkbox"/> Inner Radius							
Area Calculation				Volume Calculation			
Area = 4.37" sq. in.				Volume = 124" x 4.37 sq. in. = 542 cu. in.			
Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
1	60°	cw & ccw	3.62	66	239	542	44.10

Prepared By: Jay A Eaton				Item No: B03.140.004	
Reviewed By: Gary Moss				Level: II	
				Date: 11/16/98	
				Date: 11-16-98	

NUMBER RADIUS EXAM

2 Primary Outlet Nozzle

AREA SCANNED.

$$= \text{AREA} - \text{AREA-MISSED.}$$
$$4,37 = .5 \times 1.5$$

3.67" = AREA SCANNED.

Lowlight
UGAT

AREA CALC FOR INNER RADUS.

6.0 x .5 x 3.0

$$\frac{\pi \times 2^2}{4} - \frac{\pi \times 1.5^2}{4} = 1.57 \text{ sq in}$$

total	41.37 sq in
-------	-------------

TITLE: INNER EDITIONS SPEA CLE.

ITEM #: B03.140:004

Page 4 of 4

BY-formation Level III

DATE: 11.21.95

Duke Energy Corporation

Station Oconee Unit 1, 2 & 3

10-YEAR INTERVAL REQUEST FOR RELIEF NO. 98-01

Pursuant to 10 CFR 50.55a(g)(5)(iii), Duke Energy has determined that compliance with the specified requirements of ASME Boiler and Pressure Vessel Code, Section XI is not practical for Oconee Nuclear Station. Accordingly, information is being submitted in support of our determination and relief is being sought from the applicable ASME Boiler and Pressure Vessel Code, Section XI requirement(s).

I. System/Component(s) for Which Relief is Requested:

a. Part 1, Pressurizer Surge Nozzle-to-Lower Head Weld

1-PZR-WP15 Item Number B03.110.001

2-PZR-WP15 Item Number B03.110.001

3-PZR-WP15 Item Number B03.110.001

b. Part 2, Letdown Cooler Heat Exchanger Nozzle-to-Vessel Welds

1-LDCA-IN-V2 Item Number B03.150.001

1-LDCA-OUT-V6 Item Number B03.150.002

3-LDCA-IN-V2 Item Number B03.150.001

3-LDCA-OUT-V5 Item Number B03.150.002

For welds listed in this Request for Relief (both Parts 1 and 2), all configurations, including interferences, are the same for Units 1, 2, and 3. Therefore, all three units are being documented in this Request for Relief as described in NRC Inspection Report No. 50-269/95, 50-270/95, 50-287 dated May 5, 1995.

While the examinations have been completed only for Unit 1 at this time, relief is also being sought for Units 2 and 3 for the same welds. If, for

some reason, the actual examination coverages of the welds referenced in this Request for Relief for Units 2 and 3 are less than those listed for Unit 1 in Section IV of this request, additional Requests for Relief will be submitted on a case by case basis.

II. Code Requirement:

ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition with no Addenda, Examination Category B-D, Items B3.110 and B3.150 requires 100% volumetric examination of all Pressurizer nozzle-to-vessel welds as defined by Figure IWB-2500-7,

ASME Section XI 1989 Edition with no Addenda, Appendix 1, including Supplement 9 as clarified by Code Inquiry 95-11 requires scanning using two different angles when scanning from the outside surface of the component. When scanning for reflectors parallel to the weld, the angle beams shall be aimed at right angles to the weld axis, with the search unit(s) manipulated so that the ultrasonic beams pass through the entire volume of weld metal. The adjacent base metal in the examination volume must be completely scanned by both angle beams from both directions (any combination of two angle beams will satisfy the requirement).

When scanning for reflectors transverse to the weld, the angle beam search units shall be aimed parallel to the axis of longitudinal and circumferential welds. The search unit shall be manipulated so that the ultrasonic beams pass through all of the examination volume. Scanning shall be done in two directions 180 degrees to each other to the extent possible. Areas blocked by geometric conditions shall be examined from at least one direction.

Code Case N-460 allows credit for full volume coverage if it can be shown that at least 90% of the required volume has been examined.

III. Code Requirement from which Relief is Requested:

Relief is requested from the requirement of examining 100% of the ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition with no Addenda (Code) required volumetric examinations of the Pressurizer Nozzle-to-Head weld and the Letdown Cooler Heat Exchanger Nozzle to Vessel welds described in Section I above.

Due to part geometry, obtaining at least 90% of the weld length as outlined in Code Case N-460 is not possible with existing ultrasonic techniques.

IV. Basis for Relief:

Request for Relief 98-01, Part 1 Examination Category B-D, Item B3.110, Full Penetration Pressurizer Nozzle-to-Vessel Weld

Pressurizer Nozzle-to-Head Weld 1-PZR-WP15 (Item Number B03.110.00) was examined to the maximum extent practical using ultrasonic techniques in accordance with the requirements of ASME Section V, Article 4, and ASME Section XI, Appendix I, 1989 Edition. Reference Attachment A for drawing.

This weld is limited to 68.39% coverage of the required volume because of the nozzle configuration.

Request for Relief 98-01, Part 2, Examination Category B-D, Item B3.150, Full Penetration Pressurizer Nozzle-to-Vessel Welds

Letdown Cooler Heat Exchangers (Primary Side) Nozzle-to-Vessel Welds 1-LDCA-IN-V2 and 1-LDCA-IN-V6 (Item Numbers B03.110.001 and B03.110.002 respectively) were examined to the maximum extent practical using ultrasonic techniques in accordance with the requirements of ASME Section V, Article 4, and ASME Section XI Boiler and Pressure Vessel Code, Appendix I, 1989 Edition. Reference Attachment B for drawing.

These welds are limited to 26.73% coverage of the required volume because of branch connection interferences.

V. Alternate Examinations or Testing:

Request for Relief 98-01, Part 1, Examination Category B-D, Item B3.110. Pressurizer Nozzle-to-Vessel Weld

The use of radiography as an alternate volumetric examination of the Pressurizer weld referenced in this request is not a viable option. Restrictions to performing radiography are primarily due to inability to access the inside of the Pressurizer to place film or to position a radiographic source.

Duke Energy proposes to use the pressure test and VT-2 visual examination to compliment the limited examination coverage. The Code requires (reference Table IWB-2500-1, Item Number B15.20) that a system leakage test be performed after each refueling outage. Additionally a system hydrostatic test (reference Table IWB-2500-1, Item Number B15.20) is required once during each 10 year inspection interval. These tests require a VT-2 visual examination for evidence of leakage. This testing will provide adequate assurance of pressure boundary integrity.

In addition to the above Code required examinations (volumetric and pressure test), there are other activities which provide a high level of confidence that, in the unlikely case that leakage did occur through this weld, it would be detected. Specifically, any leakage from this weld would be detected by monitoring of the Reactor Coolant System (RCS), which is performed once each shift under procedure PT/1,2,3/A/0600/10, "RCS Leakage". This RCS leakage monitoring is required by Technical Specification 3.1.6, "Leakage". The leakage could be detected through several methods. The reactor building air particulate monitor is sensitive to low leak rates; the iodine monitor, gaseous monitor and area monitor are capable of detecting any fission products in the coolant and will make these monitors sensitive to coolant leakage. In addition to the radiation monitors, leakage is also monitored by a level indicator in the reactor building normal sump. Another check would be a loss of level in the Letdown Storage Tank.

Duke Energy has examined the weld referenced in this request to the maximum extent possible utilizing the latest in examination techniques and equipment. Duke Energy will continue to perform ultrasonic examination of all welds identified in Section 1 of this request (for all units) to the maximum extent practical, within the limits of original design and construction, in accordance with the requirements of ASME Section V, Article 4, and ASME Section XI, Appendix I, 1989 Edition, and Code Case N-460. This will provide reasonable assurance of weld/component integrity. Thus, an acceptable level of quality and safety will have been achieved, and public health and safety will not be endangered by allowing relief from the aforementioned Code requirements.

Request for Relief 98-01, Part 2, Examination Category B-D, Item B3.150.Letdown Cooler Heat Exchanger Nozzle-to-Vessel Welds

The use of radiography as an alternate volumetric examination of the Letdown Cooler Heat Exchanger Nozzle-to-Vessel welds is not a viable option. Restrictions to performing radiography are primarily due to inability to access the inside of the Letdown Cooler Heat Exchanger to place film or to position a radiographic source.

Duke Energy proposes to use the pressure test and VT-2 visual examination to compliment the limited examination coverage. The Code requires (reference Table IWB-2500-1, Item Number B15.40) that a system leakage test be performed after each refueling outage. Additionally a system hydrostatic test (reference Table IWB-2500-1, Item Number B15.41) is required once during each 10 year inspection interval. These tests require a VT-2 visual examination for evidence of leakage. This testing will provide adequate assurance of pressure boundary integrity.

In addition to the above Code required examinations (volumetric and pressure test), there are other activities which provide a high level of confidence that, in the unlikely case that leakage did occur through these welds, it would be detected and isolated. Specifically, any leakage from these welds would be detected by monitoring of the Reactor Coolant System (RCS), which is performed once each shift under procedure PT/1,2,3/A/0600/10, "RCS Leakage". This RCS leakage monitoring is required by Technical Specification 3.1.6, "Leakage". The leakage could be detected through several methods. The reactor building air particulate monitor is sensitive to low leak rates; the iodine monitor, gaseous monitor and area monitor are capable of detecting any fission products in the coolant and will make these monitors sensitive to coolant leakage. In

addition to the radiation monitors, leakage is also monitored by a level indicator in the reactor building normal sump. Another check would be a loss of level in the Letdown Storage Tank. In the unlikely case that a leak did occur, these welds would be isolated from the RCS pressure boundary by remotely-operated valves.

VI. Justification for the Granting of Relief

Request for Relief 98-01, Part 1, Examination Category B-D, Item B3.110. Pressurizer Nozzle-to-Vessel Weld

The Code requires 100% volumetric examination of all Pressurizer Nozzle-to-Vessel welds. However, the taper on the nozzle side of the weld restricts scanning and prevents complete volumetric coverage of Pressurizer Nozzle-to-Vessel weld PZR-WP15. Therefore, the 100% volumetric examination is impractical for this nozzle-to-vessel weld. To meet Code examination requirements, modifications to the nozzle would be necessary to allow complete volumetric coverage. Modification to this portion of the reactor coolant system would create a considerable burden on Duke Energy.

Duke Energy obtained 68.39% coverage of Pressurizer Nozzle-to-Vessel weld 1-PZR-WP15. Based on the significant portion of the required volumetric examination that has been completed, any existing pattern of degradation would have been detected. In addition to the Code required volumetric examination; the Pressurizer will be subjected to the Code required VT-2 visual examination after each refueling outage and the 10 year hydrostatic test. Duke Energy believes this provides reasonable assurance of the continued structural integrity of the subject nozzle-to-vessel weld.

Pursuant to 10 CFR 50.55a(g)(6)(i), granting this relief for the Pressurizer Nozzle-to-Vessel weld will provide reasonable assurance of weld/component integrity, and is authorized by law and will not endanger life or property or the common defense and security and is 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.

Request for Relief 98-01, Part 2, Examination Category B-D, Item B3.150.Letdown Cooler Heat Exchanger Nozzle-to-Vessel Welds

The Code requires 100% volumetric examination of all Heat Exchanger Nozzle-to-Vessel welds. However, the location of the Letdown Cooler Heat Exchanger Nozzle-to-Vessel welds prevents obtaining 100% volumetric examination coverage. Therefore, the 100% volumetric examination is impractical. To meet Code examination requirements, modifications to the Letdown Cooler Heat Exchanger Nozzle would be necessary to allow complete volumetric examination coverage. Modifications of this magnitude would create a considerable burden on Duke Energy Corporation.

Duke Energy obtained 26.73% coverage on the Letdown Cooler Heat Exchanger Nozzle-to-Vessel welds, 1LDCA-IN-V2 and 1-LDCA-OUT-V6. It is recognized that this represents a small part of the required Code examination volume. However, in conjunction with the Code required VT-2 visual examination after each refueling outage and the 10 year hydrostatic test; Duke Energy believes this provides reasonable assurance of the continued structural integrity of the subject nozzle-to-vessel welds. In addition to the above code required examinations, RCS leakage monitoring and the capability of providing remote isolation of these welds from RCS pressure boundary provide assurance that in the unlikely case that a leak from these welds did occur, the welds could be promptly isolated and evaluated for corrective action.

Pursuant to 10 CFR 50.55a(g)(6)(i), granting this relief for the Letdown Cooler Heat Exchanger Nozzle-to-Vessel weld will provide reasonable assurance of weld/component integrity, and is authorized by law and will not endanger life of property or the common defense and security and is 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.

VII. Implementation Schedule:

Unit 1, Refueling Outage 17

Unit 2, Refueling Outage 16

Unit 3, Refueling Outage 17

Evaluated By:

RC Rouse

Date

3/2/98

Reviewed By

JO Barbour

Date

3/5/98

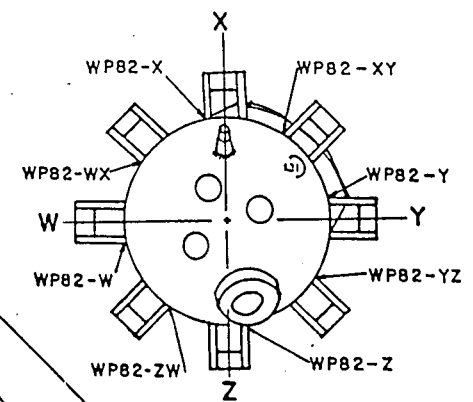
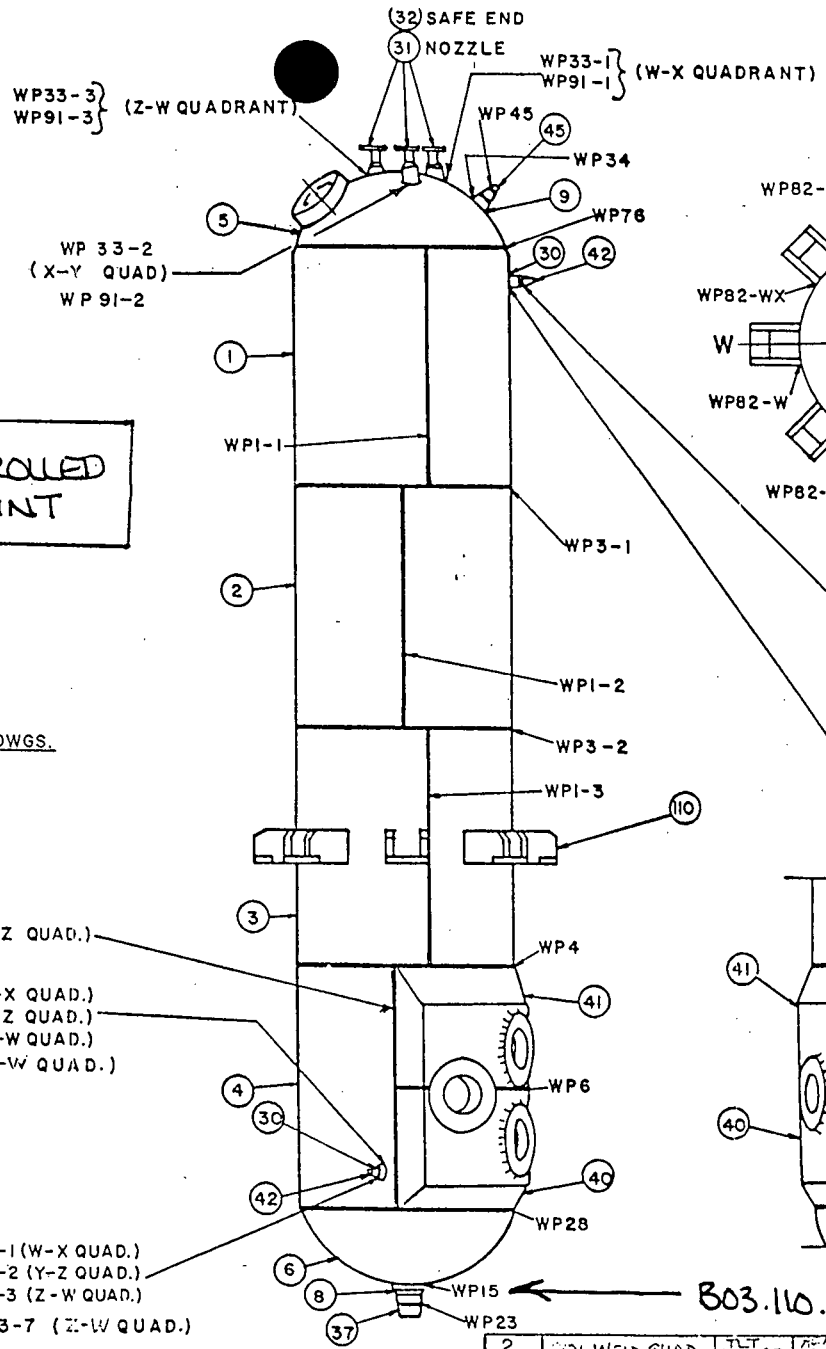
HICK.	PC. NO.	QT.	DESCRIPTION	MATL.
88	1	1	UPPER SHELL COURSE	SA 212 GR. B
88	2	1	MIDDLE SHELL COURSE	SA 212 GR. B
188	3	1	LOWER SHELL COURSE	SA 212 GR. B
188	4	1	HEATER BELT SHELL	SA 212 GR. B
188	5	1	UPPER HEAD	SA 212 GR. B
188	6	1	LOWER HEAD	SA 212 GR. B
563	8	1	PRESSURIZER SURGE NOZZLE	SA 508 CL. 1
188	9	1	PRESSURIZER SPRAY NOZZLE	SA 508 CL. 1
188	30	6	SAMPLING NOZZLE	SA 508 GR. B
750	31	3	PRESSURIZER RELIEF NOZZLE	SA 508 CL. 1
063	32	3	PRESSURIZER RELIEF NOZZLE SAFE END	SA 182 F316
188	37	1	PRESSURIZER SURGE NOZZLE SAFE END	SA 336 CL. F8M
188	40	1	LOWER HEATER BELT FORGING	SA 508 CL. 1
188	41	1	UPPER HEATER BELT FORGING	SA 508 CL. 1
188	42	6	SAMPLING NOZZLE SAFE END	SB-166
188	45	1	PRESSURIZER SPRAY NOZZLE SAFE END	SB-166
188	110	8	PRESSURIZER SUPPORT LUG ASSEMBLY	SA-516 GR. 70
188				
750				
750				
750				
750				
750				
1875				
1875				
1875				
1875				
1875				
750				
5500				

WELD LIST (CONT.)				
I.D. NO.	PC. NO.	DIAM.	THICK.	
5500	WP91-1	31 TO 32	2 1/2" NPS	1.000
5500	WP91-2	31 TO 32	2 1/2" NPS	1.000
5500	WP91-3	31 TO 32	2 1/2" NPS	1.000
5500	WP63-7	42 TO 30	SAMPLING	1.1875
5500				

UNCONTROLLED FOR PRINT

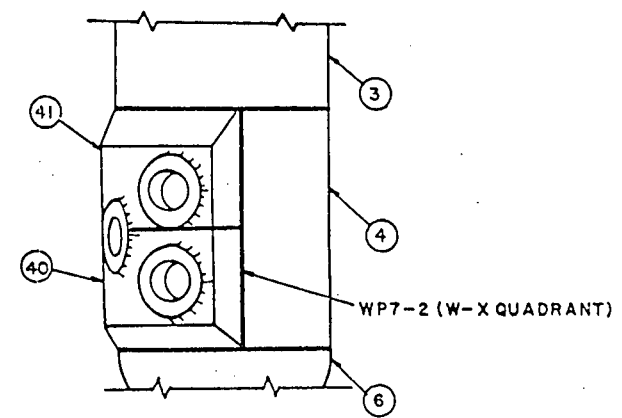
REFERENCE DWGS.
OM 201-1001

NOTES:
1. ALL I.D. NUMBERS SHALL BE PRECEDED BY "IPRZ - "
2. PIECE NUMBERS ARE SHOWN IN CIRCLES.



TOP VIEW

WP63-4 (W-X QUADRANT)
WP63-5 (Y-Z QUADRANT)
WP63-6 (Z-W QUADRANT)
WP26-4 (W-X QUADRANT)
WP26-5 (Y-Z QUADRANT)
WP26-6 (Z-W QUADRANT)



803.110.001

NO.	REVISION	REV. WELD QUAD.	REV. WELD QUAD.	REV. WELD QUAD.	TITLE
		REV. WELD QUAD.	REV. WELD QUAD.	REV. WELD QUAD.	
2		REV. WELD QUAD.	REV. WELD QUAD.	REV. WELD QUAD.	PRESSURIZER WELD OUTLINE
1		REV. WELD QUAD.	REV. WELD QUAD.	REV. WELD QUAD.	
0		REV. WELD QUAD.	REV. WELD QUAD.	REV. WELD QUAD.	DWG NO. ISI-C -002 REV. 2
		REV. WELD QUAD.	REV. WELD QUAD.	REV. WELD QUAD.	

DUKE POWER COMPANY										Exam Start: 1015		Form NDE-UT-2A	
ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS										Exam Finish: 1055		Revision 4	
Station: Ocone			Unit: 1		Component/Weld ID: 1-PZR-WP15						Date: 10/24/97		
Weld Length (in.): 58"			Surface Condition: N/A			Lo: 9.2.3		Surface Temperature: 80 ° F					
Examiner: Jay A. Eaton <i>[Signature]</i> Level: II			Scans:		Pyrometer S/N: MCNDE 27018								
Examiner: James L. Panel <i>[Signature]</i> Level: II			45 <input checked="" type="checkbox"/> 56 dB 70 <input type="checkbox"/> dB		Cal Due: 2/14/98								
Procedure: NDE-620 Rev: 5 NDE-640 1			FC: N/A		45T <input checked="" type="checkbox"/> 56 dB 70T <input type="checkbox"/> dB					Configuration: Nozzle to Pzr Head			
Calibration Sheet No: 9701091, 9701092, 9701093			95-18&19		60 <input checked="" type="checkbox"/> 63 dB					S1 Flow S2			
					60T <input checked="" type="checkbox"/> 63 dB					HEAD to NOZZLE			
					Other: 0°-30.5 dB					Scan Surface: OD			
										Applies to NDE-680 only			
										Skew Angle: N/A			

IND #	4	Max % Ref	Mp Max	W Max	L Max	L1	L2	W1	Mp1	W2	Mp2	Beam Dir.	Exam Surf.	Scan	Damps
		DO NOT WRITE IN THIS SPACE				20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac		DO NOT WRITE IN THIS SPACE	WRITE SPACE	
NRI	0°														
NRI	45°														
NRI	60°														

Remarks:													
Limitations: (see NDE-UT-4) <input checked="" type="checkbox"/> 90% or greater coverage obtained: yes <input type="checkbox"/> no <input checked="" type="checkbox"/>												Sheet 1 of 13	
Reviewed By: G G Bibb <i>[Signature]</i>			Level: III		Date: 10-28-97		Authorized Inspector: <i>[Signature]</i>			Date: 11-6-97		Item No: B03.110.001	

DUKE POWER COMPANY

ISI LIMITATION REPORT

FORM NDE-UT-4

Revision 1

Component/Weld ID: 1-PZR-WP15		Item No: B03.110.001		Remarks:	
<input checked="" type="checkbox"/> NO SCAN <input type="checkbox"/> LIMITED SCAN		SURFACE <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2		BEAM DIRECTION <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> cw <input checked="" type="checkbox"/> ccw	
FROM L _____ to L _____		INCHES FROM WO _____ WELD C/L _____ to _____ BEYOND _____		SURGE LINE NOZZLE	
ANGLE: <input checked="" type="checkbox"/> 0 <input checked="" type="checkbox"/> 45 <input checked="" type="checkbox"/> 60 <input type="checkbox"/> Other _____		FROM _____ 0 _____ DEG to _____ 360 _____ DEG			
<input type="checkbox"/> NO SCAN <input type="checkbox"/> LIMITED SCAN		SURFACE <input type="checkbox"/> 1 <input type="checkbox"/> 2		BEAM DIRECTION <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> cw <input type="checkbox"/> ccw	
FROM L _____ to L _____		INCHES FROM WO _____ to _____			
ANGLE: <input type="checkbox"/> 0 <input type="checkbox"/> 45 <input type="checkbox"/> 60 <input type="checkbox"/> Other _____		FROM _____ DEG to _____ DEG			
<input type="checkbox"/> NO SCAN <input type="checkbox"/> LIMITED SCAN		SURFACE <input type="checkbox"/> 1 <input type="checkbox"/> 2		BEAM DIRECTION <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> cw <input type="checkbox"/> ccw	
FROM L _____ to L _____		INCHES FROM WO _____ to _____			
ANGLE: <input type="checkbox"/> 0 <input type="checkbox"/> 45 <input type="checkbox"/> 60 <input type="checkbox"/> Other _____		FROM _____ DEG to _____ DEG			
<input type="checkbox"/> NO SCAN <input type="checkbox"/> LIMITED SCAN		SURFACE <input type="checkbox"/> 1 <input type="checkbox"/> 2		BEAM DIRECTION <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> cw <input type="checkbox"/> ccw	
FROM L _____ to L _____		INCHES FROM WO _____ to _____			
ANGLE: <input type="checkbox"/> 0 <input type="checkbox"/> 45 <input type="checkbox"/> 60 <input type="checkbox"/> Other _____		FROM _____ DEG to _____ DEG			
Prepared By: Jay Eaton		Level: II		Date: 10/24/97	
Reviewed By: G G Bibb		Date: 10-28-97		Sketch(s) attached <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	
		Authorized Inspector: <i>MBC</i>		Date: 11-6-97	

DUKE POWER COMPANY

NDE-UT-6

B03.110.001

Ultrasonic Beam Spread Measurement Sheet

Revision 1

W1 .6 Mp1 1.45

1/4t Wmax 1.1 MpMax 1.85

W2 1.6 Mp2 2.18

W1 2.05 Mp1 3.3

1/2t Wmax 2.45 MpMax 3.71

W2 2.85 Mp2 3.98

45° - 20°

TRANSDUCER: M18425

W1 3.3 Mp1 5.21

3/4t Wmax 3.7 MpMax 5.53

W2 4.25 Mp2 5.86

CAL BLOCK: 40394

Calibration Sheet No: 9701092

Examiner:

Level:

Date:

Reviewed By:

Level:

Date:

Authorized Inspector:

Date:

Sain / Moss II 10-24-97

H. Bibb

III 10-28-97

MBC

11-6-97

Sheet 3 of 13

DUKE POWER COMPANY
Ultrasonic Beam Spread Measurement Sheet

NDE-UT-6

Revision 1

W1 1.6 Mp1 2.23
 1/4t Wmax 2.25 MpMax 2.68
 W2 2.8 Mp2 3.19

W1 3.75 Mp1 4.73
 1/2t Wmax 4.6 MpMax 5.4
 W2 5.45 Mp2 6.3

W1 5.85 Mp1 7.3
 3/4t Wmax 6.75 MpMax 8.04
 W2 8.25 Mp2 9.3

60° - 20° BEAM SPREAD

TRANSDUCER: E19875

CAL: BLOCK: 40394

Calibration Sheet No: 9701090

Examiner: <i>Say Moss</i>	Level: <i>II</i>	Date: <i>10-24-97</i>	Reviewed By: <i>Ed Belt</i>	Level: <i>III</i>	Date: <i>10-28-97</i>	Authorized Inspector: <i>JMBC</i>	Date: <i>11-6-97</i>
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DUKE POWER COMPANY
Limited Examination Coverage Worksheet

NDE-91-1

Revision 0

Examination Volume/Area Defined

☒ Base Metal ☒ Weld ☐ Near Surface ☐ Bolting ☐ Inner Radius

Area Calculation

Volume Calculation

Coverage Calculations

Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
		WELD			2177.4	3689.6	59.01
		BASE METAL			6071.8	8371.8	72.53
		TOTAL	AGGREGATE	COVERAGE	8249.2	12061.4	68.39

Item No: B03.110.001

Prepared By: Jay A Eaton

Level: II

Date: 10/24/97

Reviewed By: G G Bibb

Level: III

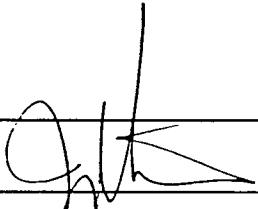

Date: 10/24/97

DUKE POWER COMPANY Limited Examination Coverage Worksheet	NDE-91-1
	Revision 0

Examination Volume/Area Defined				
<input type="checkbox"/> Base Metal	<input checked="" type="checkbox"/> Weld	<input type="checkbox"/> Near Surface	<input type="checkbox"/> Bolting	<input type="checkbox"/> Inner Radius

Area Calculation	Volume Calculation

Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
B-C-F-G	45	S1	0	54	0	461.2	0.00
B-C-F-G	60	S1	0	54	0	461.2	0.00
B-C-F-G	45	S2	7.34	54	396.4	461.2	85.95
B-C-F-G	60	S2	7.5	54	405	461.2	87.81
B-C-F-G	45	CW	6.37	54	344	461.2	74.59
B-C-F-G	45	CCW	6.37	54	344	461.2	74.59
B-C-F-G	60	CW	6.37	54	344	461.2	74.59
B-C-F-G	60	CCW	6.37	54	344	461.2	74.59
WELD		TOTAL	AGGREGATE	COVERAGE	2177.4	3689.6	59.01

		Item No:	B03.110.001
Prepared By: Jay A Eaton		Level:	II
Reviewed By: G G Bibb		Level:	III
		Date:	10/24/97

DUKE POWER COMPANY
Limited Examination Coverage Worksheet

NDE-91-1

Revision 0

Examination Volume/Area Defined

☒ Base Metal ☐ Weld ☐ Near Surface ☐ Bolting ☐ Inner Radius

Area Calculation

Volume Calculation

Coverage Calculations

Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
C-D-E-F	45	S2	15.63	54	844	844	100.00
C-D-E-F	60	S2	15.63	54	844	844	100.00
C-D-E-F	45	CW	15.63	54	844	844	100.00
C-D-E-F	45	CCW	15.63	54	844	844	100.00
C-D-E-F	60	CW	15.63	54	844	844	100.00
C-D-E-F	60	CCW	15.63	54	844	844	100.00
A-B-G-H	45	S2	5.53	54	298.6	551.3	54.16
A-B-G-H	60	S2	6.37	54	344	551.3	62.40
A-B-G-H	45	CW	1.69	54	91.3	551.3	16.56
A-B-G-H	45	CCW	1.69	54	91.3	551.3	16.56

Item No: B03.110.001

Prepared By: Jay A Eaton

Level: II

Date: 10/24/97

Reviewed By: G G Bibb

Level: III

Date: 10/24/97

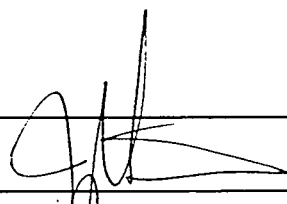

sheet 7 of 13

DUKE POWER COMPANY Limited Examination Coverage Worksheet	NDE-91-1
	Revision 0

Examination Volume/Area Defined				
<input checked="" type="checkbox"/> Base Metal	<input type="checkbox"/> Weld	<input type="checkbox"/> Near Surface	<input type="checkbox"/> Bolting	<input type="checkbox"/> Inner Radius

Area Calculation	Volume Calculation

Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
A-B-G-H	60	CW	1.69	54	91.3	551.3	16.56
A-B-G-H	60	CCW	1.69	54	91.3	551.3	16.56
BASE METAL		TOTAL	AGGREGATE	COVERAGE	6071.8	8371.8	72.53

		Item No:	B03.110.001
Prepared By: Jay A Eaton		Level: II	Date: 10/24/97
Reviewed By: G G Bibb		Level: III	Date: 10/24/97

ITEM# B03.110.001 & B03.120.001

WELD# 1P2R-WP15

BASE METAL A-B-G-H

$$60^\circ = \text{AREA INSPECTED} = 1.3" \times 4.9" = 6.37 \text{ in}^2$$

$$45^\circ = \text{AREA INSPECTED} = 1.3" \times 4.0" = 5.2 \text{ in}^2$$

$$\frac{1.3" \times .5"}{2} = 0.33 \text{ in}^2$$

$$45^\circ \text{ TOTAL} = 5.53 \text{ in}^2$$

45° & 60° CW & CCW

$$\text{AREA INSPECTED} = \frac{2.6" \times 1.3"}{2} = 1.69 \text{ in}^2$$

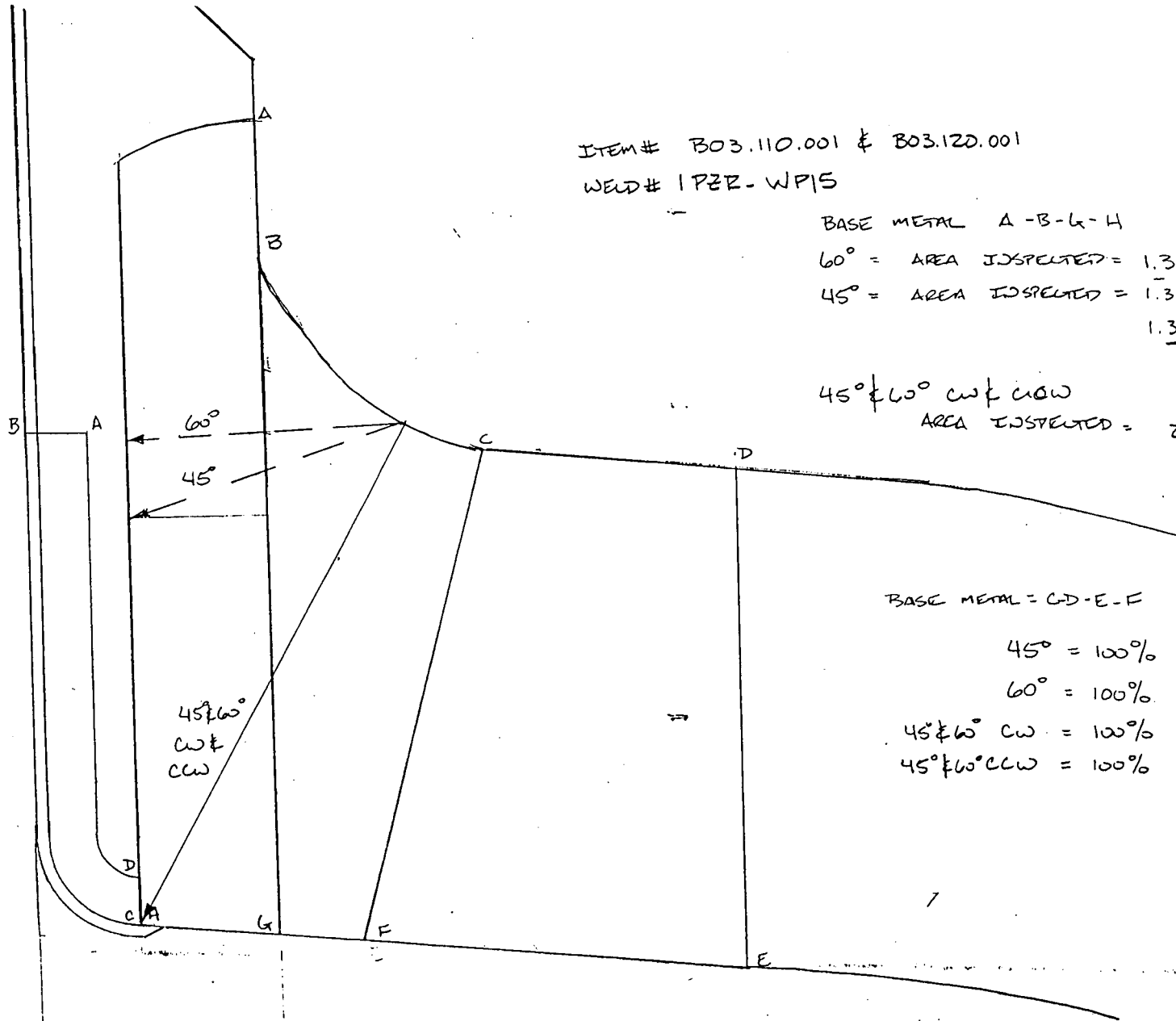
BASE METAL = C-D-E-F

$$45^\circ = 100\%$$

$$60^\circ = 100\%$$

$$45^\circ \& 60^\circ \text{ CW} = 100\%$$

$$45^\circ \& 60^\circ \text{ CCW} = 100\%$$



gfk II 10/24/97

Sheet 9 of 13

ITEM# B03.110.001 & B03.120.001
 WELD# 1P2R-WP15

45° TORL = 8.54

$-\frac{2.0 \times 1.2}{2} = -1.20$

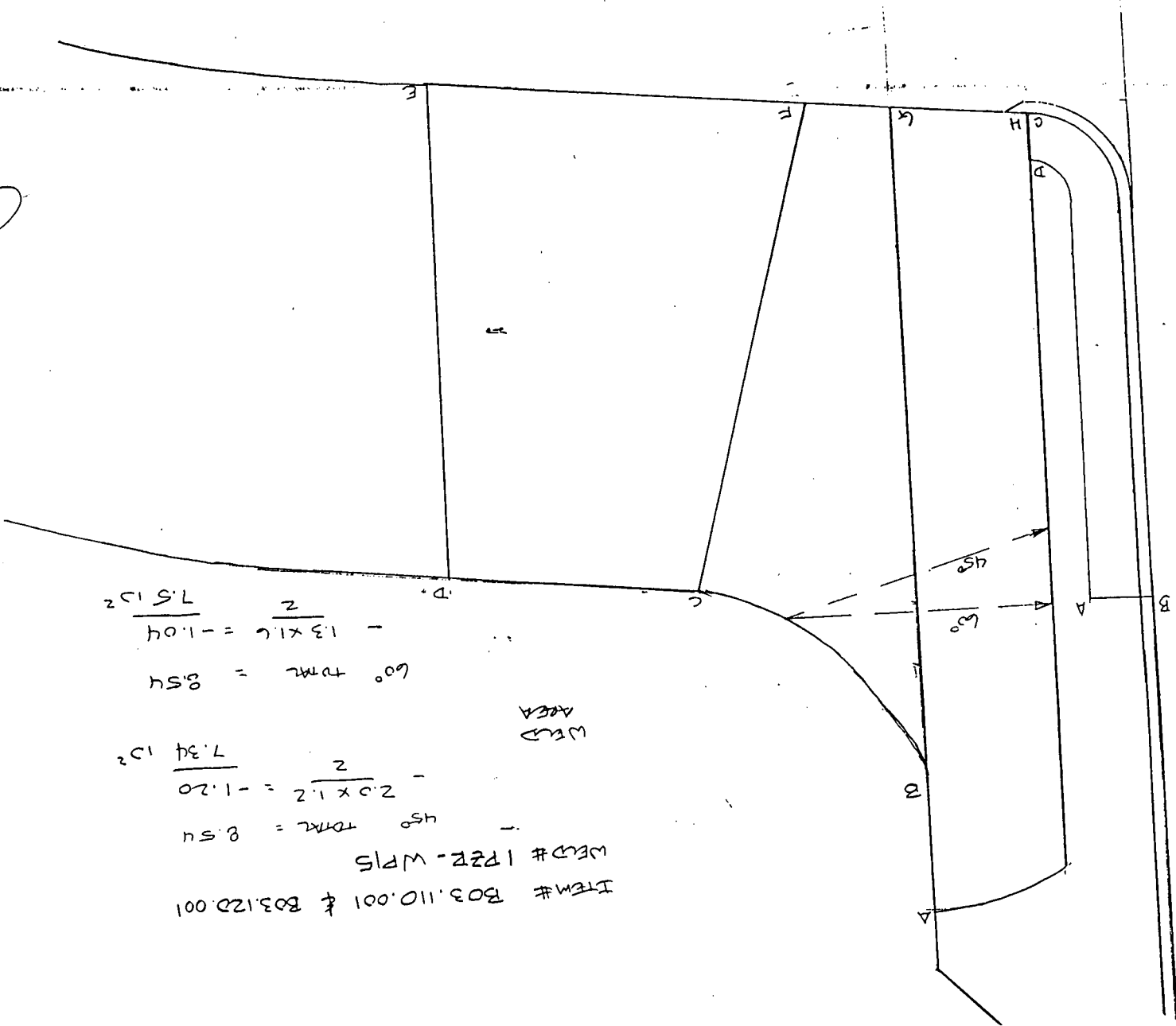
$\frac{7.34}{2}$

WELD
 AREA

60° TORL = 8.54

$-\frac{1.3 \times 1.6}{2} = -1.04$

$\frac{7.51}{2}$



10/24/97 II

ITEM# B03.110.001 & B03.120.001
WELD# 1P2R-WP15

gfl II 10/24/97

BASE METAL C-D-E-F
 $2.5" \times 5" = 12.5 \text{ } 10^2$
 $\frac{1.25" \times 5"}{2} = 3.125 \text{ } 10^2$
 TOTAL = 15.63 10^2

BASE METAL A-B-G-H
 $7.6" \times 1.3" = 9.88 \text{ } 10^2$
 $\frac{1.3 \times 0.5}{2} = 0.33 \text{ } 10^2$
 TOTAL = 10.21 10^2

Sheet 11 of 13

ITEM# B03.110.001 & B03.120.001
WELD# 1P2R-WP15

TOTAL WELD

$$\textcircled{1} \frac{1.1 \times 1.4}{2} = 0.77 \text{ } 10^2$$

$$\textcircled{2} 1.9 \times 5.3 = 4.77 \text{ } 10^2$$

$$\textcircled{3} \frac{1.2 \times 5.0}{2} = 3.0 \text{ } 10^2$$

$$\underline{\underline{8.54 \text{ } 10^2}}$$

gfk II 10/24/97

ITEM# B03.110.001 & B03.120.001
 WELD# 1P22-WP15

WELD AREA

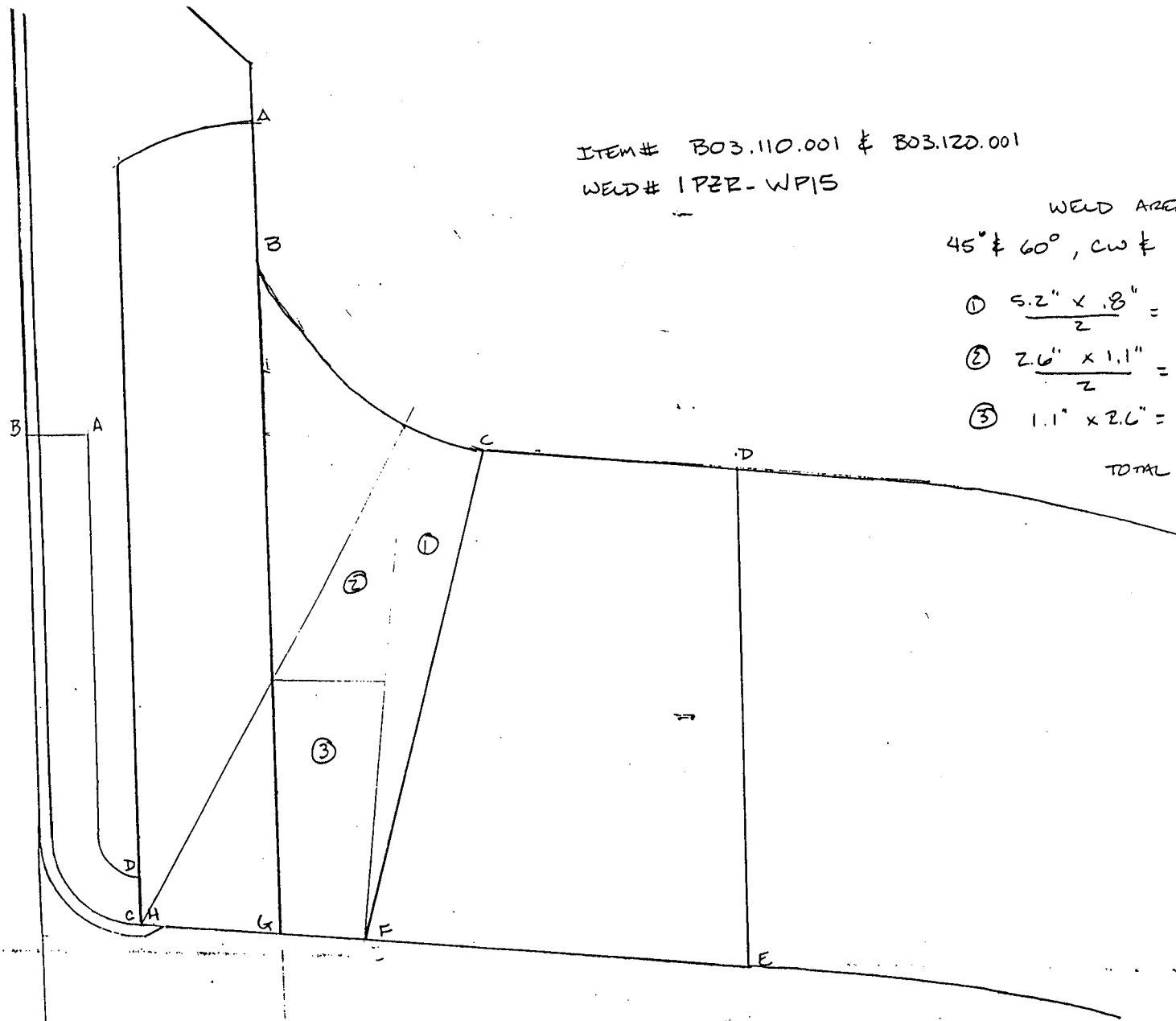
45° & 60°, CW & CCW

$$\textcircled{1} \frac{5.2" \times .8"}{2} = 2.08 \text{ in}^2$$

$$\textcircled{2} \frac{2.6" \times 1.1"}{2} = 1.43 \text{ in}^2$$

$$\textcircled{3} 1.1" \times 2.6" = 2.86 \text{ in}^2$$

$$\text{TOTAL} \quad 6.37 \text{ in}^2$$



gfk II 10/24/97

AB1028

BILL OF MATERIAL										
MAT'L I.D.	QUANTITY	MATERIAL		SPECIFICATION		DESCRIPTION	CONST.	SIZE	SCH.	LOT NO.
		CLASS	TYPE	STANDARD	GRADE					
(A)		SS	SA182	316L		Bar (Channel Nozzle)	10R			
(B)		SS	SA182	316L		Chemical Connector		8"	875	E27371-1-1
(C)		SS				PIPE (INLET)		3"	160	
(D)		SS				PIPE (OUTLET)		3"	160	
(E)		SS	SA182	316L		Chemical Connector		8"	875	E27371-1-1

NOTES:

- ALL WELD NUMBERS SHALL BE PRECEDED BY L-51A-1872-1
- LAST WELD NO. V-6
- REF. LAYOUT DWG DM201-3107
- REF. FLOW DWG QED 101A-1.1, 2.1, 3.1
- CONSTR. CONSTRUCTED PER ASME SECT III CLASS 3
- DESIGN TEMP. 600° DESIGN PRESS. 2500 PSIG
- THE DRAWING NUMBER WILL BE THE COOLER SERIAL NUMBER. ALL COOLERS WILL BE DESIGNATED AS UNIT 1. PLEASE FILE IN SYSTEM 51A.
- THIS COOLER IS CURRENTLY Labeled COOLER 51A.

WELDING WELDS:

W-1, V-1 - HEAD TO SHELL WELDS
V-2, V-3, V-4 - NOZZLE TO VESSEL WELDS
V-5, V-6 - TUBE SHEET TO HEAD WELDS

**UNIT 1
COOLER A**

REVISIONS:

NO.	REVISION	DATE	CHK'D	DATE
2	REVISED WELD ON REV 1 TO W-1, V-1, V-2, V-3, V-4, V-5, V-6	11/18/95		
1	REV TO ADD S-1 TO END W-1, V-1, V-2, V-3, V-4, V-5, V-6	11/18/95		
0	REL FOR 66:8505 100 55071253	11/18/95		

QA CONDITION → ☒ 1 ☐ 2 ☐ 3 ☐ 4

DUKE POWER COMPANY
OCONEE NUCLEAR STATION UNIT

TITLE
LET DOWN COOLER
Serial Number 18792-1

SYN. 51A LINE NO. 4 DUKE CLASS 2

CODE CLASS SA III XI CLASS A

PIPING SPEC. NA

LOCATION REGULATORY BLDG LID CONTROL RM.

DWG. NO. 18792-1 REV. NO. 2

DUKE POWER COMPANY										Exam Start: 1031		Form NDE-UT-2A	
ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS										Exam Finish: 1146		Revision 4	
Station: Ocone			Unit: 1		Component/Weld ID: 1-LDCA-IN-V2						Date: 9/29/97		
Weld Length (in.): 14.5			Surface Condition: AS GROUND			Lo: 9.1.1.1		Surface Temperature: 71 ° F					
Examiner: Richard B. Childers <i>Richard B. Childers</i> Level: II			Scans: 45 <input checked="" type="checkbox"/> 47.0 dB 70 <input type="checkbox"/> _____ dB 45T <input checked="" type="checkbox"/> 44.0 dB 70T <input type="checkbox"/> _____ dB 60 <input checked="" type="checkbox"/> 72.0 dB 60T <input type="checkbox"/> _____ dB Other: 45L=75 dB			Pyrometer S/N: MCNDE 27018							
Examiner: James H. Resor <i>James H. Resor</i> Level: II						Cal Due: 2/14/98							
Procedure: NDE-630 Rev: 2						Configuration: CIRC							
FC: N/A						S1 _____ Flow _____ S2 _____							
Calibration Sheet No: 9701053, 9701054, 9701056, 9701055						NOZZLE to C.BODY							
						Scan Surface: OD							
						Applies to NDE-680 only							
						Skew Angle: N/A							

IND #	<i>4</i>	Max % Ref	Mp Max	W Max	L Max	L1	L2	W1	Mp1	W2	Mp2	Beam Dir.	Exam Surf.	Scan	Damps
		DO NOT WRITE IN THIS SPACE				20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac		DO NOT WRITE IN THIS SPACE	WRITE SPACE	
1	45L	159	1.55	0.8	12.5	360°	INT					S2	S1	AXIAL	NO
2	60L	159	1.76	1.1	12.5	360°	INT					S2	S1	AXIAL	NO
NRI	45C														

Remarks: SN # 94-18792-1	
Limitations: (see NDE-UT-4) <input checked="" type="checkbox"/> 90% or greater coverage obtained: yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	Sheet 1 of 11
Reviewed By: G G Bibb <i>GG Bibb</i> Level: III Date: 10-2-97	Authorized Inspector: <i>MBC</i> Date: 10-9-97
Item No: B03.150.001	

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

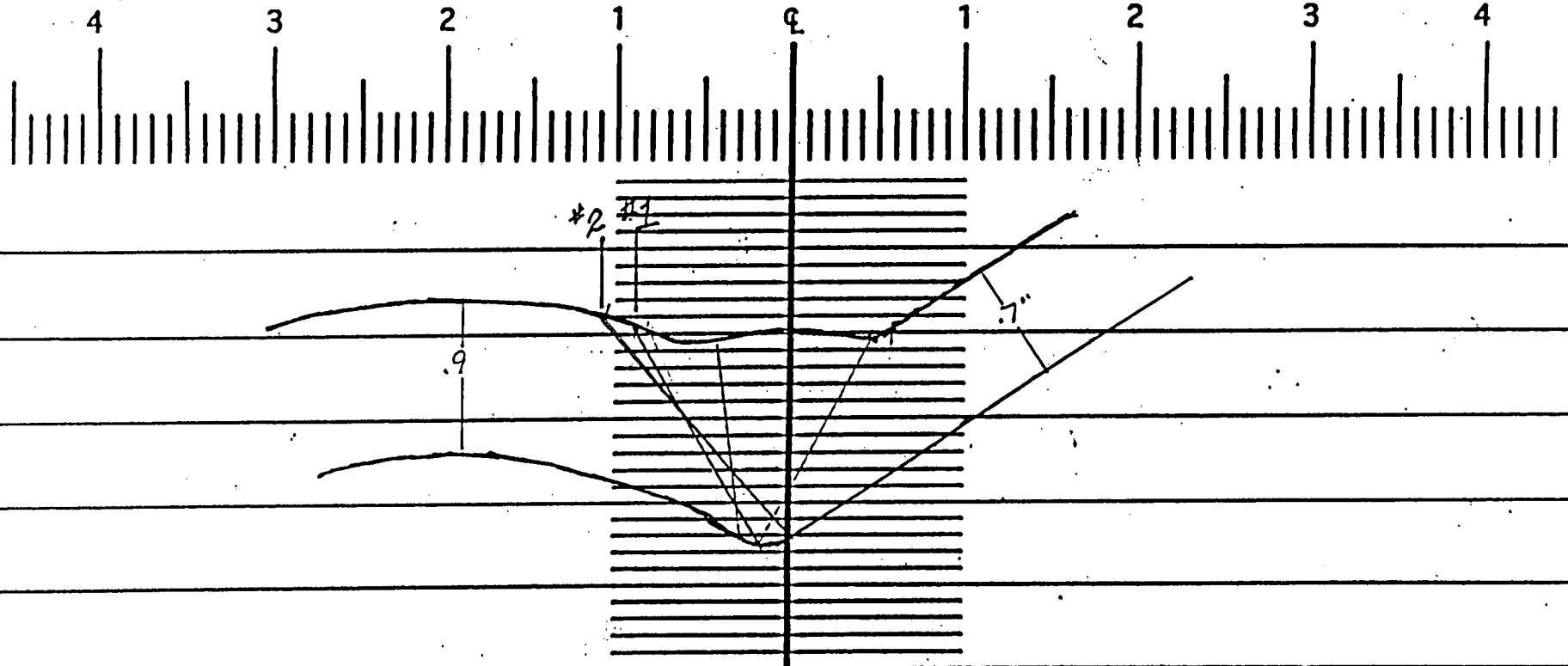
NDE-UT-5

Revision 1

EXAMINATION SURFACE 1

WELD

EXAMINATION SURFACE 2



Component ID/Weld No. 1-LDCA-1N-V2

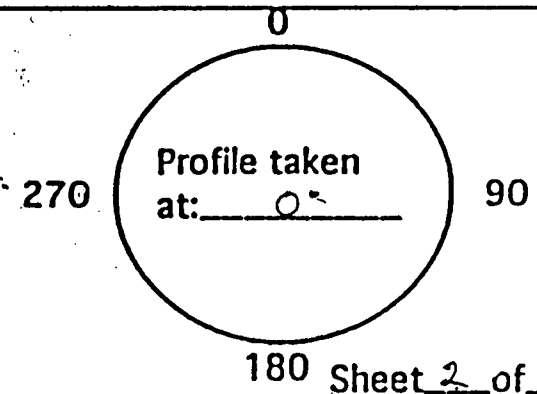
Remarks: B03.150.001

Item No: B03.150.001

Examiner: Richard B. Chelton Level: TL Date: 9-29-97

Reviewed By: LAB Level: TL Date: 10-2-97

Authorized Inspector: MBC Date: 10-9-97



DUKE POWER COMPANY
ULTRASONIC INDICATION RESOLUTION SHEET

Form NDE-UT-8

Revision 1

Acceptance Standard:

AFTER THE USE OF MULTIPLE ANGLES AND REVIEWING PREVIOUS DATA, INDICATIONS 1&2 WERE DETERMINED TO BE GEOMETRY. THIS WAS DUE TO THE 1 D RADIUS OF THE BRANCH CONNECTION WELD.

Item No: B03.150.001

Acceptable Indications: 1 -45L& 2-60L

Rejectable Indications:

These indications have been compared with previous ultrasonic data ☒ Yes ☐ No previous data available

Examiner:	Level:	Date:
Richard B. Childers <i>Richard B. Childers</i>	II	9/29/97

Sheet 3 of 11

Reviewer:	Level:	Date:
G.G. BIBB	III	10-2-97 9/29/97 10-2-97

Authorized Inspector: *MB* Date: *10-9-97*

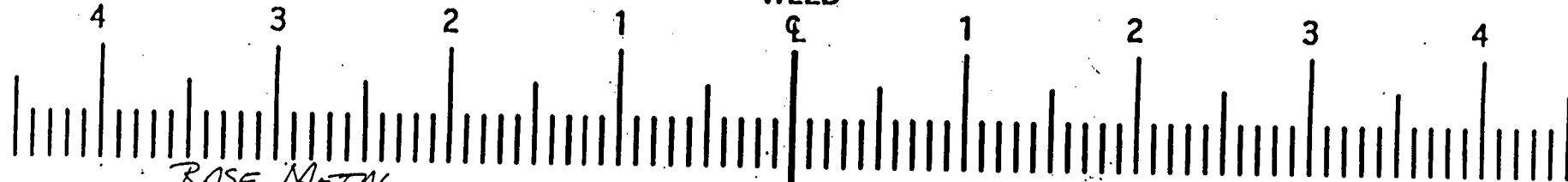
DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

NDE-UT-5

Revision 1

EXAMINATION SURFACE 1

EXAMINATION SURFACE 2



A-B-C $\frac{1.45 \times .65}{2} = .47125 = .472 \text{ IN.}$

D-E-F $\frac{.25 \times .15}{2} = .01875 = .02 \text{ IN.}$

E-G-H $\frac{.3 \times .15}{2} = .0225 = .022 \text{ IN.}$

WELD METAL

D-F-I $= \frac{.75 \times .15}{2} = .05625 = .062 \text{ IN.}$

F-I-J $= \frac{.75 \times .15}{2} = .05625 = .062 \text{ IN.}$

.122 IN.

AXIAL SCAN COVERAGE
ON BASE METAL .512 IN.

CIRC. CONTOUR

AXIAL SCAN COVERAGE
ON WELD METAL .122 IN.

Component ID/Weld No. 1-LDCA-IN-1/2

Remarks: B03.150.001

Item No: B03.150.001

Examiner: Richard B. Childers

Level: II

Date: 9-29-97

Reviewed By: JTB/bbl

Level: III

Date: 10-2-97

Authorized Inspector: MBS

Date: 10-9-97

270

Profile taken
at: 0°

90

180 Sheet 4 of 11

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

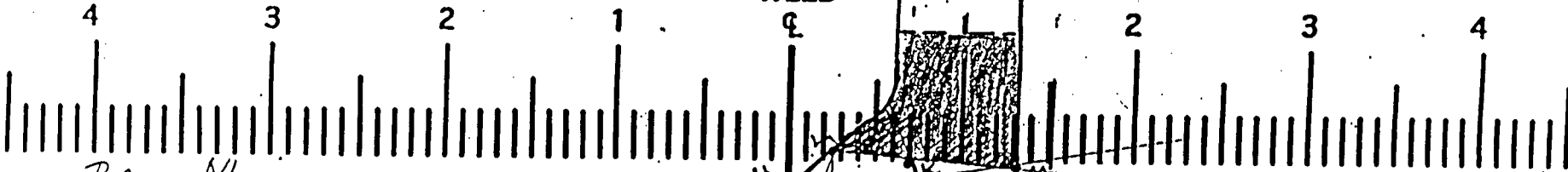
NDE-UT-5

Revision 1

EXAMINATION SURFACE 1

EXAMINATION SURFACE 2

WELD



BASE METAL

WELD METAL

A-B-C-D.

$$.275 \times .9 = .2475 = .25 \text{ IN.}$$

B-C-E $\frac{1.6 \times .9}{2}$

$$= .72 \text{ IN.}$$

$$J-K-M-N \frac{.6 + .5}{2} \times .3 = .165 \text{ IN.} = .17 \text{ IN.}$$

$$1.14 \text{ IN.}$$

AXIAL SCAN COVERAGE

ON BASE METAL 1.14 IN.

AXIAL SCAN ON

AXIAL CONTOUR

$$F-G-H-I \frac{.7 + .5}{2} \times .35 = .21 \text{ IN.}$$

$$H-J-K-L \frac{.9 + .5}{2} \times .35 = .245 = .25 \text{ IN.}$$

$$.46 \text{ IN.}$$

AXIAL SCAN

ON WELD METAL .46 IN.

Component ID/Weld No.

1-LDCA-1N-V2

Remarks: B03.150.001

Item No: B03.150.001

Examiner: Richard B. Childers

Level: II

Date: 9-29-97

Reviewed By: J.B. B.

Level: III

Date: 10-2-97

Authorized Inspector: M.B.C.

Date: 10-9-97

270

Profile taken

at: 0°

90

180 Sheet 5 of 11

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

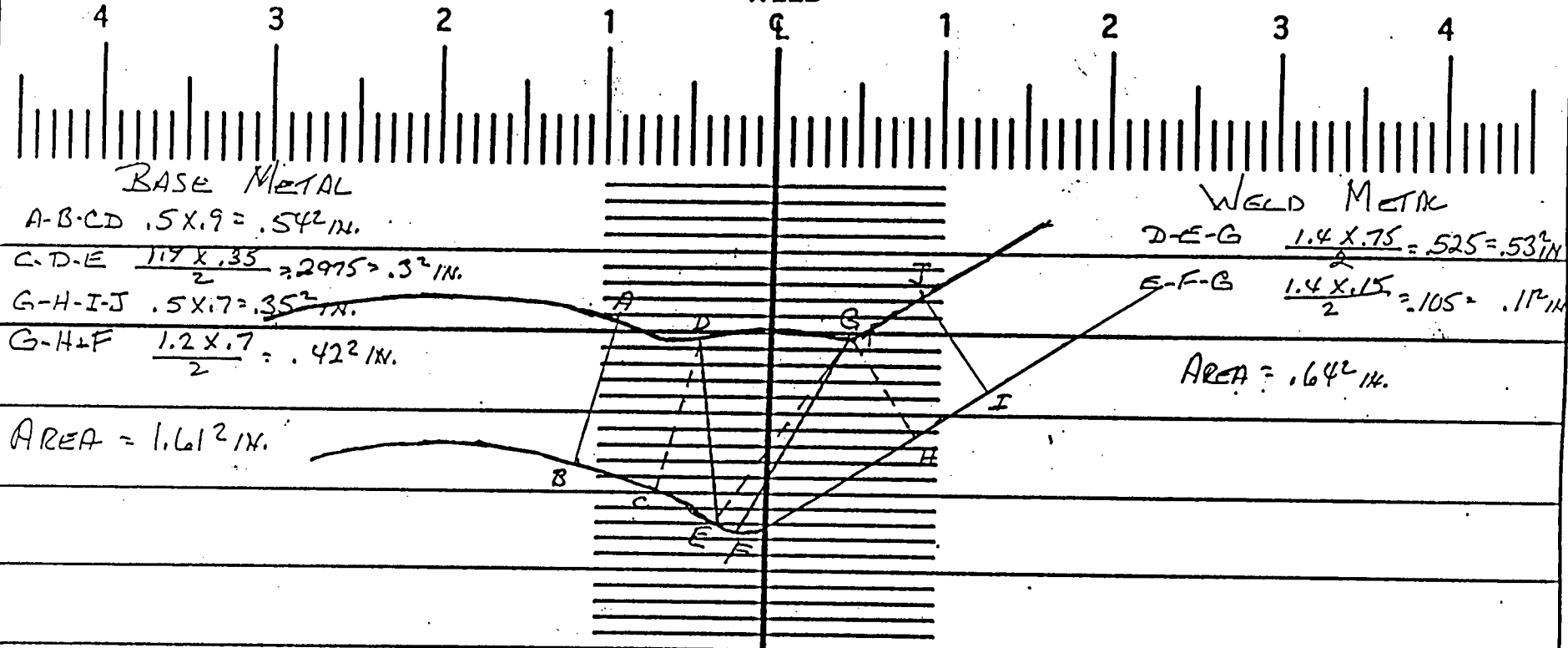
NDE-UT-5

Revision 1

EXAMINATION SURFACE 1

WELD

EXAMINATION SURFACE 2



Component ID/Weld No. 1-LDCA-1A1-V2

Remarks: B03.150.001

Item No: B03.150.001

Examiner: Richard B. Childers

Level: II

Date: 9-29-97

Reviewed By: JLB

Level: III

Date: 10-2-97

Authorized Inspector: JLB

Date: 10-9-97

Profile taken

at: 0°

180 Sheet 6 of 11

DUKE POWER COMPANY
Limited Examination Coverage Worksheet

NDE-91-1

Revision 0

Examination Volume/Area Defined

Base Metal ☐

Weld ☒

Near Surface ☐

Bolting ☐

Inner Radius ☐

Area Calculation

AXIAL CONTOUR .64² IN.
CIRC. CONTOUR 1.26² IN.
1.9² IN.
1.9² IN. ÷ 2 = .95² IN.

Volume Calculation

LENGTH 14.5"
.95² IN. X 14.5" = 13.775 = 13.78 cu. in.

Coverage Calculations

Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
--------	-------	----------------	------------------------	----------------------	--------------------------	--------------------------	------------------

AXIAL CONTOUR

CIRC.	45	CW/CCW	.94 ² IN.				
AX	45/60	2	.46 ² IN.				
			1.4 ² IN.				

CIRC. CONTOUR

CIRC.	45	CW/CCW	.25 ² IN.				
AX	45/60	2	.12 ² IN.				
			.37 ² IN.				

1.42 IN + .37 IN. ÷ 4 SCANS = .4425 = .44 IN 14.5 6.38³ IN. 13.78³ IN. 46.3

Item No: B03.150.001

Prepared BY: Richard B. Childers

Level: II

Date: 9-29-97

Reviewed By: JTB

Level: III

Date: 10-2-97

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

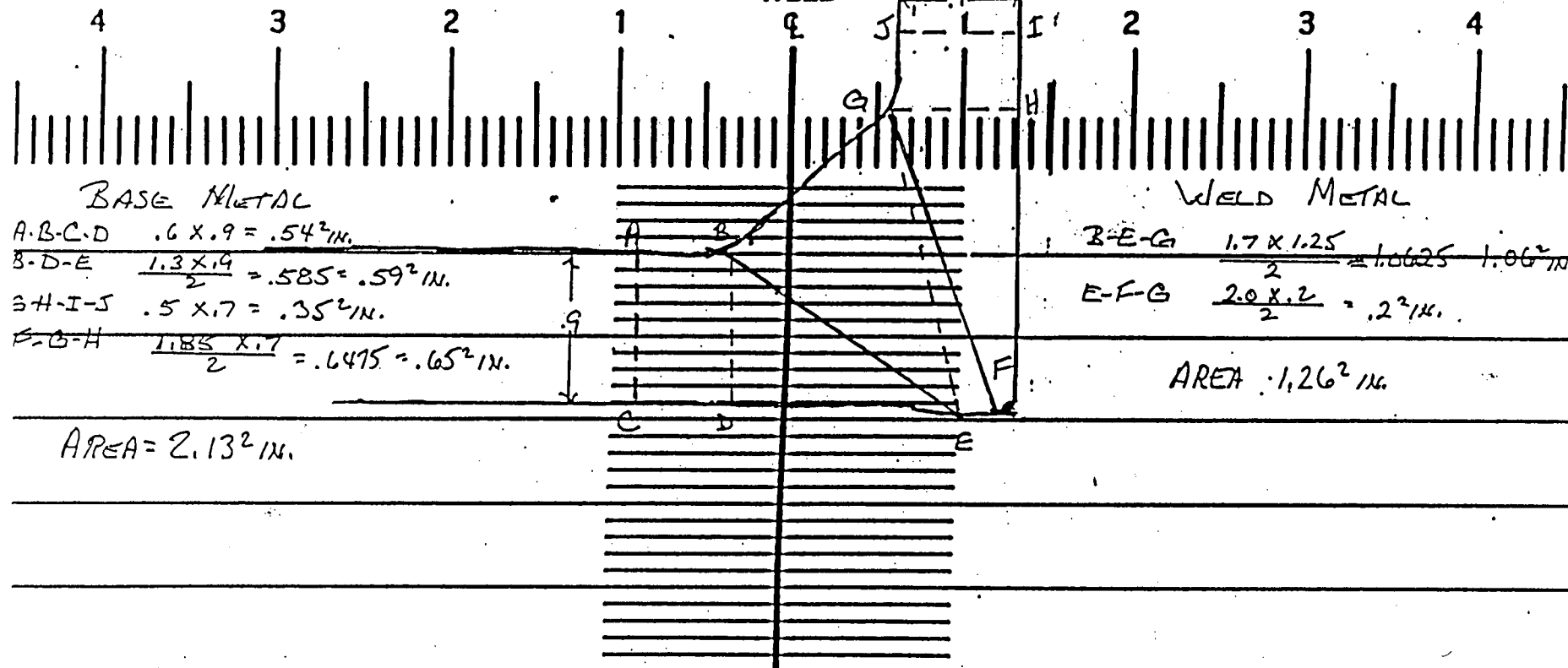
NDE-UT-5

Revision 1

EXAMINATION SURFACE 1

EXAMINATION SURFACE 2

WELD



Component ID/Weld No. 1-LDCA-IN-V2

Remarks: B03.150.001

Item No: B03.150.001

Examiner: Richard B. Chelton

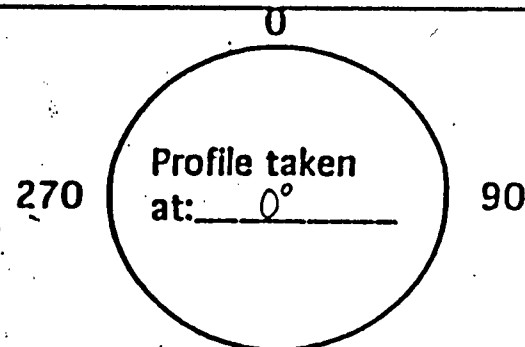
Level: II Date: 9-29-97

Reviewed By: JLB

Level: II Date: 10-2-97

Authorized Inspector: MBO

Date: 10-9-97



180 Sheet 9 of 11

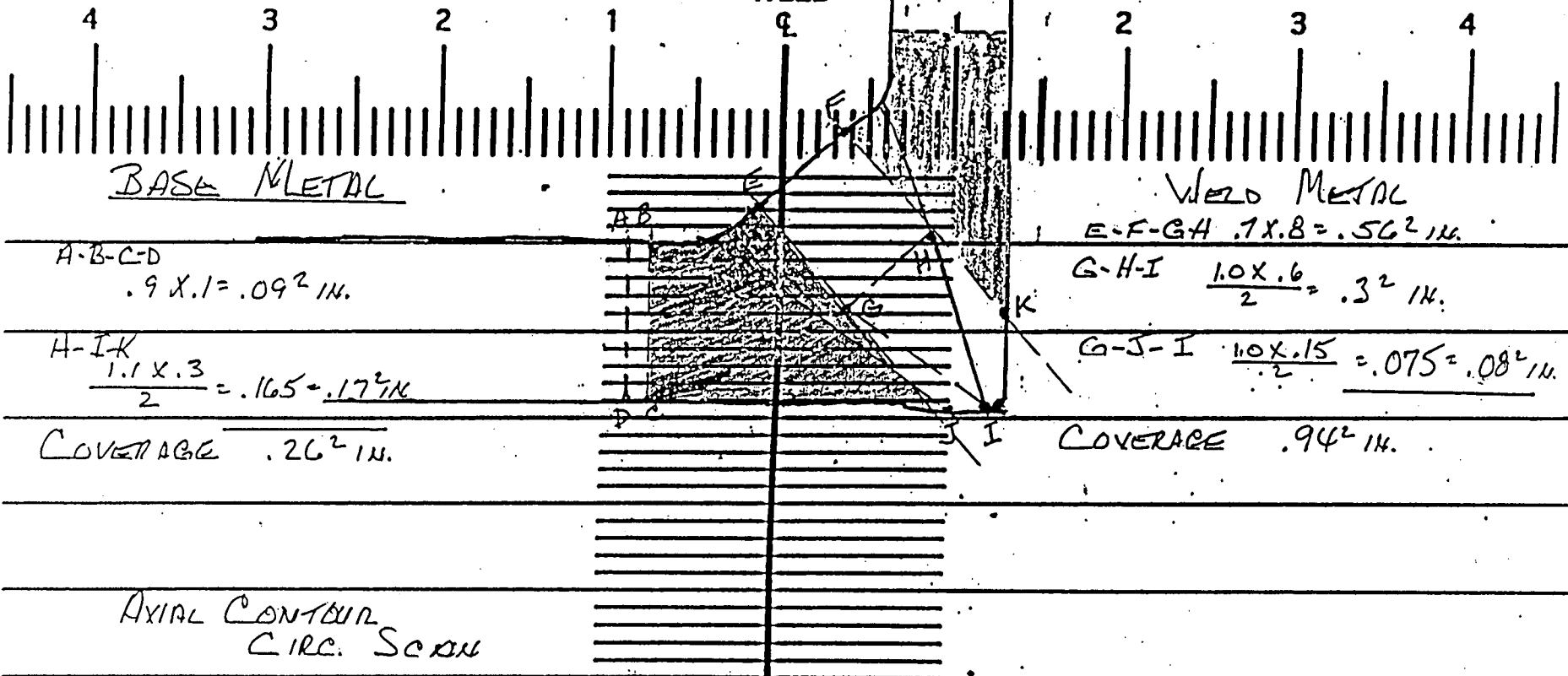
DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

NDE-UT-5

Revision 1

EXAMINATION SURFACE 1

EXAMINATION SURFACE 2



Component ID/Weld No. 1-LDCA-1N-V2

Remarks: B03-150-001

Examiner: Richard B. Childers

Reviewed By: MB

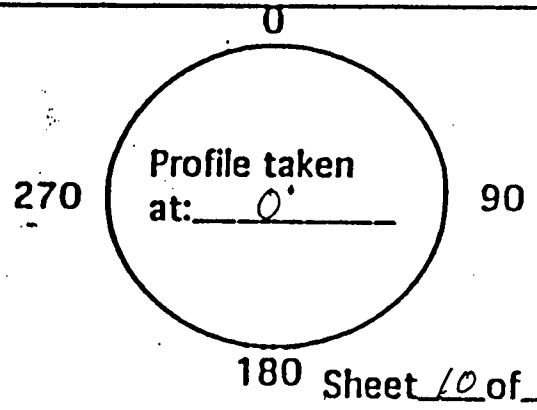
Authorized Inspector: MB-C

Item No: B03-150-001

Level: II Date: 9-29-97

Level: III Date: 10-2-97

Date: 10-9-97



180 Sheet 10 of 11

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

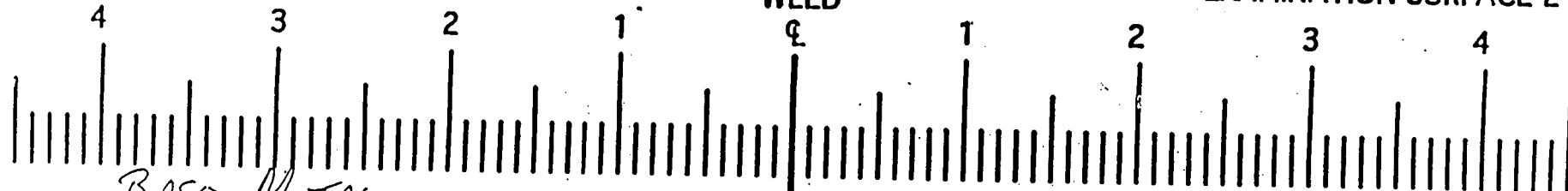
NDE-UT-5

Revision 1

EXAMINATION SURFACE 1

WELD

EXAMINATION SURFACE 2



BASE METAL

$$A-C-D \frac{.5 \times .2}{2} = .05^2 \text{ IN.}$$

$$A-B-C \frac{.4 \times .2}{2} = .04^2 \text{ IN.}$$

COVERAGE .09² IN.

WELD METAL

$$D-E-F-G \frac{.3 \times .6}{2} = .18^2 \text{ IN.}$$

$$A-E-D \frac{.55 \times .25}{2} = .06875 = .07^2 \text{ IN.}$$

COVERAGE .25² IN.

CIRC. SCAN ON CIRC. CORNER

Component ID/Weld No.

Remarks:

Item No: B03.150.001

Level: II

Date: 9-29-97

Level: IV

Date: 10-2-97

Date: 10-9-97

Profile taken
at: 0°

180 Sheet 11 of 11

DUKE POWER COMPANY										Exam Start: 1031		Form NDE-UT-2A		
ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS										Exam Finish: 1146		Revision 4		
Station: Oconee			Unit: 1		Component/Weld ID: 1-LDCA-OUT-V6					Date: 9/29/97				
Weld Length (in.): 14.5			Surface Condition: AS GROUND			Lo: 9.1.1.1		Surface Temperature: 71 ° F						
Examiner: Richard B. Childers <i>Richard B. Childers</i>			Level: II		Scans: 45 <input checked="" type="checkbox"/> 47.0 dB 70 <input type="checkbox"/> _____ dB 45T <input checked="" type="checkbox"/> 44.0 dB 70T <input type="checkbox"/> _____ dB 60 <input checked="" type="checkbox"/> 72.0 dB 60T <input type="checkbox"/> _____ dB Other: 45L=75 dB					Pyrometer S/N: MCNDE 27018				
Examiner: James H. Resor <i>James H. Resor</i>			Level: II							Cal Due: 2/14/98				
Procedure: NDE-630 Rev: 2			FC: N/A							Configuration: CIRC				
Calibration Sheet No: 9701053, 9701054, 9701056, 9701055										S1 Flow S2				
										NOZZLE to C.BODY				
										Scan Surface: OD				
										Applies to NDE-680 only				
										Skew Angle: N/A				

IND #		Max % Ref	Mp Max	W Max	L Max	L1	L2	W1	Mp1	W2	Mp2	Beam Dir.	Exam Surf.	Scan	Damps
						20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac		DO NOT WRITE IN THIS SPACE	DO NOT WRITE IN THIS SPACE	
1	60L	159	1.69	1.1	12.5	360	INT					S2	S1	AXIAL	NO
2	45L	159	1.60	0.8	12.5	360	INT					S2	S1	AXIAL	NO
NRI	45C														

Remarks: SN # 94-18792-1	
Limitations: (see NDE-UT-4) <input checked="" type="checkbox"/> 90% or greater coverage obtained: yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	Sheet 1 of 11
Reviewed By: G G Bibb <i>GG Bibb</i>	Level: III Date: 10-2-97
Authorized Inspector: <i>M.B. Chapman</i>	Date: 10-9-97
Item No: B03.150.002	

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

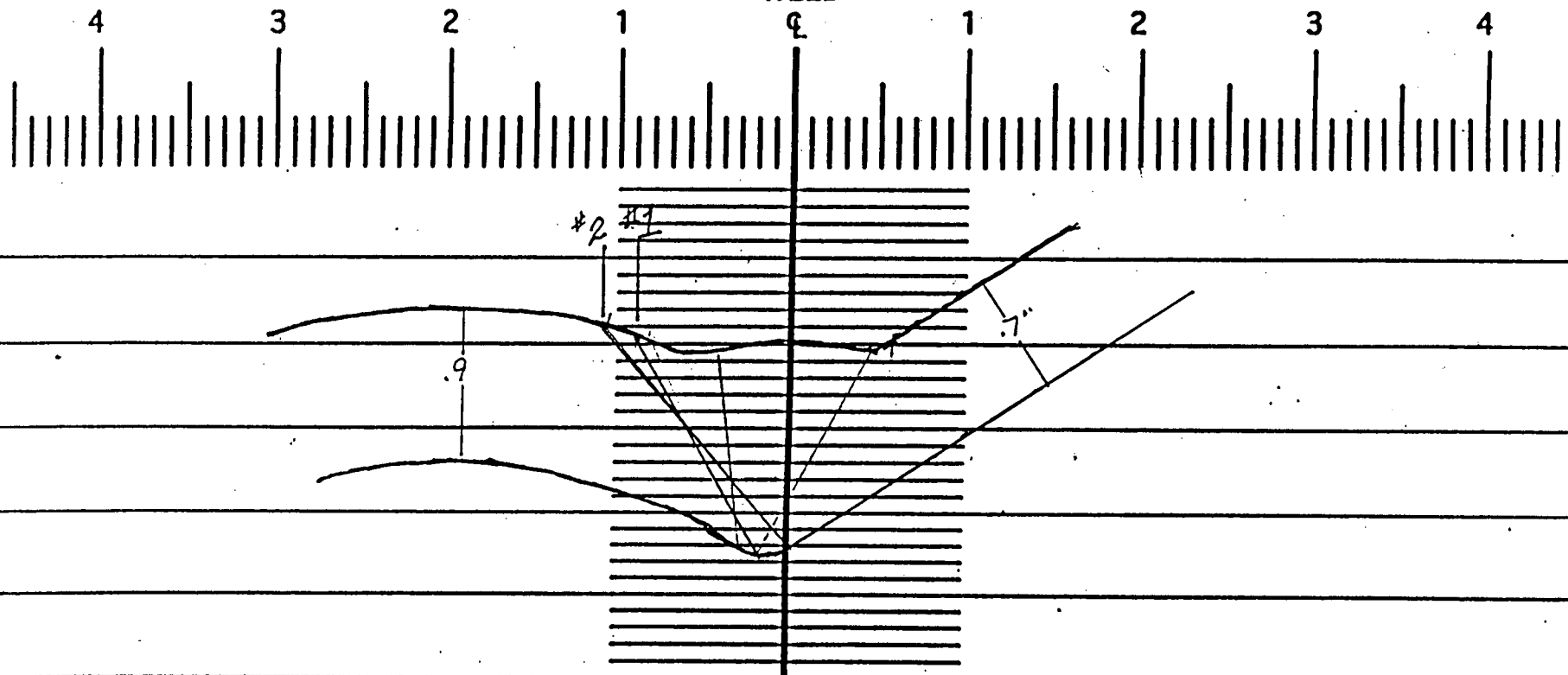
NDE-UT-5

Revision 1

EXAMINATION SURFACE 1

WELD

EXAMINATION SURFACE 2



Component ID/Weld No. 1 LDCA - OUT - V6

Remarks: B03.150.002

Item No: B03.150.002

Examiner: Richard B. Childers

Level: II

Date: 9-29-97

Reviewed By: J. B. Bitt

Level: III

Date: 10-2-97

Authorized Inspector: M. B. Bitt

Date: 10-8-97

270

Profile taken
at: 0°

90

180 Sheet 2 of 11

DUKE POWER COMPANY
ULTRASONIC INDICATION RESOLUTION SHEET

Form NDE-UT-8

Revision 1

Acceptance Standard:

AFTER THE USE OF MULTIPLE ANGLES AND REVIEWING PREVIOUS DATA, INDICATIONS 1&2 WERE DETERMINED TO BE GEOMETRY. THIS WAS DUE TO THE I D RADIUS OF THE BRANCH CONNECTION WELD.

Item No: B03.150.002

Acceptable Indications: 1 -60L& 2-45L

Rejectable Indications:

These indications have been compared with previous ultrasonic data ☒ Yes ☐ No previous data available

Examiner:

Level:

Date:

Richard B. Childers

II

9/29/97

Sheet 3 of 11

Reviewer:

Level:

Date:

G.G. BIBB

III

10-2-97

9/29/97

add 10-2-97

Authorized Inspector:

Date:

MISC

10-9-97

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

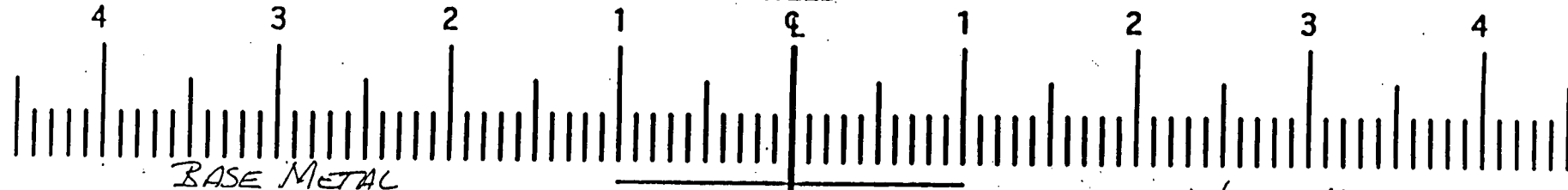
NDE-UT-5

Revision 1

EXAMINATION SURFACE 1

WELD

EXAMINATION SURFACE 2



A-B-C $\frac{1.45 \times .65}{2} = .47125 = .472 \text{ IN.}$
D-E-F $\frac{.25 \times .15}{2} = .01875 = .022 \text{ IN.}$
E-G-H $\frac{.3 \times .15}{2} = .0225 = .022 \text{ IN.}$

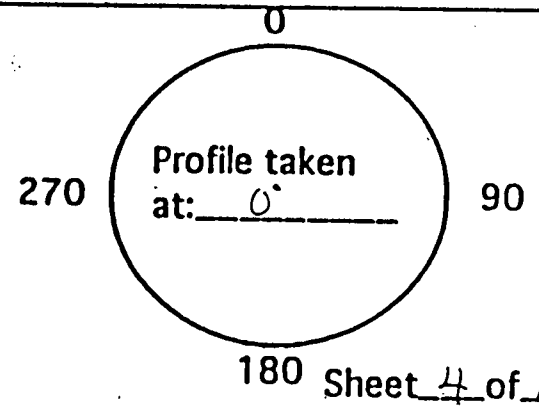
WELD METAL
D-F-I $= \frac{.75 \times .15}{2} = .05625 = .062 \text{ IN.}$
F-I-J $= \frac{.75 \times .15}{2} = .05625 = .062 \text{ IN.}$
.122 IN.

AXIAL SCAN COVERAGE
ON BASE METAL .512 IN.
CIRC. CONTOUR

AXIAL SCAN COVERAGE
ON WELD METAL .122 IN.

Component ID/Weld No. 1 LDCA-OUT-V6.
Remarks: B03.150.002

Examiner: Richard B Childers
Reviewed By: J. Bibb
Authorized Inspector: M.B.C.
Item No: B03.150.002
Level: II Date: 9-29-97
Level: III Date: 10-2-97
Date: 10-9-97



180 Sheet 4 of 11

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

NDE-UT-5

Revision 1

EXAMINATION SURFACE 1

WELD

EXAMINATION SURFACE 2



Base Metal

A-B-C-D.

$$.275 \times .9 = .2475 = .25 \text{ in.}$$

B-C-E $\frac{1.6 \times .9}{2} = .72 \text{ in.}$

$$J-K-M-N \frac{.6 + .5}{2} \times .3 = .165 \text{ in.} = .17 \text{ in.}$$

AXIAL SCAN COVERAGE

ON BASE METAL 1.14 in.

AXIAL SCAN ON

AXIAL CONTOUR

Weld Metal

$$F-G-H-I \frac{.7 + .5}{2} \times .35 = .21 \text{ in.}$$

$$H-J-K-L \frac{.9 + .5}{2} \times .35 = .245 = .25 \text{ in.}$$

AXIAL SCAN
ON WELD METAL $.46 \text{ in.}$

Component ID/Weld No. 1 LDCA-OUT-V6

Remarks: B03.150.002

Item No: B03.150.002

Examiner: Richard B. Childers

Level: II

Date: 9-29-97

Reviewed By: JJB

Level: III

Date: 10-2-97

Authorized Inspector: M.B.C.

Date: 10-9-97

270

Profile taken

at: 0°

90

180 Sheet 5 of 11

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

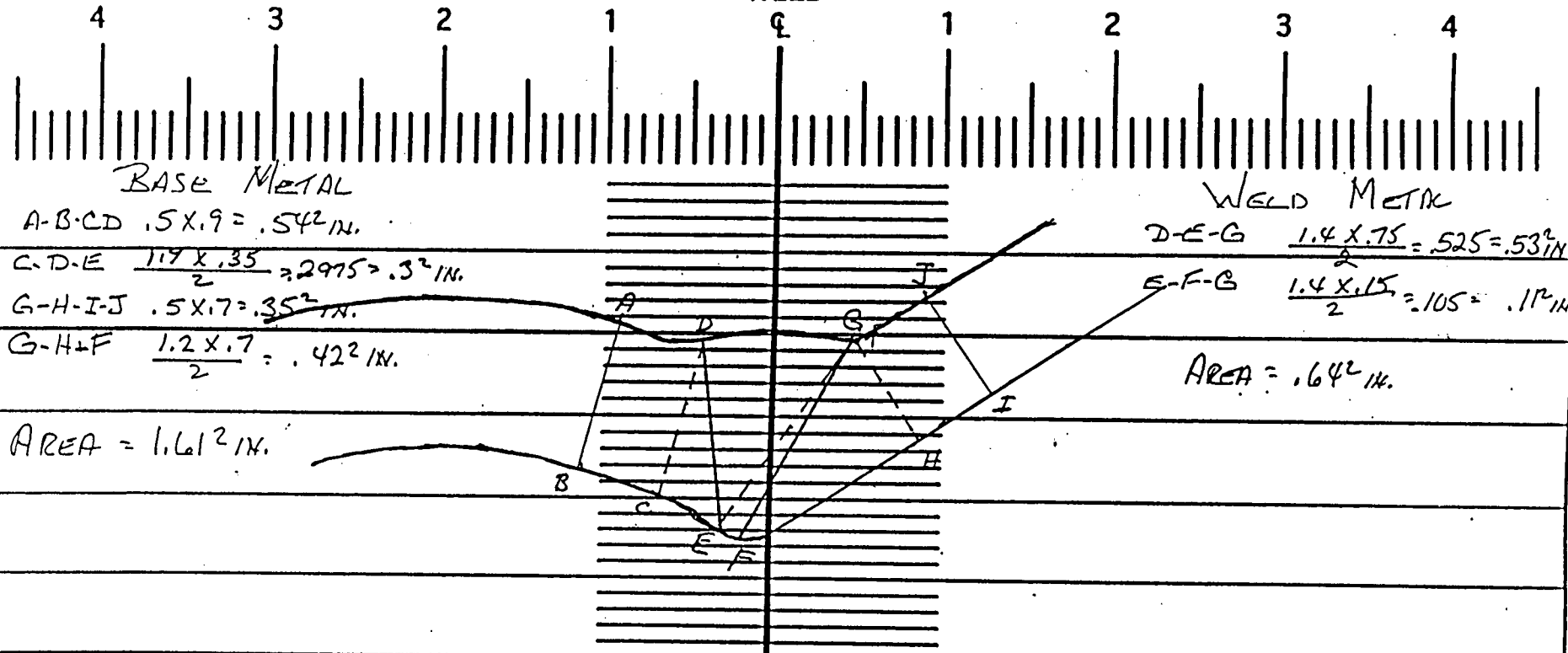
NDE-UT-5

Revision 1

EXAMINATION SURFACE 1

WELD

EXAMINATION SURFACE 2



Component ID/Weld No. 1 LACA-OUT-V.6

Remarks: B03.150.002

Examiner: Richard B. Childers

Reviewed By: J. B. C.

Authorized Inspector: J. B. C.

Item No: B03.150.002

Level: II

Date: 9-29-97

Level: III

Date: 10-2-97

Date: 10-9-97

270

Profile taken
at: 0°

90

180 Sheet 6 of 11

DUKE POWER COMPANY

Limited Examination Coverage Worksheet

NDE-91-1

Revision 0

Examination Volume/Area Defined

Base Metal ☒ Weld ☐ Near Surface ☐ Bolting ☐ Inner Radius ☐

Area Calculation

AXIAL CONTOUR 2.13^2 IN.
CIRC. CONTOUR 1.61^2 IN.
 3.74^2 IN.
 $3.74^2 \text{ IN.} \div 2 = 1.87^2 \text{ IN. AVERAGE}$

Volume Calculation

LENGTH $14.5"$
 $1.87^2 \text{ IN.} \times 14.5" = 27.115 = 27.12 \text{ CU. IN.}$

Coverage Calculations

Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
--------	-------	----------------	------------------------	----------------------	--------------------------	--------------------------	------------------

AXIAL CONTOUR

Circ.	45	CW/CCW	$.26^2 \text{ IN.}$				
Ax	45/60	2	1.14^2 IN.				
			1.4^2 IN.				

CIRC. CONTOUR

Circ.	45	CW/CCW	$.09^2 \text{ IN.}$				
Ax	45/60	2	$.51^2 \text{ IN.}$				
			$.6^2 \text{ IN.}$				

$1.4 + .6 \div 4 \text{ SCANS} = .5^2 \text{ IN.}$ $14.5"$ 7.25 CU. IN. 27.12 26.73

Item No: B03.150.002

Prepared BY: Richard B Childers

Level: II

Date: 9-29-97

Reviewed By: Bill

Level: III

Date: 10-2-97

DUKE POWER COMPANY

Limited Examination Coverage Worksheet

NDE-91-1

Revision 0

Examination Volume/Area Defined

Base Metal ☐

Weld ☒

Near Surface ☐

Bolting ☐

Inner Radius ☐

Area Calculation

AXIAL CONTOUR $.64^2 \text{ in.}$
 CIRC. CONTOUR 1.26^2 in.
 1.9^2 in.
 $1.9^2 \text{ in.} \div 2 = .95^2 \text{ in.}$

Volume Calculation

LENGTH $14.5''$
 $.95^2 \text{ in.} \times 14.5'' = 13.775 = 13.78 \text{ cu. in.}$

Coverage Calculations

Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
--------	-------	----------------	------------------------	----------------------	--------------------------	--------------------------	------------------

AXIAL CONTOUR

CIRC. 45 CW/CCW $.94^2 \text{ in.}$

AX 45/60 2 $.46^2 \text{ in.}$

1.4^2 in.

CIRC. CONTOUR

CIRC. 45 CW/CCW $.25^2 \text{ in.}$

AX 45/60 2 $.12^2 \text{ in.}$

$.37^2 \text{ in.}$

$1.42 \text{ in} + .37 \text{ in.} \div 4 \text{ SCANS} = .4425 = .44 \text{ in}$ 14.5 6.38^3 in. 13.78^3 in. 46.3

Item No: B03-150-002

Prepared BY: Richard B. Childers

Level: II

Date: 9-29-97

Reviewed By: J. Bill

Level: III

Date: 10-2-97

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

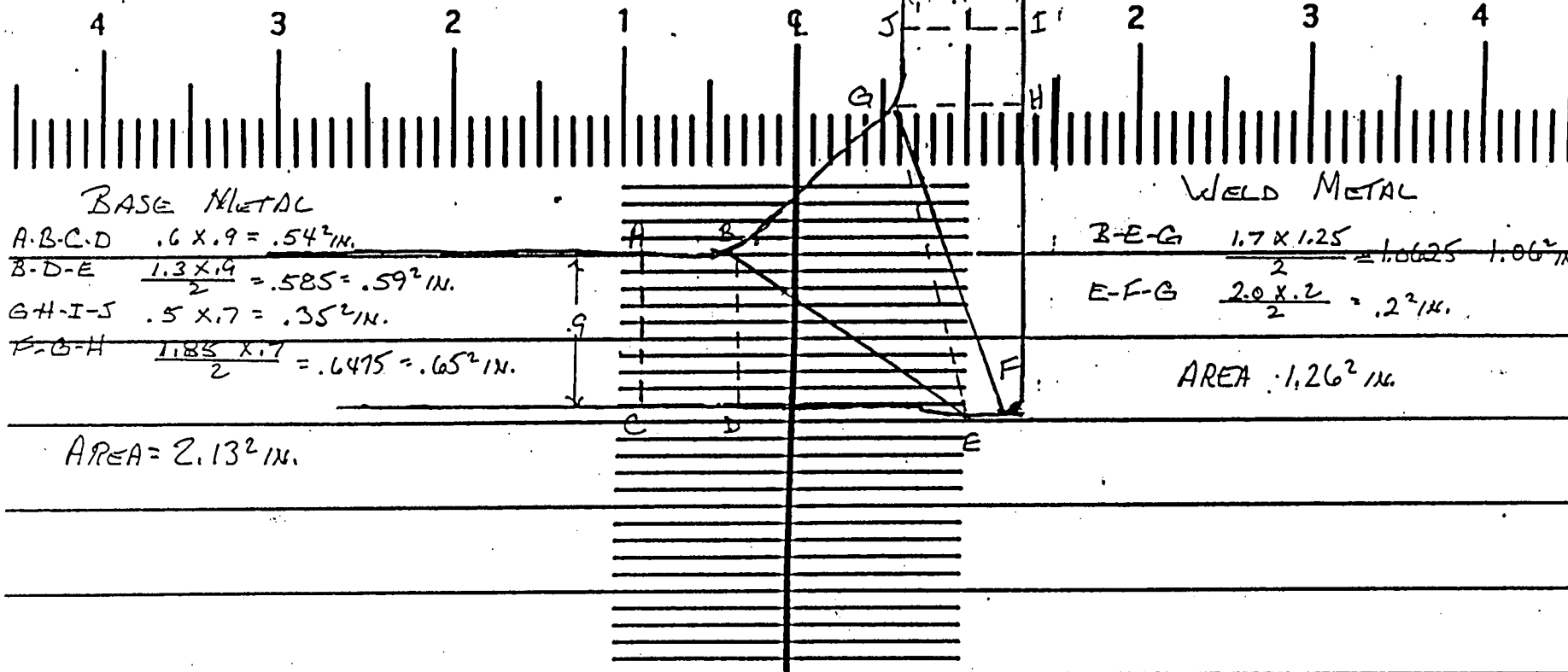
NDE-UT-5

Revision 1

EXAMINATION SURFACE 1

EXAMINATION SURFACE 2

WELD



Component ID/Weld No. 1 LDCA-OUT-V6

Remarks: B03.150.002

Item No: B03.150.002

Examiner: Richard B. Childers

Level: TL

Date: 9-29-97

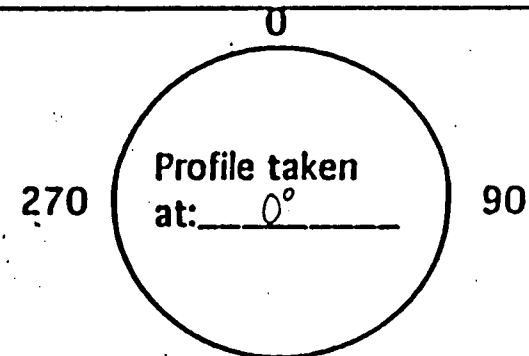
Reviewed By: J. B. B.

Level: IV

Date: 10-2-97

Authorized Inspector: MRC

Date: 10-9-97



180 Sheet 9 of 11

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

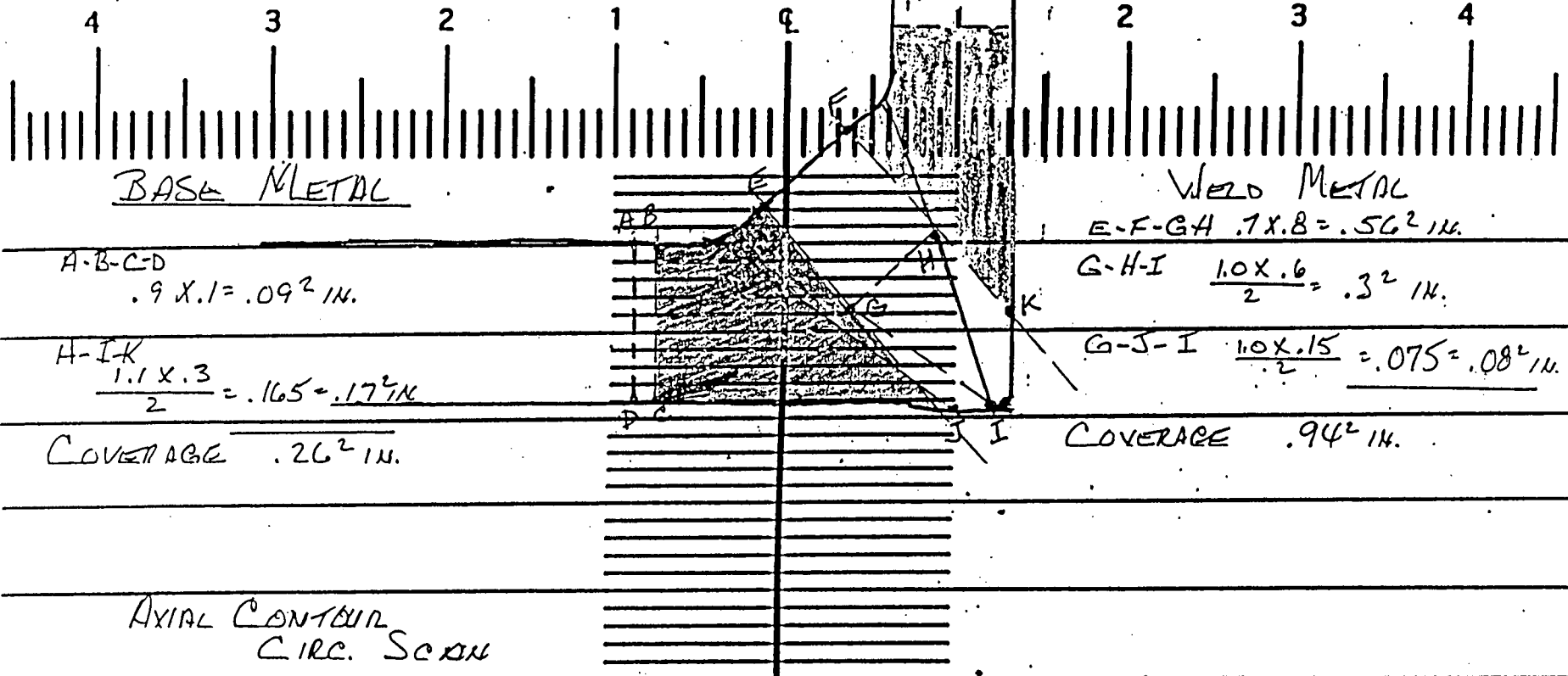
NDE-UT-5

Revision 1

EXAMINATION SURFACE 1

WELD

EXAMINATION SURFACE 2



Component ID/Weld No. 1 LDCA-OUT-V6

Remarks: B03.150.002

Item No: B03.150.002

Level: II

Date: 9-29-97

Level: III

Date: 10-2-97

Date: 10-9-97

Examiner: Richard B. Childers

Reviewed By: J. Bibb

Authorized Inspector: J. Bibb

270

Profile taken
at: 0°

90

180 Sheet 10 of 14

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

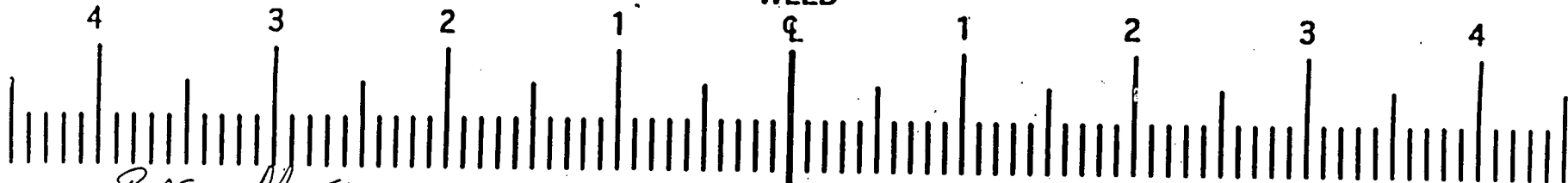
NDE-UT-5

Revision 1

EXAMINATION SURFACE 1

WELD

EXAMINATION SURFACE 2



BASE METAL

$$A-C-D \frac{.5 \times .2}{2} = .05^2 \text{ IN.}$$

$$A-B-C \frac{.4 \times .2}{2} = .04^2 \text{ IN.}$$

COVERAGE .09² IN.

WELD METAL

$$D-E-F-G \frac{.3 \times .6}{2} = .18^2 \text{ IN.}$$

$$A-E-D \frac{.55 \times .25}{2} = .06875^2 = .07^2 \text{ IN.}$$

COVERAGE .25² IN.

CIRC. SCAN ON CIRC. CONTAIN

Component ID/Weld No. LDCA-OUT-V6

Remarks: B03.150.002

Examiner: Richard B. Childers

Reviewed By: J. B. Bell

Authorized Inspector: MBC

Item No: B03.150.002

Level: II

Date: 9-29-97

Level: III

Date: 10-2-97

Date: 10-9-97

270

Profile taken
at: 0°

90

180 Sheet 11 of 11

Duke Energy Corporation

Station Oconee Unit 1, 2 & 3

10-YEAR INTERVAL REQUEST FOR RELIEF NO. 98-03

Pursuant to 10 CFR 50.55a(g)(5)(iii), Duke Energy has determined that compliance with the specified requirements of ASME Boiler and Pressure Vessel Code, Section XI is not practical for Oconee Nuclear Station. Accordingly, information is being submitted in support of our determination and relief is being sought from the applicable ASME Boiler and Pressure Vessel Code, Section XI requirement(s).

I. System/Component(s) for Which Relief is Requested:

a. Part 1, Pressurizer Sensing Nozzle-to-Vessel Weld

<u>Unit</u>	<u>ID Number</u>	<u>Item Number</u>
1	1-PZR-WP26-4	B03.110.006
1	1-PZR-WP26-5	B03.110.007
1	1-PZR-WP26-6	B03.110.008
2	2-PZR-WP26-4	B03.110.006
2	2-PZR-WP26-5	B03.110.007
2	2-PZR-WP26-6	B03.110.008
3	3-PZR-WP26-4	B03.110.006
3	3-PZR-WP26-5	B03.110.007
3	3-PZR-WP26-6	B03.110.008

b. Part 2, Pressurizer Sensing Nozzle-to-Vessel Inside Radius Sections

<u>Unit</u>	<u>ID Number</u>	<u>Item Number</u>
1	1-PZR-WP26-4	B03.120.006
1	1-PZR-WP26-5	B03.120.007
1	1-PZR-WP26-6	B03.120.008
2	2-PZR-WP26-4	B03.120.006
2	2-PZR-WP26-5	B03.120.007
2	2-PZR-WP26-6	B03.120.008
3	3-PZR-WP26-4	B03.120.006
3	3-PZR-WP26-5	B03.120.007
3	3-PZR-WP26-6	B03.120.008

For welds listed in this Request for Relief (both Parts 1 and 2), all configurations, including interferences, are the same for Units 1, 2, and 3. Therefore, all three units are being documented in this Request for Relief as described in NRC Inspection Report No. 50-269/95, 50-270/95, 50-287 dated May 5, 1995.

While the examinations have been completed only for Unit 2 at this time, relief is also being sought for Units 1 and 3 for the same welds. If, for some reason, the actual examination coverages of the welds referenced in this Request for Relief for Units 1 and 3 are less than those listed for Unit 2 in Section IV of this request, additional Requests for Relief will be submitted on a case by case basis.

II. Code Requirement:

ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition with no Addenda, Examination Category B-D, Items B3.110 and B3.120 requires 100% volumetric examination of all Pressurizer nozzle-to-vessel welds as defined by Figure IWB-2500-7(a), ASME Section XI 1989 Edition with no

Addenda, Appendix 1, including Supplement 9 as clarified by Code Inquiry 95-11 requires scanning using two different angles when scanning from the outside surface of the component. When scanning for reflectors parallel to the weld, the angle beams shall be aimed at right angles to the weld axis, with the search unit(s) manipulated so that the ultrasonic beams pass through the entire volume of weld metal. The adjacent base metal in the examination volume must be completely scanned by both angle beams from both directions (any combination of two angle beams will satisfy the requirement).

When scanning for reflectors transverse to the weld, the angle beam search units shall be aimed parallel to the axis of longitudinal and circumferential welds. The search unit shall be manipulated so that the ultrasonic beams pass through all of the examination volume. Scanning shall be done in two directions 180 degrees to each other to the extent possible. Areas blocked by geometric conditions shall be examined from at least one direction.

Code Case N-460 allows credit for full volume coverage of welds if it can be shown that greater than 90% of the required volume has been examined.

III. Code Requirement from which Relief is Requested:

Relief is requested from the requirement to examine 100% of the required volume ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition with no Addenda (Code) required volumetric examinations of the Pressurizer Sensing Nozzle-to-Vessel Welds and the Pressurizer Sensing Nozzle-to-Vessel Inside Radius Sections described in Section I above.

Due to part geometry, obtaining greater than 90% of the required volume as outlined in Code Case N-460 is not possible.

IV. Basis for Relief:

Part 1 Examination Category B-D, Item B3.110, Full Penetration Pressurizer Nozzle-to-Vessel Weld

Pressurizer Sensing Nozzle-to-Vessel Welds 2-PZR-WP26-4, 2-PZR-WP26-5 and 2-PZR-WP26-6 (Item Numbers B03.110.006, B03.110.007

and B03.110.008) were examined to the maximum extent practical using ultrasonic techniques in accordance with the requirements of ASME Section V, Article 4, and ASME Section XI, Appendix 1, 1989 Edition. Reference Attachment A for drawing.

These welds are limited to 28.8% coverage of the required volume because of the nozzle configuration. In order to achieve more coverage, the nozzles would have to be re-designed to allow scanning from both sides of the weld.

Part 2, Examination Category B-D, Item B3.120, Full Penetration Pressurizer Nozzle-to-Vessel Inner Radius Sections

Pressurizer Sensing Nozzle-to-Vessel Inside Radius Sections 2-PZR-WP26-4, 2-PZR-WP26-5 and 2-PZR-WP26-6 (Item Numbers B03.120.006, B03.120.007 and B03.120.008) were examined to the maximum extent practical using ultrasonic techniques in accordance with the requirements of ASME Section V, Article 4, and ASME Section XI, Appendix 1, 1989 Edition. Reference Attachment A for drawing.

These welds are limited to 65.8% coverage of the required volume because of the nozzle configuration. Duke Energy is investigating the use of computer modeling to determine the feasibility of achieving greater coverage.

V. Alternate Examinations or Testing:

Part 1, Examination Category B-D, Item B3.110. Pressurizer Nozzle-to-Vessel Weld

The use of radiography as an alternate volumetric examination of the Pressurizer Sensing Nozzle-to-Vessel Welds referenced in this request is not a viable option. Restrictions to performing radiography are primarily due to inability to access the inside of the Pressurizer to place film or to position a radiographic source.

Duke Energy proposes to use the pressure test and VT-2 visual examination to compliment the limited examination coverage. The Code requires (reference Table IWB-2500-1, Item Number B15.20) that a

system leakage test be performed after each refueling outage. Additionally a system hydrostatic test (reference Table IWB-2500-1, Item Number B15.21) is required once during each 10-year inspection interval. These tests require a VT-2 visual examination for evidence of leakage. This testing will provide adequate assurance of pressure boundary integrity.

In addition to the above Code required examinations (volumetric and pressure test), there are other activities which provide a high level of confidence that, in the unlikely case that leakage did occur through these welds, it would be detected and isolated. Specifically, leakage from these welds would be detected by monitoring of the Reactor Coolant System (RCS), which is performed once each shift under procedure PT/1,2,3/A/0600/10, "RCS Leakage". This RCS leakage monitoring is a requirement of Technical Specification 3.1.6, "Leakage". Leakage is also evaluated in accordance with this Technical Specification. The leakage could be detected through several methods. One method is the RCS mass balance calculation. Another method is by use of the Reactor Building air particulate monitor. This monitor is sensitive to low leak rates; the iodine monitor, gaseous monitor and area monitor are capable of detecting any fission products in the coolant and will make these monitors sensitive to coolant leakage. In addition to the radiation monitors, leakage is also monitored by a level indicator in the Reactor Building normal sump. Another check would be a loss of level in the Letdown Storage Tank.

Duke Energy has examined the welds referenced in this request to the maximum extent possible utilizing the latest in examination techniques and equipment. Duke Energy will continue to perform ultrasonic examination of all welds identified in Section I of this request (for all units) to the maximum extent practical, within the limits of original design and construction, in accordance with the requirements of ASME Section V, Article 4, and ASME Section XI, Appendix 1, 1989 Edition, and Code Case N-460. This will provide reasonable assurance of weld/component integrity. Thus, an acceptable level of quality and safety will have been achieved, and public health and safety will not be endangered by allowing relief from the aforementioned Code requirements.

Part 2, Examination Category B-D, Item B3.120, Full Penetration Pressurizer Nozzle-to-Vessel Inner Radius Sections

The use of radiography as an alternate volumetric examination of the Pressurizer Sensing Nozzle-to-Vessel Inside Radius Sections is not a viable option. Restrictions to performing radiography are primarily due to

inability to access the inside of the Pressurizer to place film or to position a radiographic source.

Duke Energy proposes to use the pressure test and VT-2 visual examination to compliment the limited examination coverage. The Code requires (reference Table IWB-2500-1, Item Number B15.20) that a system leakage test be performed after each refueling outage. Additionally a system hydrostatic test (reference Table IWB-2500-1, Item Number B15.21) is required once during each 10-year inspection interval. These tests require a VT-2 visual examination for evidence of leakage. This testing will provide adequate assurance of pressure boundary integrity.

In addition to the above Code required examinations (volumetric and pressure test), there are other activities which provide a high level of confidence that, in the unlikely case that leakage did occur through these welds, it would be detected and isolated. Specifically, leakage from these welds would be detected by monitoring of the Reactor Coolant System (RCS), which is performed once each shift under procedure PT/1,2,3/A/0600/10, "RCS Leakage". This RCS leakage monitoring is a requirement of Technical Specification 3.1.6, "Leakage". Leakage is also evaluated in accordance with this Technical Specification. The leakage could be detected through several methods. One method is the RCS mass balance calculation. Another method is by use of the reactor building air particulate monitor. This monitor is sensitive to low leak rates; the iodine monitor, gaseous monitor and area monitor are capable of detecting any fission products in the coolant and will make these monitors sensitive to coolant leakage. In addition to the radiation monitors, leakage is also monitored by a level indicator in the reactor building normal sump. Another check would be a loss of level in the Letdown Storage Tank.

Duke Energy has examined the welds referenced in this request to the maximum extent possible utilizing the latest in examination techniques and equipment. Duke Energy will continue to perform ultrasonic examination of all welds identified in Section I of this request (for all units) to the maximum extent practical, within the limits of original design and construction, in accordance with the requirements of ASME Section V, Article 4, and ASME Section XI, Appendix 1, 1989 Edition, and Code Case N-460. This will provide reasonable assurance of weld/component integrity. Thus, an acceptable level of quality and safety will have been achieved, and public health and safety will not be endangered by allowing relief from the aforementioned Code requirements.

VI. Justification for the Granting of Relief

Part 1, Examination Category B-D, Item B3.110. Pressurizer Nozzle-to-Vessel Weld

The Code requires 100% volumetric examination of all Pressurizer Nozzle-to-Vessel Welds. However, the taper on the nozzle side of the weld restricts scanning and prevents complete volumetric coverage of Pressurizer Sensing Nozzle-to-Vessel Welds 2-PZR-WP26-4, 2-PZR-WP26-5, and 2-PZR-WP26-6. Therefore, the 100% volumetric examination is impractical for these nozzle-to-vessel welds. To meet Code examination requirements, modifications to the nozzles would be necessary to allow scanning from both sides of the weld. Modification to this portion of the reactor coolant system would create a considerable burden on Duke Energy.

Duke Energy obtained 28.8% coverage of Pressurizer Sensing Nozzle-to-Vessel Welds 2-PZR-WP26-4, 2-PZR-WP26-5 and 2-PZR-WP26-6. It is recognized that this represents a small part of the required Code examination volume. However, in conjunction with the Code required VT-2 visual examination after each refueling outage and the 10-year hydrostatic test; Duke Energy believes this provides reasonable assurance of the continued structural integrity of the subject nozzle-to-vessel welds.

Pursuant to 10 CFR 50.55a(g)(6)(i), granting this relief for the Pressurizer Sensing Nozzle-to-Vessel Welds will provide reasonable assurance of weld/component integrity, ... "is authorized by law and will not endanger life or property or the common defense and security and is 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."

Part 2, Examination Category B-D, Item B3.120, Pressurizer Nozzle-to-Vessel Inside Radius Sections

The Code requires 100% volumetric examination of all Pressurizer Nozzle-to-Vessel Inside Radius Sections. However, the taper on the nozzle side of the weld restricts scanning and prevents complete volumetric coverage of Pressurizer Sensing Nozzle-to-Vessel Inside Radius Sections 2-PZR-WP26-4, 2-PZR-WP26-5, and 2-PZR-WP26-6. Therefore, the 100% volumetric examination is impractical for these

nozzle-to-vessel inside radius sections. To meet Code examination requirements, modifications to the nozzles would be necessary to allow complete volumetric examination coverage. Modifications to this portion of the reactor coolant system would create a considerable burden on Duke Energy Corporation.

Duke Energy obtained 65.8% coverage on the Pressurizer Sensing Nozzle-to-Vessel Inside Radius Sections, 2-PZR-WP26-4, 2PZR-WP26-5 and 2-PZR-WP26-6. It is recognized that this represents a small part of the required Code examination volume. However, in conjunction with the Code required VT-2 visual examination after each refueling outage and the 10-year hydrostatic test; Duke Energy believes this provides reasonable assurance of the continued structural integrity of the subject nozzle-to-vessel welds.

Pursuant to 10 CFR 50.55a(g)(6)(i), granting this relief for the Pressurizer Sensing Nozzle-to-Vessel Inside Radius Sections will provide reasonable assurance of weld/component integrity, ... "is authorized by law and will not endanger life of property or the common defense and security and is 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."

VII. Implementation Schedule:

Unit 1, Refueling Outage 18

Unit 2, Refueling Outage 16

Unit 3, Refueling Outage 17

Evaluated By: R. Rane Date 7/14/98

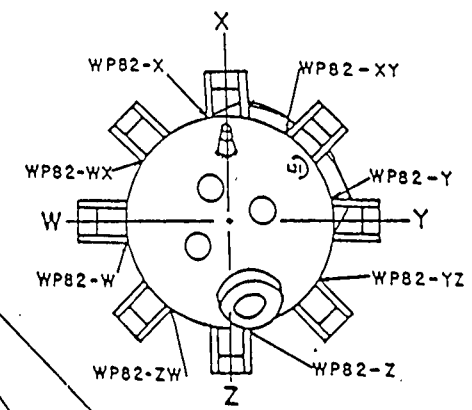
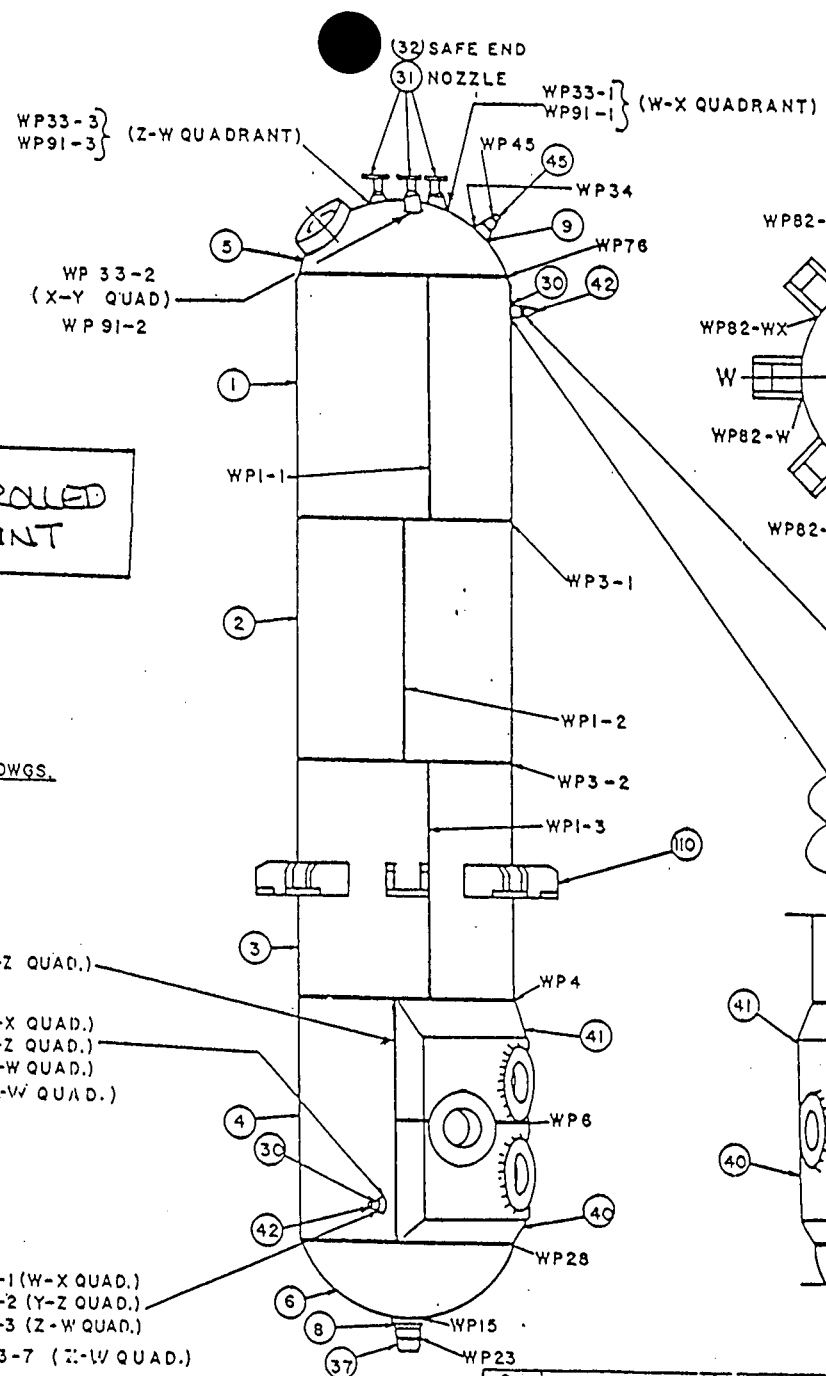
Reviewed By L. Kevin Rhyme Date 7/27/98

THICK.	PC. NO.	QTY	DESCRIPTION	MATL.
88	1	1	UPPER SHELL COURSE	SA 212 GR. B
88	2	1	MIDDLE SHELL COURSE	SA 212 GR. B
88	3	1	LOWER SHELL COURSE	SA 212 GR. B
88	4	1	HEATER BELT SHELL	SA 212 GR. B
88	5	1	UPPER HEAD	SA 212 GR. B
88	6	1	LOWER HEAD	SA 212 GR. B
563	8	1	PRESSURIZER SURGE NOZZLE	SA 508 CL. 1
88	9	1	PRESSURIZER SPRAY NOZZLE	SA 508 CL. 1
88	30	6	SAMPLING NOZZLE	SA 508 GR. B
750	31	3	PRESSURIZER RELIEF NOZZLE	SA 508 CL. 1
563	32	3	PRESSURIZER RELIEF NOZZLE SAFE END	SA 182 F316
88	37	1	PRESSURIZER SURGE NOZZLE SAFE END	SA 336 CL. F8M
88	40	1	LOWER HEATER BELT FORGING	SA 508 CL. 1
88	41	1	UPPER HEATER BELT FORGING	SA 508 CL. 1
188	42	6	SAMPLING NOZZLE SAFE END	SB-166
188	45	1	PRESSURIZER SPRAY NOZZLE SAFE END	SB-166
188	110	8	PRESSURIZER SUPPORT LUG ASSEMBLY	SA-516 GR. 70
188				
750				
750				
750				
750				
750				
750				
875				
875				
875				
875				
875				
750				
500				
500				
WELD LIST (CONT.)				
I.D. NO.	PC. NO.	DIAM.	THICK.	
500	WP91-1	31 TO 32	2 1/2"NPS	1.000
500	WP91-2	31 TO 32	2 1/2"NPS	1.000
500	WP91-3	31 TO 32	2 1/2"NPS	1.000
500	WP63-7	42 TO 30	SAMPLING	1.1875

UNCONTROLLED FOR PRINT

REFERENCE DWGS.
OM 201-1001

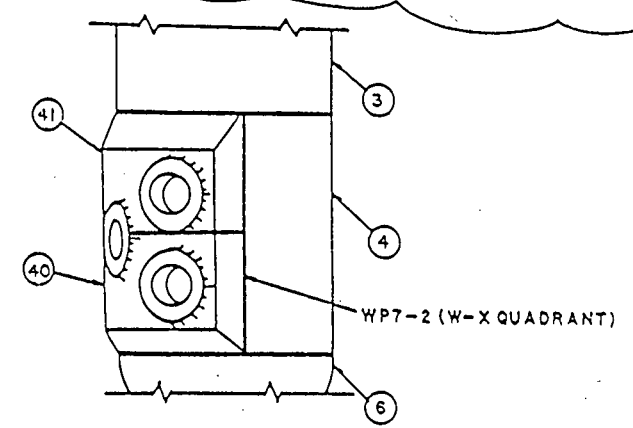
NOTES:
1. ALL I.D. NUMBERS SHALL BE PRECEDED BY "IPRZ -"
2. PIECE NUMBERS ARE SHOWN IN CIRCLES.



TOP VIEW

WP63-4 (W-X QUADRANT)
WP63-5 (Y-Z QUADRANT)
WP63-6 (Z-W QUADRANT)

WP26-4 (W-X QUADRANT) B03.110.006
WP26-5 (Y-Z QUADRANT) B03.110.007
WP26-6 (Z-W QUADRANT) B03.110.008



REV.	REV. WELD OUTLINE	DATE	BY	CHKD.	APPD.	TITLE
1	Iss. Ref. Dwgs.	7/23/81	AW5	HJH	JOB	PRESSURIZER WELD OUTLINE
2	ORIG.	7/23/81	AW5	TTM	CAC	
3	REVISION	7/23/81	AW5	TTM	CAC	
4	REVISED	7/23/81	AW5	TTM	CAC	
5	REVISED	7/23/81	AW5	TTM	CAC	
6	REVISED	7/23/81	AW5	TTM	CAC	
7	REVISED	7/23/81	AW5	TTM	CAC	
8	REVISED	7/23/81	AW5	TTM	CAC	
9	REVISED	7/23/81	AW5	TTM	CAC	
10	REVISED	7/23/81	AW5	TTM	CAC	

REQUEST FOR ATTACHMENT A

DUKE POWER COMPANY

ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS

Exam Start: 1101

Form NDE-UT-2A

Exam Finish: 1151

Revision 4

Station: Ocone

Unit: 2

Component/Weld ID: 2-PZR-WP26-4

Date: 3/24/98

Weld Length (in.): 28.0"

Surface Condition: AS MACHINED

Lo: B&W #1

Surface Temperature: 72 ° F

Examiner: Winfred C. Leeper Level: II

Scans:

Pyrometer S/N: MCNDE 27021

Examiner: David Zimmerman Level: II

45 ☒ 54 dB 70 ☐ dB

Cal Due: 7/27/98

Procedure: NDE-620 Rev: 5 FC: N/A
NDE-640 1

45T ☒ 54 dB 70T ☐ dB

Configuration: Nozzle to Shell

N/A Flow N/A

Calibration Sheet No:
9802043, 9802044, 9802046

60 ☒ 70.5 dB

S2 to S1

Scan Surface: OD

Applies to NDE-680 only

Skew Angle: N/A

Other: 0°-26 dB

IND #	4	Max % Ref	Mp Max	W Max	L Max	L1	L2	W1	Mp1	W2	Mp2	Beam Dir.	Exam Surf.	Scan	Damps
		DO NOT WRITE IN THIS SPACE				20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac		DO NOT WRITE IN THIS SPACE		
NRI	0°														
NRI	45°														
NRI	60°														

Remarks: *95-18, 95-19

Limitations: (see NDE-UT-4) ☐ 90% or greater coverage obtained: yes ☐ no ☒

Sheet 1 of 11

Reviewed By: Gary Moss

Level: II

Date: 3-26-98

Authorized Inspector: MBI

Date: 3-31-98

Item No:

B03.110.006

DUKE POWER COMPANY ISI LIMITATION REPORT

FORM NDE-UT-4

Revision 1

Component/Weld ID: 2-PZR-WP26-4

Item No: B03.110.006

Remarks:

☐ NO SCAN SURFACE BEAM DIRECTION
☒ LIMITED SCAN ☒ 1 ☐ 2 ☐ 1 ☒ 2 ☐ cw ☐ ccw
FROM L 12.0" to L 19.0" INCHES FROM WO 11.0" to BEYOND
ANGLE: ☐ 0 ☐ 45 ☒ 60 ☐ Other FROM 0 DEG to 360 DEG

DUE TO LOWER HEAD WELD

☒ NO SCAN SURFACE BEAM DIRECTION
☐ LIMITED SCAN ☒ 1 ☐ 2 ☐ 1 ☒ 2 ☒ cw ☒ ccw
FROM L to L INCHES FROM WO 0.0" to 1.5"
ANGLE: ☒ 0 ☒ 45 ☒ 60 ☐ Other FROM 0 DEG to 360 DEG

NOZZLE CONFIGURATION

☐ NO SCAN SURFACE BEAM DIRECTION
☐ LIMITED SCAN ☐ 1 ☐ 2 ☐ 1 ☐ 2 ☐ cw ☐ ccw
FROM L to L INCHES FROM WO to
ANGLE: ☐ 0 ☐ 45 ☐ 60 ☐ Other FROM DEG to DEG

☐ NO SCAN SURFACE BEAM DIRECTION
☐ LIMITED SCAN ☐ 1 ☐ 2 ☐ 1 ☐ 2 ☐ cw ☐ ccw
FROM L to L INCHES FROM WO to
ANGLE: ☐ 0 ☐ 45 ☐ 60 ☐ Other FROM DEG to DEG

Prepared By: *Daniel Zamora*

Level: *II*

Date: *3/24/98*

Sketch(s) attached ☒ yes ☐ no

Sheet *2* of *11*

Reviewed By: *Gary Moss*

Date: *3-26-98*

Authorized Inspector: *MBC*

Date: *3-31-98*

DUKE POWER COMPANY Limited Examination Coverage Worksheet						NDE-91-1 Revision 0			
Examination Volume/Area Defined									
<input checked="" type="checkbox"/> Base Metal		<input checked="" type="checkbox"/> Weld		<input type="checkbox"/> Near Surface		<input type="checkbox"/> Bolting		<input type="checkbox"/> Inner Radius	
Area Calculation				Volume Calculation					
SEE ATTACHMENT				SEE ATTACHMENT					
Coverage Calculations									
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage		
		BASE METAL					37.54		
		WELD					22.37		
		AGGREGATE					28.77		

Item No: B03.110.006	
Prepared By: <i>David K. Z...</i>	Level: <i>II</i> Date: <i>3/24/98</i>
Reviewed By: <i>Gary Moss</i>	Level: <i>II</i> Date: <i>3-26-98</i>

DUKE POWER COMPANY Limited Examination Coverage Worksheet	NDE-91-1
	Revision 0

Examination Volume/Area Defined	
<input type="checkbox"/> Base Metal <input checked="" type="checkbox"/> Weld <input type="checkbox"/> Near Surface <input type="checkbox"/> Bolting <input type="checkbox"/> Inner Radius	
Area Calculation	Volume Calculation
$B, D, E, F = 6.188 / 2 (.75 + 2.3) = 9.43$ $1.0 / 2 = 1.15$ $9.4 \text{ SQ. IN.} + 1.2 \text{ SQ. IN.} = 10.6 \text{ SQ. IN.}$ $B, F, G = 2.3 \times$	$10.6 \text{ SQ. IN.} \times 28" = 296.8 \text{ CU. IN.}$

Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
1	45°	S1	5.4	28	151.2	296.8	50.94
2	60°	S1	7.4	28	207.2	296.8	69.81
3	45°	S2	0.0	28	0	296.8	0.00
4	60°	S2	0.0	28	0	296.8	0.00
5	0°	N/A	0.0	28	0	296.8	0.00
6	45°	CW	1.9	28	53.2	296.8	17.92
7	45°	CCW	1.9	28	53.2	296.8	17.92
					464.8	2077.6	22.37

Item No: B03.110.006	
Prepared By: <i>David K. Zing</i>	Level: II Date: 3/24/98
Reviewed By: <i>Gary Moss</i>	Level: B Date: 3-26-98

DUKE POWER COMPANY						NDE-91-1	
Limited Examination Coverage Worksheet						Revision 0	
Examination Volume/Area Defined							
<input checked="" type="checkbox"/> Base Metal <input type="checkbox"/> Weld <input type="checkbox"/> Near Surface <input type="checkbox"/> Bolting <input type="checkbox"/> Inner Radius							
Area Calculation				Volume Calculation			
52.1 SQ. IN.				52.1 SQ. IN. X 28" = 1458.8 CU. IN.			
Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
1	45°	S2	29	28	812	1458.8	55.66
2	60°	S2	36.5	28	1022	1458.8	70.06
3	45°	S1	38	28	106.4	1458.8	7.29
4	60°	S1	2.0	28	56	1458.8	3.84
5	0°	N/A	19.2	28	537.6	1458.8	36.85
6	45°	CW	23.2	28	649.6	1458.8	44.53
7	45°	CCW	23.2	28	649.6	1458.8	44.53
					3833.2	10211.6	37.54

		Item No:	B03.110.006
Prepared By: <i>David K. Z...</i>	Level: <i>II</i>	Date:	3/24/98
Reviewed By: <i>Gary Moss</i>	Level: <i>II</i>	Date:	3-26-98

EXAM AREAS

O'CONNOR L. / SAMPLING NOZZLE

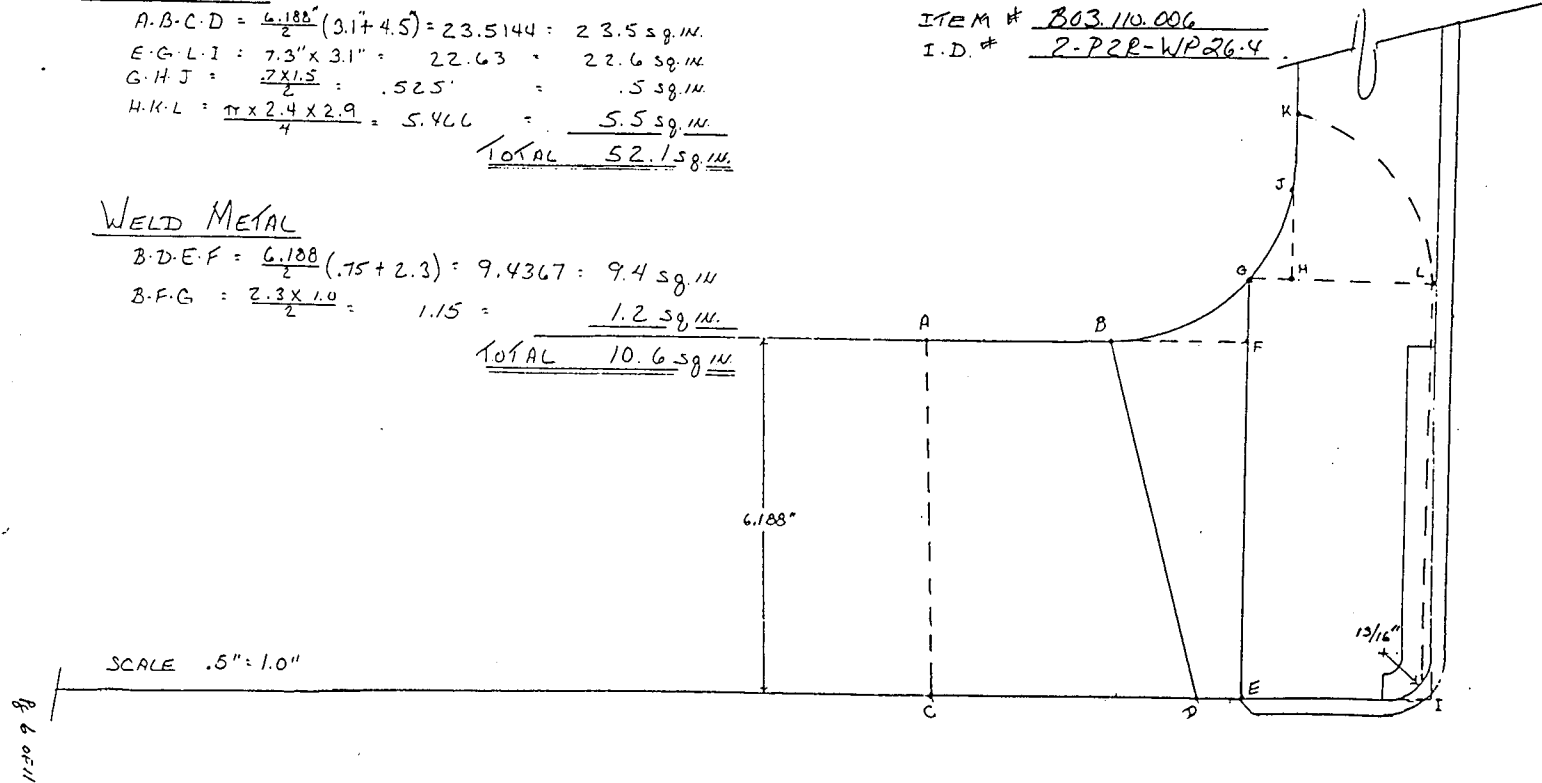
BASE METAL

$$\begin{aligned} A \cdot B \cdot C \cdot D &= \frac{6.188}{2} (3.1 + 4.5) = 23.5144 = 23.5 \text{ sq. in.} \\ E \cdot G \cdot L \cdot I &= 7.3" \times 3.1" = 22.63 = 22.6 \text{ sq. in.} \\ G \cdot H \cdot J &= \frac{2 \times 1.5}{2} = .525 = .5 \text{ sq. in.} \\ H \cdot K \cdot L &= \frac{\pi \times 2.4 \times 2.9}{4} = 5.466 = 5.5 \text{ sq. in.} \\ \text{TOTAL} &= 52.1 \text{ sq. in.} \end{aligned}$$

ITEM # 803.110.006
I.D. # 2-P22-WP26.4

WELD METAL

$$\begin{aligned} B \cdot D \cdot E \cdot F &= \frac{6.188}{2} (.75 + 2.3) = 9.4367 = 9.4 \text{ sq. in.} \\ B \cdot F \cdot G &= \frac{2.3 \times 1.0}{2} = 1.15 = 1.2 \text{ sq. in.} \\ \text{TOTAL} &= 10.6 \text{ sq. in.} \end{aligned}$$



Request For Relief 98.03
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O'CONNOR S INSING / SAMPLING NOZZLE

INSPECTED AREAS

BASE MAT'L

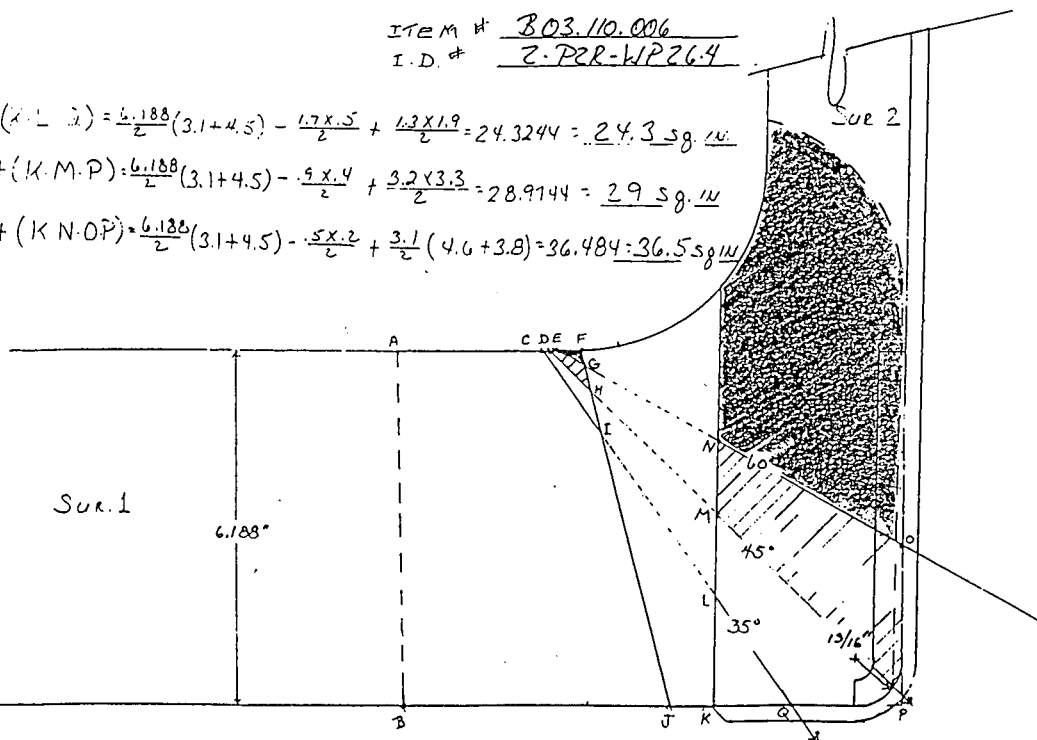
S1 to S2

$$35^\circ (A \cdot B \cdot F \cdot J) - (C \cdot F \cdot I) + (X \cdot L \cdot J) = \frac{6.188}{2} (3.1 + 4.5) - \frac{1.7 \times .5}{2} + \frac{1.3 \times 1.9}{2} = 24.3244 = \underline{24.3 \text{ sq. in.}}$$

$$45^\circ (A \cdot B \cdot F \cdot J) - (D \cdot F \cdot H) + (K \cdot M \cdot P) = \frac{6.188}{2} (3.1 + 4.5) - \frac{.9 \times .4}{2} + \frac{3.2 \times 3.3}{2} = 28.9144 = \underline{29 \text{ sq. in.}}$$

$$60^\circ (A \cdot B \cdot F \cdot J) - (E \cdot F \cdot G) + (K \cdot N \cdot O \cdot P) = \frac{6.188}{2} (3.1 + 4.5) - \frac{.5 \times .2}{2} + \frac{3.1}{2} (4.6 + 3.8) = 36.484 = \underline{36.5 \text{ sq. in.}}$$

ITEM # 803.110.006
I.D. # 2-PER-WP26.4



SCALE .5" = 1.0"

- ☐ FULL COVERAGE
- ☒ PARTIAL COVERAGE
- ☒ NO COVERAGE

Request For Relief 98-03
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Attachment B

O'CONNOR SENSING / SAMPLING NOZZLE

INSPECTED AREAS

BASE MAT'L

$$S_2 \rightarrow S_1$$

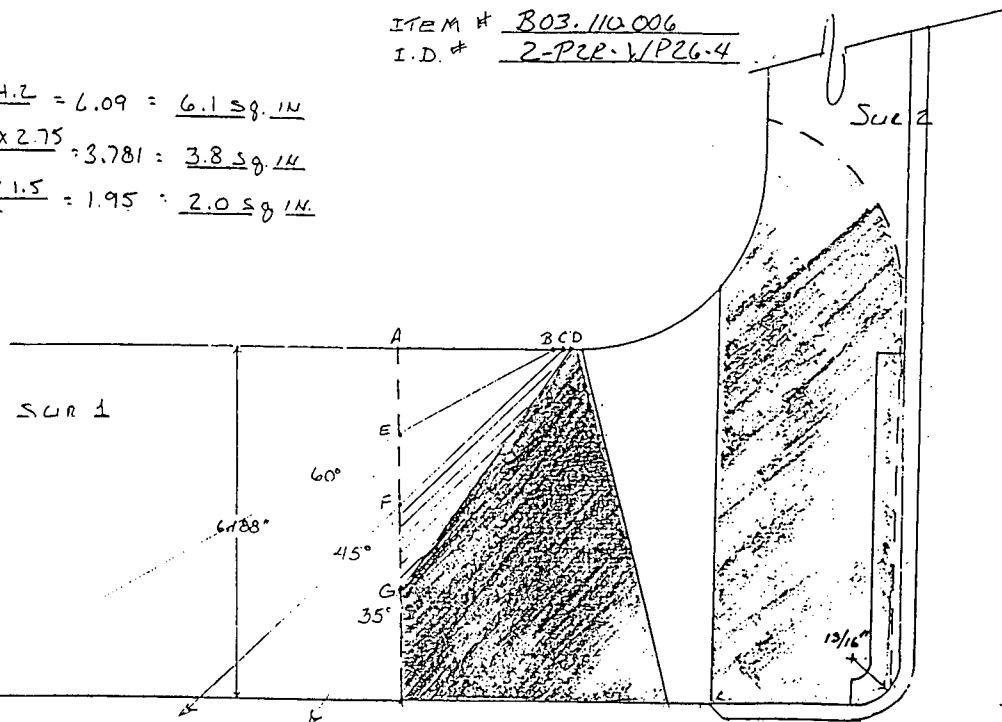
$$35^\circ \text{ A.D.G} = \frac{2.9 \times 4.2}{2} = 6.09 = \underline{6.1 \text{ sg. in}}$$

$$45^\circ \text{ A.C.F} = \frac{2.75 \times 2.75}{2} \div 3.781 = \underline{3.859.14}$$

60° A.B.E: $\frac{2.0 \times 1.5}{2} = 1.95 \therefore \underline{2.0 \text{ kg IN.}}$

ITEM # B03.110006

I.D. # 2-P2R-V/P26-4



SCALE .5" = 1.0"

- ☐ FULL COVERAGE
- ☒ PARTIAL COVERAGE
- ☐ NO COVERAGE

Request For Relief 98-03
Page 8 of 33
Attachment B

OCONEE SENSING / SAMPLING NOZZLE

INSPECTED AREA:

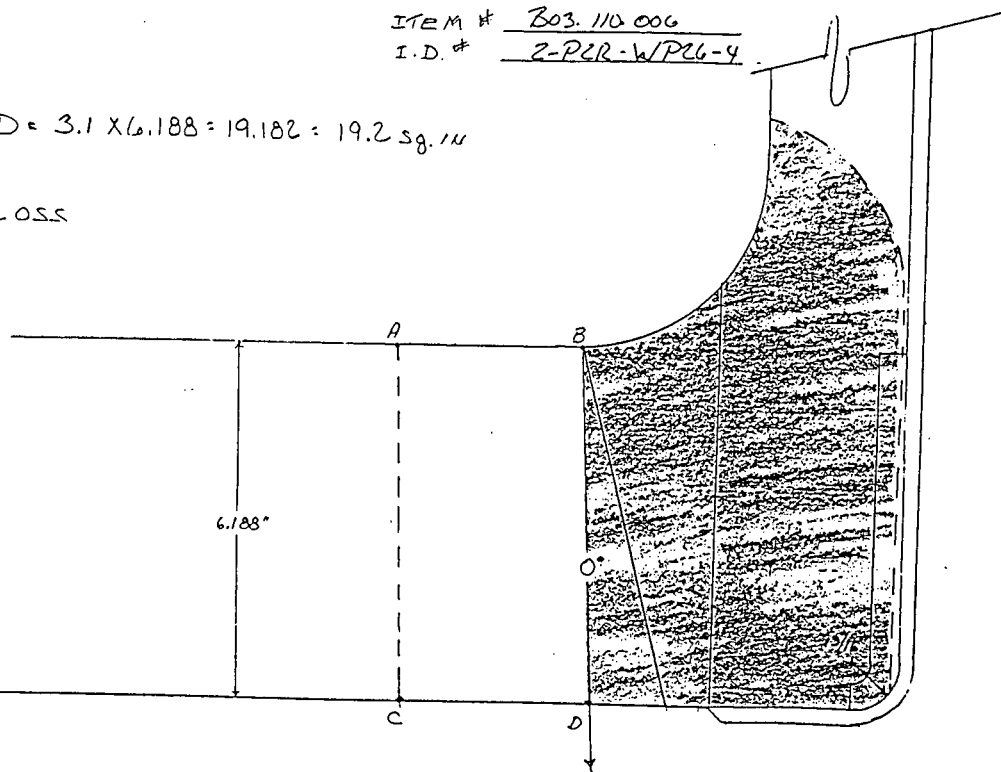
BASE MAT'L

$$0^\circ \text{ A.B.C.D} = 3.1 \times 6.188 = 19.182 = 19.2 \text{ sq. in.}$$

WELD MAT'L

TOTAL LOSS

ITEM # 203.110.006
I.D. # 2-PCR-WPL6-4



SCALE: .5" = 1.0"

☒ FULL COVERAGE
☐ PARTIAL COVERAGE
☐ NO COVERAGE

Request For Relief 98-03
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Attachment B

O'CONNOR SENSING/SAMPLING NOZZLE

INSPECTED AREAS:

BASE MAT'L

35° & 45° CW & CCW

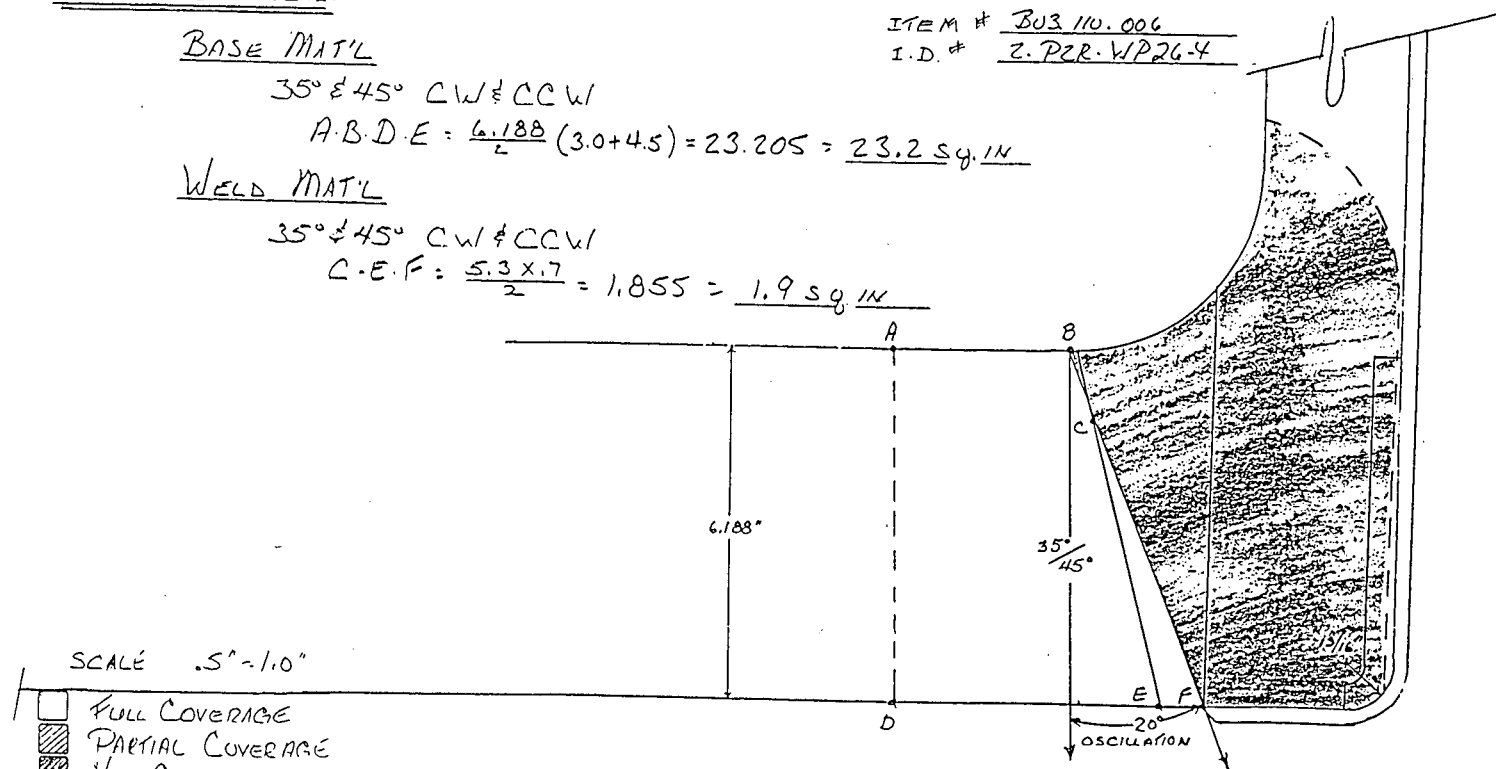
$$A \cdot B \cdot D \cdot E = \frac{6.188}{2} (3.0 + 4.5) = 23.205 = \underline{23.2 \text{ sq. in.}}$$

WELD MAT'L

35° & 45° CW & CCW

$$C \cdot E \cdot F = \frac{5.3 \times 1.7}{2} = 1.855 = \underline{1.9 \text{ sq. in.}}$$

ITEM # B03 110.006
I.D. # 2. PER. WP26-4



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OCONEE SENSING/SAMPLING NOZZLE

INSPECTED WELDS:

WELD MAT'L

ITEM # B03.110.006
I.D. # 2-PZR-WP26-4

S₁ TO S₂

$$35^\circ \text{ CDF} + \text{DEF} = \frac{4.8 \times 1.2}{2} + \frac{.9 \times .75}{2} = 3.217 = \underline{3.2 \text{ sq. in.}}$$

$$45^\circ \text{ BDG} + \text{DEG} = \frac{5.6 \times 1.5}{2} + \frac{3.3 \times .75}{2} = 5.437 = \underline{5.4 \text{ sq. in.}}$$

$$60^\circ \text{ ADH} + \text{DEH} = \frac{6.0 \times 1.9}{2} + \frac{4.6 \times .75}{2} = 7.425 = \underline{7.4 \text{ sq. in.}}$$

S₂ TO S₁

35° TOTAL LOSS

45° TOTAL LOSS

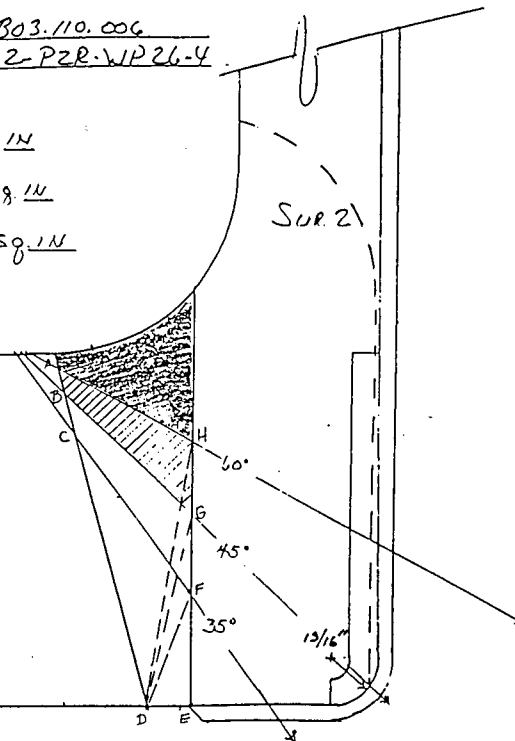
60° TOTAL LOSS

Sur. 1

6.188"

SCALE .5" = 1.0"

☐ FULL COVERAGE
☒ PARTIAL COVERAGE
☐ NO COVERAGE



Request for Relief 98-03
Page 11 of 33
Attachment B

DUKE POWER COMPANY

ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS

Exam Start: 1105

Form NDE-UT-2A

Exam Finish: 1204

Revision 4

Station: Ocone

Unit: 2

Component/Weld ID: 2-PZR-WP26-5

Date: 3/24/98

Weld Length (in.): 28.0"

Surface Condition: AS MACHINED

Lo: B&W #1

Surface Temperature: 72 ° F

Examiner: Winfred C. Leeper Level: II

Scans:

Pyrometer S/N: MCNDE 27021

Examiner: David Zimmerman Level: II

45 ☒ 54 dB 70 ☐ dB

Cal Due: 7/27/98

Procedure: NDE-620 Rev: 5 FC: N/A
NDE-640 1

45T ☒ 54 dB 70T ☐ dB

Configuration: Nozzle to Shell

N/A Flow N/A

Calibration Sheet No:
9802043, 9802044, 9802046

60 ☒ 70.5 dB

S2 to S1

Scan Surface: OD

60T ☒ 70.5 dB

Applies to NDE-680 only

Other: 0°-26 dB

Skew Angle: N/A

IND #	Max % Ref	Mp Max	W Max	L Max	L1	L2	W1	Mp1	W2	Mp2	Beam Dir.	Exam Surf.	Scan	Damps
					20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac				
NRI	0°													
NRI	45°													
NRI	60°													

Remarks: *95-18, 95-19

Limitations: (see NDE-UT-4) ☐ 90% or greater coverage obtained: yes ☐ no ☒

Sheet 1 of 11

Reviewed By: Mary Moss Level: II Date: 3-26-98

Authorized Inspector: MOC Date: 3-31-98

Item No: B03.110.007

Request For Relief 98-03
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DUKE POWER COMPANY ISI LIMITATION REPORT

FORM NDE-UT-4

Revision 1

Component/Weld ID: 2-PZR-WP26-5

Item No: B03.110.007

Remarks:

☐ NO SCAN SURFACE BEAM DIRECTION
☒ LIMITED SCAN ☒ 1 ☐ 2 ☐ 1 ☒ 2 ☐ cw ☐ ccw
 FROM L 12.0" to L 19.0" INCHES FROM WO 11.0" to BEYOND
 ANGLE: ☐ 0 ☐ 45 ☒ 60 ☐ Other FROM 0 DEG to 360 DEG

DUE TO LOWER HEAD WELD

☒ NO SCAN SURFACE BEAM DIRECTION
☐ LIMITED SCAN ☒ 1 ☐ 2 ☐ 1 ☒ 2 ☒ cw ☒ ccw
 FROM L _____ to L _____ INCHES FROM WO 0.0" to 1.5"
 ANGLE: ☒ 0 ☒ 45 ☒ 60 ☐ Other FROM 0 DEG to 360 DEG

NOZZLE CONFIGURATION

☐ NO SCAN SURFACE BEAM DIRECTION
☐ LIMITED SCAN ☐ 1 ☐ 2 ☐ 1 ☐ 2 ☐ cw ☐ ccw
 FROM L _____ to L _____ INCHES FROM WO _____ to _____
 ANGLE: ☐ 0 ☐ 45 ☐ 60 ☐ Other FROM _____ DEG to _____ DEG

☐ NO SCAN SURFACE BEAM DIRECTION
☐ LIMITED SCAN ☐ 1 ☐ 2 ☐ 1 ☐ 2 ☐ cw ☐ ccw
 FROM L _____ to L _____ INCHES FROM WO _____ to _____
 ANGLE: ☐ 0 ☐ 45 ☐ 60 ☐ Other FROM _____ DEG to _____ DEG

Prepared By: Daniel K. [Signature]

Level: II

Date: 3/24/98

Sketch(s) attached ☒ yes ☐ no

Sheet 2 of 11

Reviewed By: Barry [Signature]

Date: 3-26-98

Authorized Inspector: [Signature]

Date: 3-31-98

Request For Relief 98-03
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DUKE POWER COMPANY Limited Examination Coverage Worksheet	NDE-91-1
	Revision 0

Examination Volume/Area Defined	
<input type="checkbox"/> Base Metal <input checked="" type="checkbox"/> Weld <input type="checkbox"/> Near Surface <input type="checkbox"/> Bolting <input type="checkbox"/> Inner Radius	
Area Calculation	Volume Calculation
$B, D, E, F = 6.188 / 2 (.75 + 2.3) = 9.43$ $1.0 / 2 = 1.15$ $9.4 \text{ SQ. IN.} + 1.2 \text{ SQ. IN.} = 10.6 \text{ SQ. IN.}$ $B, F, G = 2.3 \times$	$10.6 \text{ SQ. IN.} \times 28" = 296.8 \text{ CU. IN.}$

Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
1	45°	S1	5.4	28	151.2	296.8	50.94
2	60°	S1	7.4	28	207.2	296.8	69.81
3	45°	S2	0.0	28	0	296.8	0.00
4	60°	S2	0.0	28	0	296.8	0.00
5	0°	N/A	0.0	28	0	296.8	0.00
6	45°	CW	1.9	28	53.2	296.8	17.92
7	45°	CCW	1.9	28	53.2	296.8	17.92
					464.8	2077.6	22.37

		Item No:	B03.110.007
Prepared By:	<i>David L. Z...</i>	Level:	II
		Date:	3/24/98
Reviewed By:	<i>Gary Moss</i>	Level:	II
		Date:	3-26-98

DUKE POWER COMPANY						NDE-91-1	
Limited Examination Coverage Worksheet						Revision 0	
Examination Volume/Area Defined							
<input checked="" type="checkbox"/> Base Metal <input type="checkbox"/> Weld <input type="checkbox"/> Near Surface <input type="checkbox"/> Bolting <input type="checkbox"/> Inner Radius							
Area Calculation				Volume Calculation			
52.1 SQ. IN.				52.1 SQ. IN. X 28" = 1458.8 CU. IN.			
Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
1	45°	S2	29	28	812	1458.8	55.66
2	60°	S2	36.5	28	1022	1458.8	70.06
3	45°	S1	38	28	106.4	1458.8	7.29
4	60°	S1	2.0	28	56	1458.8	3.84
5	0°	N/A	19.2	28	537.6	1458.8	36.85
6	45°	CW	23.2	28	649.6	1458.8	44.53
7	45°	CCW	23.2	28	649.6	1458.8	44.53
					3833.2	10211.6	37.54

4298 12289.2

		Item No:	B03.110.007
Prepared By:	<i>David K. [Signature]</i>	Level:	II
		Date:	3/24/98
Reviewed By:	<i>Gary [Signature]</i>	Level:	II
		Date:	3-26-98

DUKE POWER COMPANY						NDE-91-1	
Limited Examination Coverage Worksheet						Revision 0	
Examination Volume/Area Defined							
<input checked="" type="checkbox"/> Base Metal		<input checked="" type="checkbox"/> Weld		<input type="checkbox"/> Near Surface		<input type="checkbox"/> Bolting	
				<input type="checkbox"/> Inner Radius			
Area Calculation				Volume Calculation			
SEE ATTACHMENT				SEE ATTACHMENT			
Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
			BASE METAL				37.54
			WELD				22.37
			AGGREGATE				28.77

		Item No:	B03.110.007
Prepared By: <i>David K. Z...</i>	Level: <i>II</i>	Date: <i>3/24/98</i>	
Reviewed By: <i>Gary Moss</i>	Level: <i>II</i>	Date: <i>3.26.98</i>	

EXDM AREASOCONEE S.NG/SAMPLING NOZZLEBASE METAL

$$A-B-C-D = \frac{6.188}{2} (3.1 + 4.5) = 23.5144 = 23.5 \text{ sq. in.}$$

$$E-G-L-I = 7.3" \times 3.1" = 22.63 = 22.6 \text{ sq. in.}$$

$$G-H-J = \frac{7 \times 1.5}{2} = .525 = .5 \text{ sq. in.}$$

$$H-K-L = \frac{\pi \times 2.4 \times 2.9}{4} = 5.466 = 5.5 \text{ sq. in.}$$

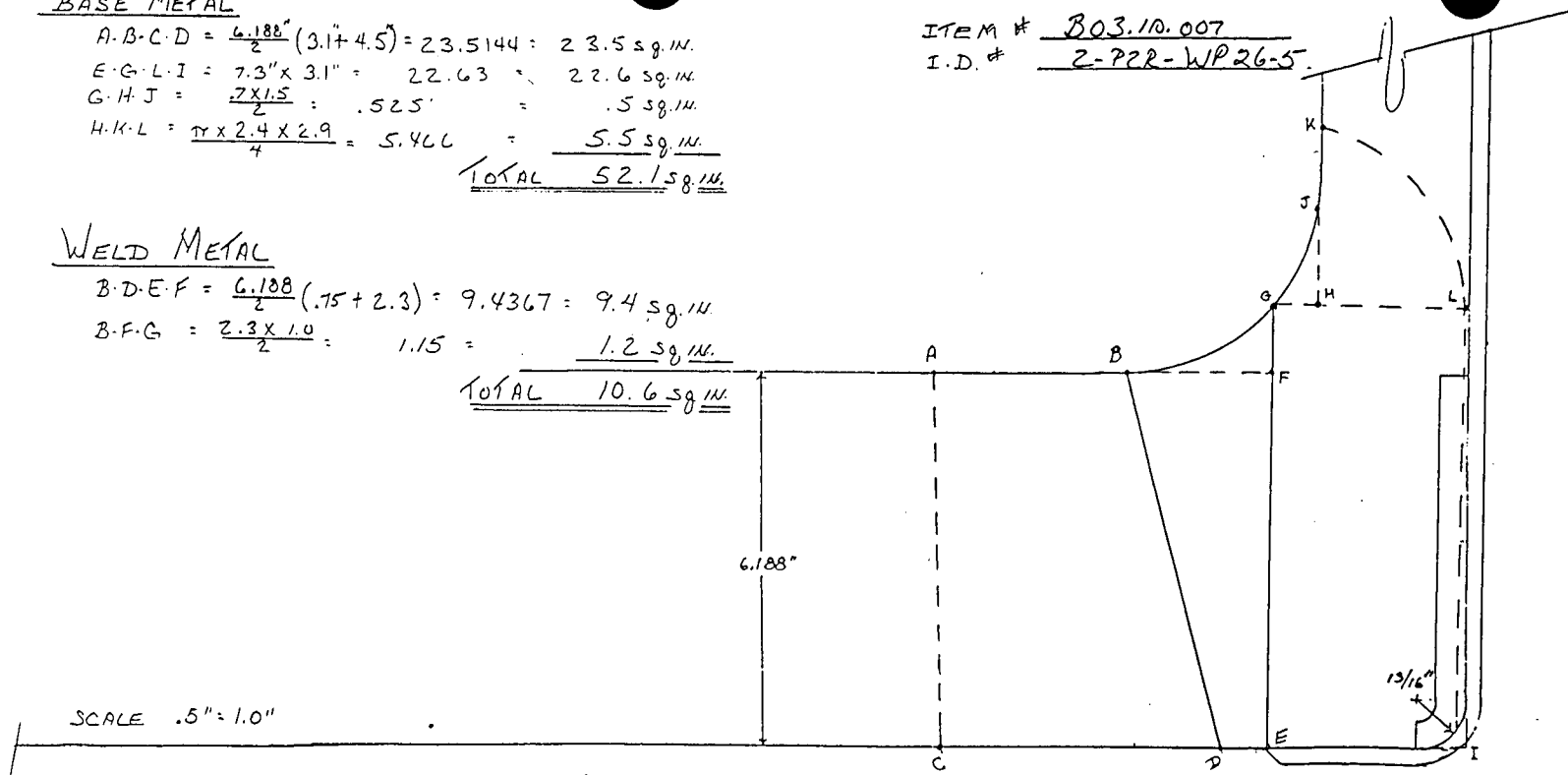
$$\text{TOTAL } 52.1 \text{ sq. in.}$$

ITEM # B03.10.007I.D. # 2-P22-WP26-5WELD METAL

$$B-D-E-F = \frac{6.188}{2} (.75 + 2.3) = 9.4367 = 9.4 \text{ sq. in.}$$

$$B-F-G = \frac{2.3 \times 1.0}{2} = 1.15 = 1.2 \text{ sq. in.}$$

$$\text{TOTAL } 10.6 \text{ sq. in.}$$



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Request For Relief 98-03
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OCONEE C NG / SAMPLING NOZZLE

INSPECTED AREAS

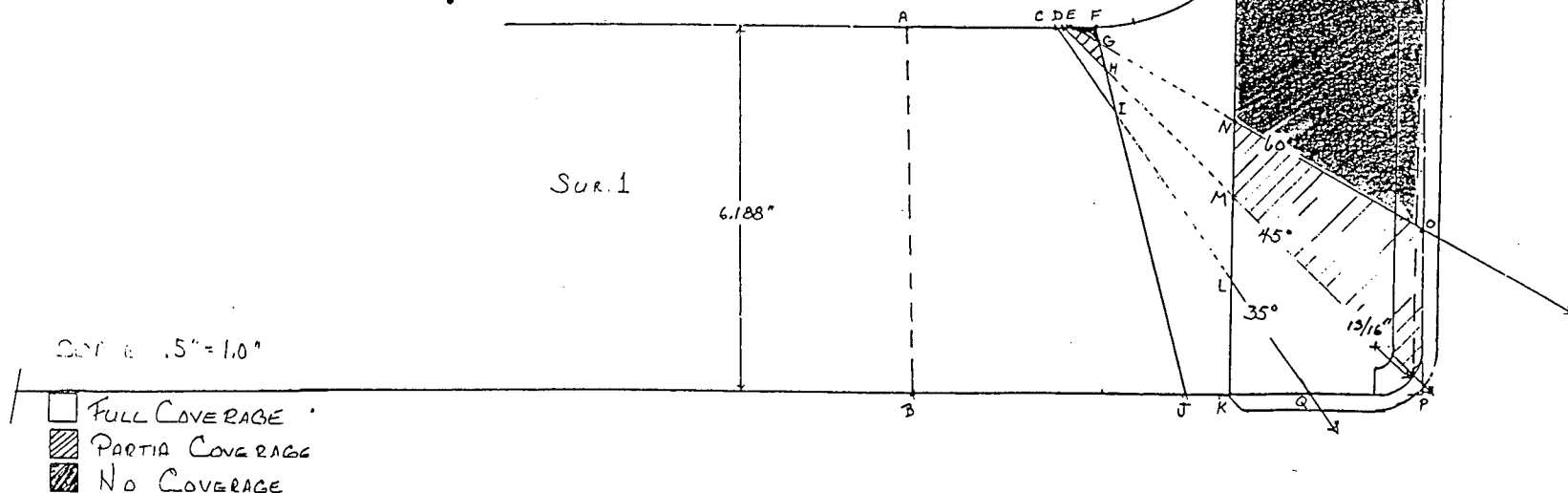
BASE MAT'L.

S1 to S2

$$35^\circ (A \cdot B \cdot F \cdot J) - (C \cdot F \cdot I) + (K \cdot L \cdot J) = \frac{6.188}{2} (3.1 + 4.5) - \frac{1.7 \times .5}{2} + \frac{1.3 \times 1.9}{2} = 24.3244 = \underline{24.3 \text{ sq. in.}}$$

$$45^\circ (A \cdot B \cdot F \cdot J) - (D \cdot F \cdot H) + (K \cdot M \cdot P) = \frac{6.188}{2} (3.1 + 4.5) - \frac{.9 \times .4}{2} + \frac{3.2 \times 3.3}{2} = 28.9144 = \underline{29 \text{ sq. in.}}$$

$$60^\circ (A \cdot B \cdot F \cdot J) - (E \cdot F \cdot G) + (K \cdot N \cdot O \cdot P) = \frac{6.188}{2} (3.1 + 4.5) - \frac{.5 \times .2}{2} + \frac{3.1}{2} (4.6 + 3.8) = 36.484 = \underline{36.5 \text{ sq. in.}}$$



3/70F11

Request For Relief 9803
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Attachment B

O'CONNOR, S.

NG / SAMPLING NOZZLE

INSPECTED AREAS

BASE MAT'L

S2 TO S1

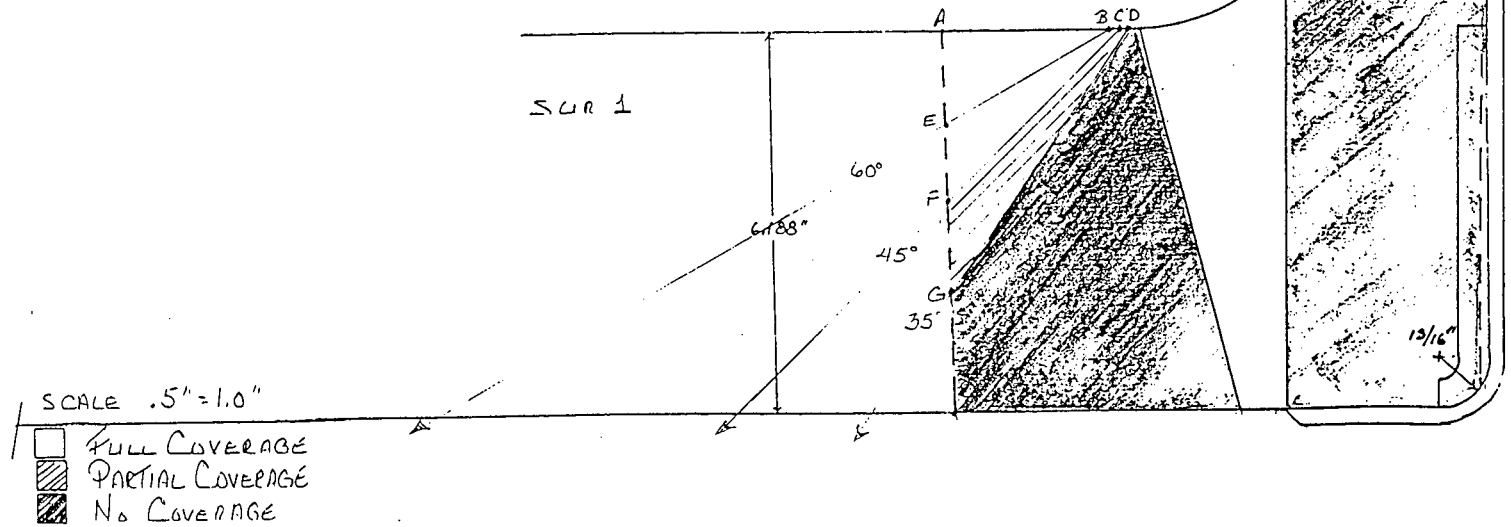
$$35^\circ \text{ A.D.G.} = \frac{2.9 \times 4.2}{2} = 6.09 = \underline{6.1 \text{ sq. in.}}$$

$$45^\circ \text{ A.C.F.} = \frac{2.75 \times 2.75}{2} = 3.781 = \underline{3.8 \text{ sq. in.}}$$

$$60^\circ \text{ A.B.E.} = \frac{2.6 \times 1.5}{2} = 1.95 = \underline{2.0 \text{ sq. in.}}$$

ITEM # B03.110.007

I.D. # 2-P2R-WP26-5



Pg 8 of 11

Request For Relief 98-03
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Attachment B

O'CONNOR SLANG / SAMPLING NOZZLE

INSPECTED AREA:

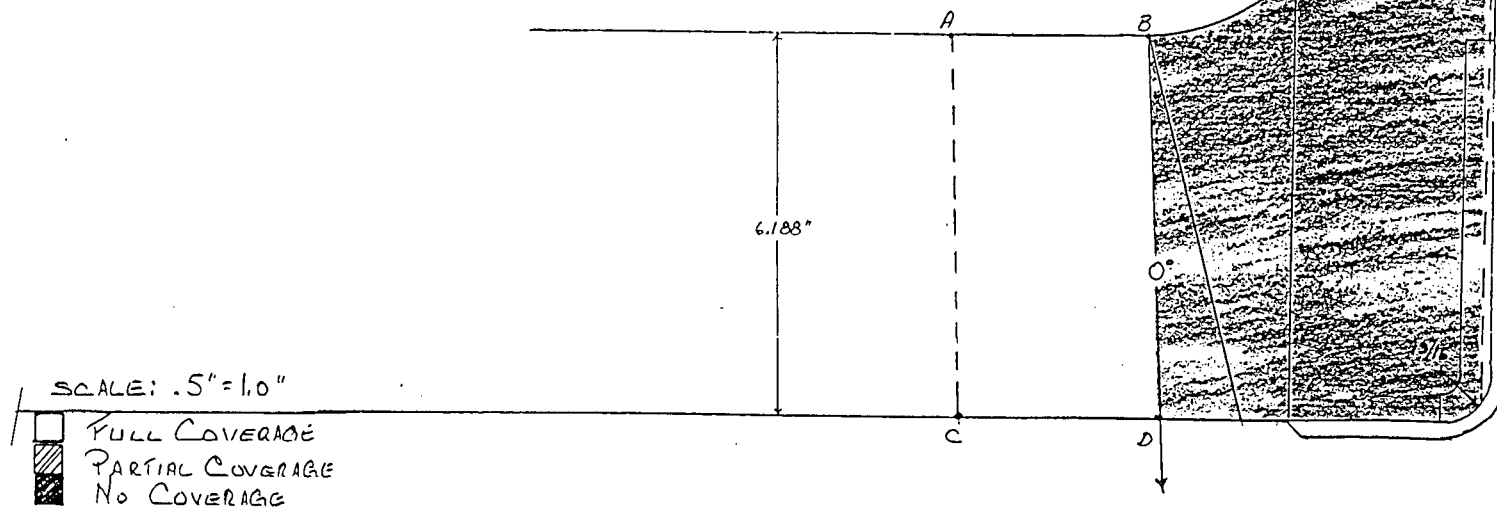
ITEM # B03.110.007
I.D. # 2-PCR-WP26.5

1. BASE MAT'L

$$0^\circ \text{ A.B.C.D} = 3.1 \times 6.188 = 19.182 = 19.2 \text{ sq. in.}$$

WELD MAT'L

TOTAL LOSS



Pg 9 of 11

Request For Relief 9803
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Attachment B

O'CONNOR, C

NG / SAMPLING NOZZLE

INSPECTED AREAS:

BASE MAT'L

35° & 45° CW & CCW

$$A-B-D-E = \frac{6.188}{2} (3.0 + 4.5) = 23.205 = \underline{23.2 \text{ sq. in.}}$$

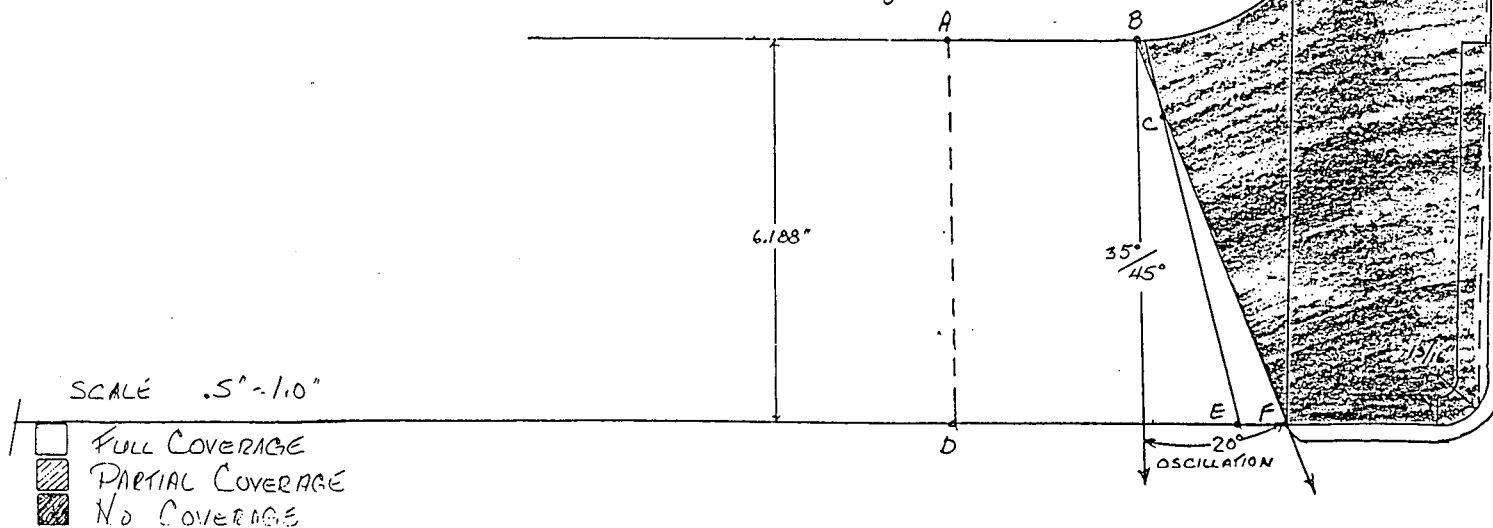
WELD MAT'L

35° & 45° CW & CCW

$$C-E-F = \frac{5.3 \times 1.7}{2} = 1.855 = \underline{1.9 \text{ sq. in.}}$$

ITEM # 803 110.007

I.D. # 2-PER-WP26.5



A8 100F11

Request For Relief 9803
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Attachment B

O'CONNOR, C

NG / SAMPLING NOZZLE

INSPECTED AREAS:

WELD MAT'L

ITEM # B03.1N.007

I.D. # 2-PER-WP26.5

S1 TO S2

$$35^\circ \text{ CDF} + \text{DEF} = \frac{4.8 \times 1.2}{2} + \frac{.9 \times .75}{2} = 3.217 = \underline{3.2 \text{ sq. in.}}$$

$$45^\circ \text{ BDG} + \text{DEG} = \frac{5.6 \times 1.5}{2} + \frac{3.3 \times .75}{2} = 5.437 = \underline{5.4 \text{ sq. in.}}$$

$$60^\circ \text{ ADH} + \text{DEH} = \frac{6.0 \times 1.9}{2} + \frac{4.6 \times .75}{2} = 7.425 = \underline{7.4 \text{ sq. in.}}$$

S2 TO S1

35° TOTAL LOSS

45° TOTAL LOSS

60° TOTAL LOSS

Sur. 1

6.188"

SCALE .5" = 1.0"

☐ FULL COVERAGE
☒ PARTIAL COVERAGE
☒ NO COVERAGE

Pg 11 OF 11

Sur. 2

Request For Relief 9803
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Attachment B

DUKE POWER COMPANY

ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS

Exam Start: 1110

Form NDE-UT-2A

Exam Finish: 1217

Revision 4

Station: Ocone

Unit: 2

Component/Weld ID: 2-PZR-WP26-6

Date: 3/24/98

Weld Length (in.): 28.0"

Surface Condition: AS MACHINED

Lo: B&W #1

Surface Temperature: 72 ° F

Examiner: Winfred C. Leeper Level: II

Scans:

Pyrometer S/N: MCNDE 27021

Examiner: David Zimmerman Level: II

45 ☒ 54 dB 70 ☐ dB

Cal Due: 7/27/98

Procedure: NDE-620 Rev: 5

FC:

45T ☒ 54 dB 70T ☐ dB

NDE-640

1

N/A

60 ☒ 70.5 dB

Configuration: Nozzle to Shell

N/A Flow N/A

S2 to S1

Scan Surface: OD

Calibration Sheet No:

9802043, 9802044, 9802046

60T ☒ 70.5 dB

Other: 0°-26 dB

Applies to NDE-680 only

Skew Angle: N/A

IND #	Max % Ref	Mp Max	W Max	L Max	L1	L2	W1	Mp1	W2	Mp2	Beam Dir.	Exam Surf.	Scan	Damps
					20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac	20%dac HMA 50%dac 100%dac				
NRI	0°													
NRI	45°													
NRI	60°													

Remarks: *95-18, 95-19

Limitations: (see NDE-UT-4) ☐ 90% or greater coverage obtained: yes ☐ no ☒

Sheet 1 of 11

Reviewed By: Gary Mon

Level: II

Date: 3-26-98

Authorized Inspector: MOC

Date: 3-31-98

Item No:

B03.110.008

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Attachment B

DUKE POWER COMPANY ISI LIMITATION REPORT

FORM NDE-UT-4

Revision 1

Component/Weld ID: 2-PZR-WP26-6

Item No: B03.110.008

Remarks:

☐ NO SCAN SURFACE BEAM DIRECTION
☒ LIMITED SCAN ☒ 1 ☐ 2 ☐ 1 ☒ 2 ☐ cw ☐ ccw
 FROM L 12.0" to L 19.0" INCHES FROM WO 11.0" to BEYOND
 ANGLE: ☐ 0 ☐ 45 ☒ 60 ☐ Other FROM 0 DEG to 360 DEG

DUE TO LOWER HEAD WELD

☒ NO SCAN SURFACE BEAM DIRECTION
☐ LIMITED SCAN ☒ 1 ☐ 2 ☐ 1 ☒ 2 ☒ cw ☒ ccw
 FROM L to L INCHES FROM WO 0.0" to 1.5"
 ANGLE: ☒ 0 ☒ 45 ☒ 60 ☐ Other FROM 0 DEG to 360 DEG

NOZZLE CONFIGURATION

☐ NO SCAN SURFACE BEAM DIRECTION
☐ LIMITED SCAN ☐ 1 ☐ 2 ☐ 1 ☐ 2 ☐ cw ☐ ccw
 FROM L to L INCHES FROM WO to
 ANGLE: ☐ 0 ☐ 45 ☐ 60 ☐ Other FROM DEG to DEG

☐ NO SCAN SURFACE BEAM DIRECTION
☐ LIMITED SCAN ☐ 1 ☐ 2 ☐ 1 ☐ 2 ☐ cw ☐ ccw
 FROM L to L INCHES FROM WO to
 ANGLE: ☐ 0 ☐ 45 ☐ 60 ☐ Other FROM DEG to DEG

Prepared By: David K. Z... Level: II Date: 3/24/98 Sketch(s) attached ☒ yes ☐ no Sheet 2 of 11

Reviewed By: Gary Moss Date: 3.26.98 Authorized Inspector: YMB Date: 5-31-98

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DUKE POWER COMPANY Limited Examination Coverage Worksheet						NDE-91-1			
						Revision 0			
Examination Volume/Area Defined									
<input checked="" type="checkbox"/> Base Metal		<input checked="" type="checkbox"/> Weld		<input type="checkbox"/> Near Surface		<input type="checkbox"/> Bolting		<input type="checkbox"/> Inner Radius	
Area Calculation				Volume Calculation					
SEE ATTACHMENT				SEE ATTACHMENT					
Coverage Calculations									
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage		
		BASE METAL					37.54		
		WELD					22.37		
		AGGREGATE					28.77		

Item No: B03.110.008		
Prepared By: <i>David K. Zing</i>	Level: <i>II</i>	Date: <i>3/24/98</i>
Reviewed By: <i>Gary J. Moss</i>	Level: <i>IB</i>	Date: <i>3.26.98</i>

DUKE POWER COMPANY Limited Examination Coverage Worksheet						NDE-91-1	
						Revision 0	
Examination Volume/Area Defined							
<input checked="" type="checkbox"/> Base Metal <input type="checkbox"/> Weld <input type="checkbox"/> Near Surface <input type="checkbox"/> Bolting <input type="checkbox"/> Inner Radius							
Area Calculation				Volume Calculation			
52.1 SQ. IN.				52.1 SQ. IN. X 28" = 1458.8 CU. IN.			
Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
1	45°	S2	29	28	812	1458.8	55.66
2	60°	S2	36.5	28	1022	1458.8	70.06
3	45°	S1	38	28	106.4	1458.8	7.29
4	60°	S1	2.0	28	56	1458.8	3.84
5	0°	N/A	19.2	28	537.6	1458.8	36.85
6	45°	CW	23.2	28	649.6	1458.8	44.53
7	45°	CCW	23.2	28	649.6	1458.8	44.53
					3833.2	10211.6	37.54

		Item No: B03.110.008
Prepared By: <i>David K. Z...</i>	Level: <i>II</i>	Date: <i>3/24/98</i>
Reviewed By: <i>Gary Moss</i>	Level: <i>IB</i>	Date: <i>3-26-98</i>

DUKE POWER COMPANY Limited Examination Coverage Worksheet	NDE-91-1
	Revision 0

Examination Volume/Area Defined				
<input type="checkbox"/> Base Metal	<input checked="" type="checkbox"/> Weld	<input type="checkbox"/> Near Surface	<input type="checkbox"/> Bolting	<input type="checkbox"/> Inner Radius

Area Calculation	Volume Calculation
$B, D, E, F = 6.188 / 2 (.75 + 2.3) = 9.43$ $1.0 / 2 = 1.15$ $9.4 \text{ SQ. IN.} + 1.2 \text{ SQ. IN.} = 10.6 \text{ SQ. IN.}$ $B, F, G = 2.3 \times$	$10.6 \text{ SQ. IN.} \times 28" = 296.8 \text{ CU. IN.}$

Coverage Calculations							
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
1	45°	S1	5.4	28	151.2	296.8	50.94
2	60°	S1	7.4	28	207.2	296.8	69.81
3	45°	S2	0.0	28	0	296.8	0.00
4	60°	S2	0.0	28	0	296.8	0.00
5	0°	N/A	0.0	28	0	296.8	0.00
6	45°	CW	1.9	28	53.2	296.8	17.92
7	45°	CCW	1.9	28	53.2	296.8	17.92
					464.8	2077.6	22.37

Item No: B03.110.008	
Prepared By: <i>Daniel K. Zing</i>	Level: <i>II</i> Date: <i>3/24/98</i>
Reviewed By: <i>Harry Moss</i>	Level: <i>IB</i> Date: <i>3-26-98</i>

EXDM AREASO'CONNOR S.VG / SAMPLING NOZZLEBASE METAL

$$A \cdot B \cdot C \cdot D = \frac{6.188}{2} (3.1 + 4.5) = 23.5144 = 23.5 \text{ sq. in.}$$

$$E \cdot G \cdot L \cdot I = 7.3'' \times 3.1'' = 22.63 = 22.6 \text{ sq. in.}$$

$$G \cdot H \cdot J = \frac{7 \times 1.5}{2} = .525 = .5 \text{ sq. in.}$$

$$H \cdot K \cdot L = \frac{\pi \times 2.4 \times 2.9}{4} = 5.466 = 5.5 \text{ sq. in.}$$

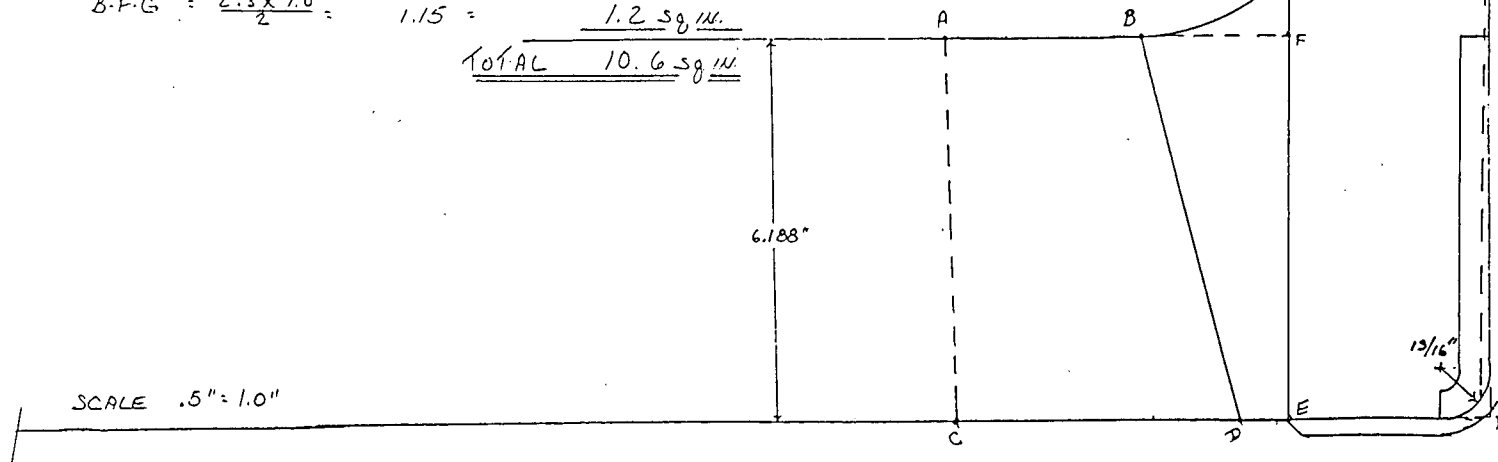
$$\text{TOTAL } 52.158 \text{ in.}$$

ITEM # B03.110.008I.D. # 2-P2R-WP26.6WELD METAL

$$B \cdot D \cdot E \cdot F = \frac{6.188}{2} (.75 + 2.3) = 9.4367 = 9.4 \text{ sq. in.}$$

$$B \cdot F \cdot G = \frac{2.3 \times 1.0}{2} = 1.15 = 1.2 \text{ sq. in.}$$

$$\text{TOTAL } 10.6 \text{ sq. in.}$$



Pg 6 of 11

Request For Relief 98.03
Page 28 of 33
Attachment B

DCONEE. C ING / SAMPLING NOZZLE

INSPECTED AREAS

BASE MAT'L

S1 to S2

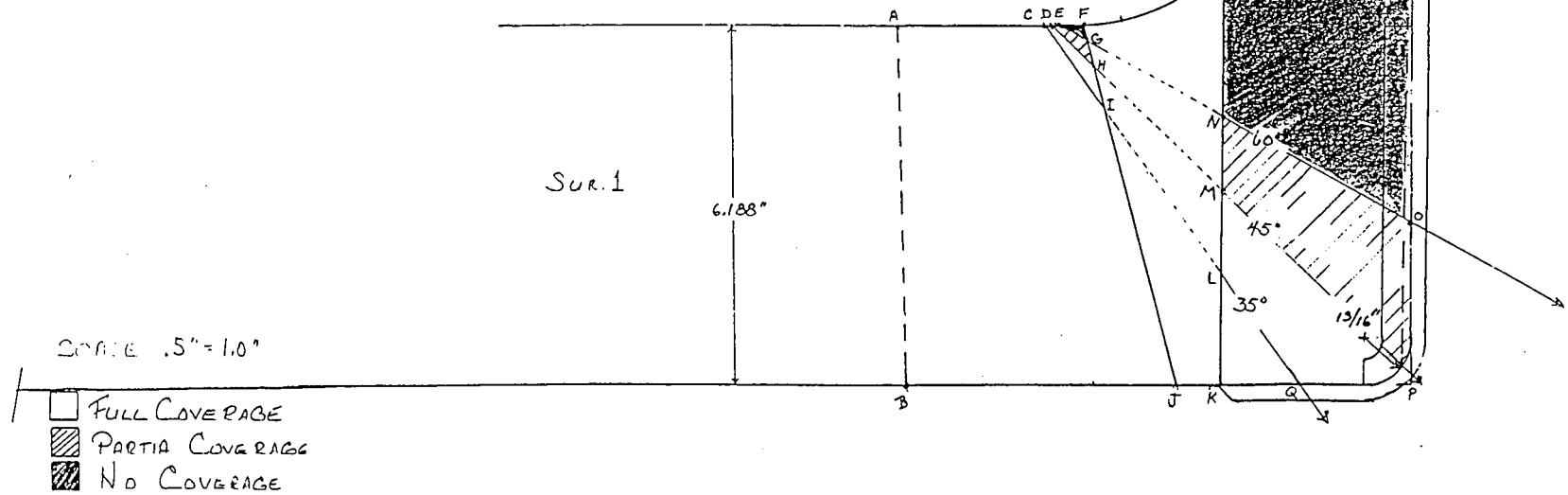
$$35^\circ (A \cdot B \cdot F \cdot J) - (C \cdot F \cdot I) + (K \cdot L \cdot Q) = \frac{6.188}{2} (3.1 + 4.5) - \frac{1.7 \times .5}{2} + \frac{1.3 \times 1.9}{2} = 24.3244 = \underline{24.3 \text{ sq. in.}}$$

$$45^\circ (A \cdot B \cdot F \cdot J) - (D \cdot F \cdot H) + (K \cdot M \cdot P) = \frac{6.188}{2} (3.1 + 4.5) - \frac{.9 \times .4}{2} + \frac{3.2 \times 3.3}{2} = 28.9144 = \underline{29 \text{ sq. in.}}$$

$$60^\circ (A \cdot B \cdot F \cdot J) - (E \cdot F \cdot G) + (K \cdot N \cdot O \cdot P) = \frac{6.188}{2} (3.1 + 4.5) - \frac{.5 \times .2}{2} + \frac{3.1}{2} (4.6 + 3.8) = 36.484 = \underline{36.5 \text{ sq. in.}}$$

ITEM # B03.110.008

I.D. # 2-P2R-WP26-6



SCALE .5" = 1.0"

Pg 70P11

Request For Relief 98-03
Page 29 of 33
Attachment B

O'CONNOR S. / SAMPLING NOZZLE

INSPECTED AREAS

BASE MAT'L

S2 TO S1

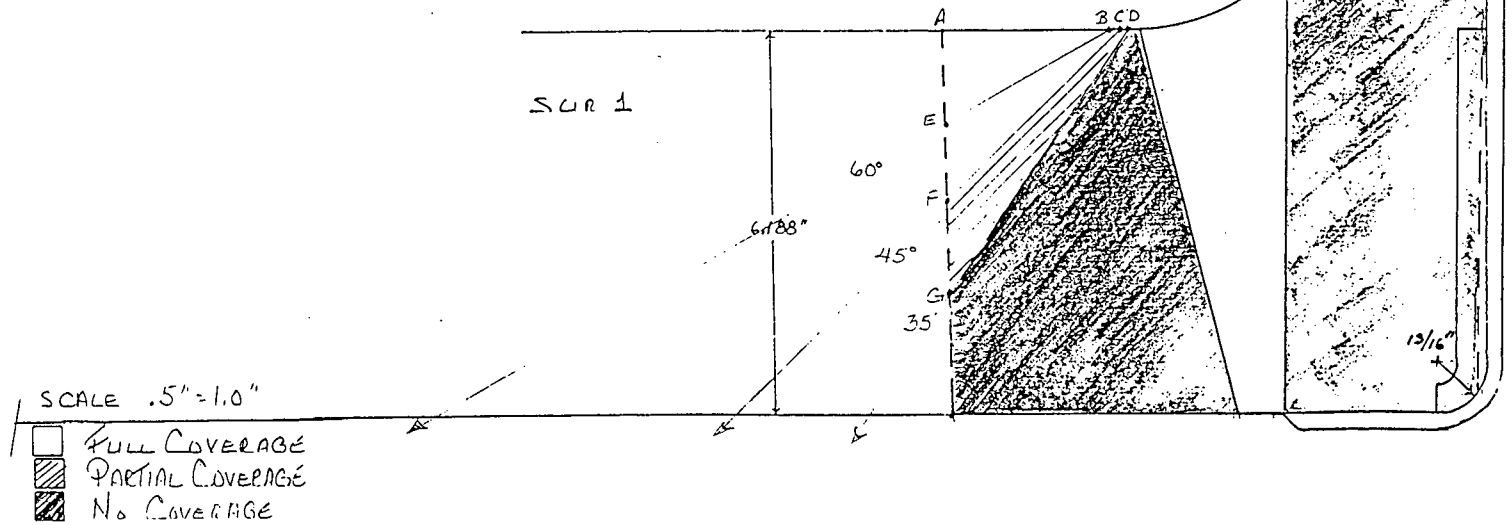
$$35^\circ \text{ A.D.G.} = \frac{2.9 \times 4.2}{2} = 6.09 = \underline{6.1 \text{ sq. in.}}$$

$$45^\circ \text{ A.C.F.} = \frac{2.75 \times 2.75}{2} = 3.781 = \underline{3.8 \text{ sq. in.}}$$

$$60^\circ \text{ A.B.E.} = \frac{2.6 \times 1.5}{2} = 1.95 = \underline{2.0 \text{ sq. in.}}$$

ITEM # 803.110.008

I.D. # Z-P2R-4/P26-6



P 8 of 11

Request For Relief 98-03
Page 30 of 33
Attachment B

O'CONNOR S&B / SAMPLING NOZZLE

INSPECTED AREA:

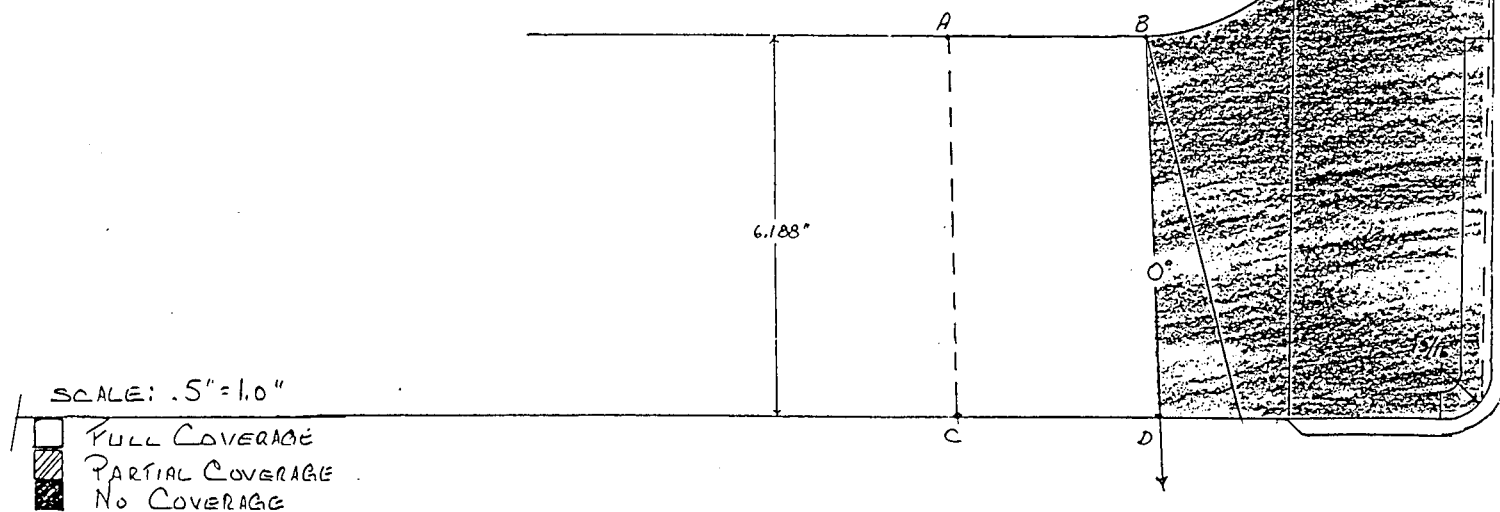
ITEM # B03,110.008
I.D. # 2-PZR-WP26-6

BASE MAT'L

$$0^\circ \text{ A.B.C.D} = 3.1 \times 6.188 = 19.182 = 19.2 \text{ sq. in.}$$

WELD MAT'L

TOTAL LOSS



Pg 9 of 11

Request For Relief 98-03
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Attachment B

OCONEE S. NG / SAMPLING NOZZLE

INSPECTED AREAS:

BASE MAT'L

35° & 45° CW & CCW

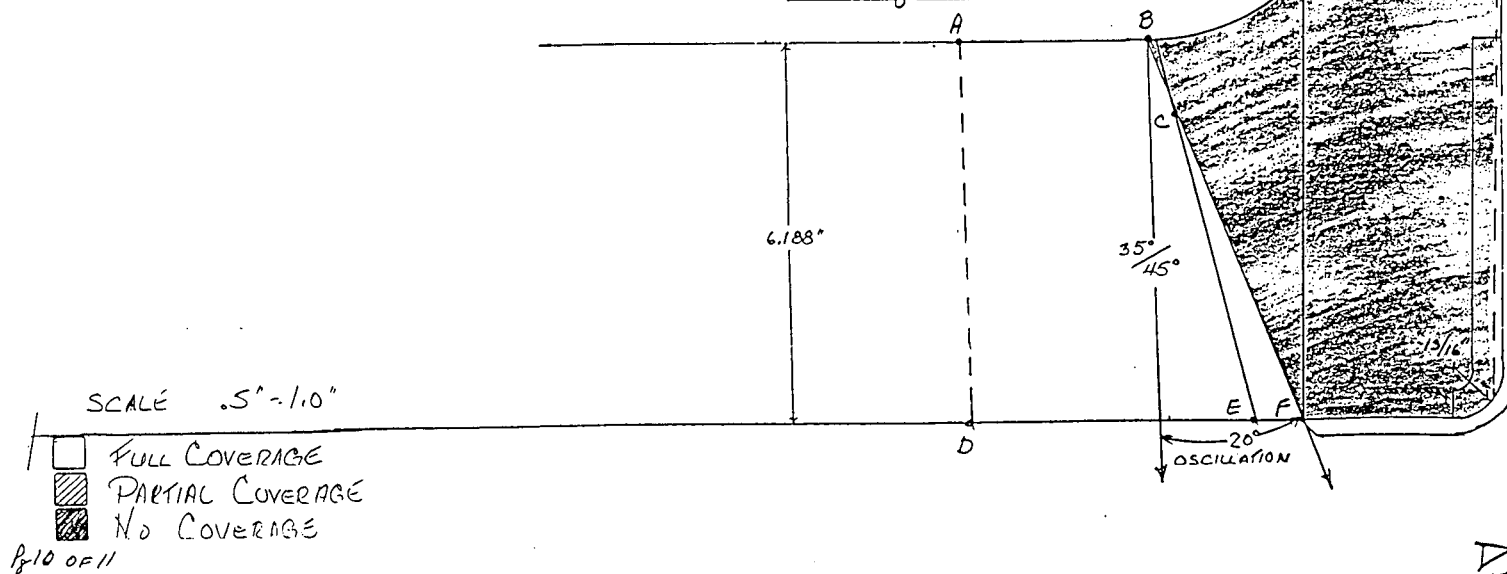
$$A.B.D.E = \frac{6.188}{2} (3.0 + 4.5) = 23.205 = \underline{23.2 \text{ sq. in.}}$$

WELD MAT'L

35° & 45° CW & CCW

$$C.E.F = \frac{5.3 \times 1.7}{2} = 1.855 = \underline{1.9 \text{ sq. in.}}$$

ITEM # B03.110.008
I.D. # 2.P22-WP26-6



Request For Relief 98-03
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Attachment B

O'CONNOR S. WELDING / SAMPLING NOZZLE

INSPECTED WELDS:

WELD MAT'L

ITEM # B03.110.008
I.D. # Z-P2R-WP26-6

S1 TO S2

$$35^\circ \text{ CDF} + \text{DEF} = \frac{4.8 \times 1.2}{2} + \frac{.9 \times .75}{2} = 3.217 = \underline{3.2 \text{ sq. in.}}$$

$$45^\circ \text{ BDG} + \text{DEG} = \frac{5.6 \times 1.5}{2} + \frac{3.3 \times .75}{2} = 5.437 = \underline{5.4 \text{ sq. in.}}$$

$$60^\circ \text{ ADH} + \text{DEH} = \frac{6.0 \times 1.9}{2} + \frac{4.6 \times .75}{2} = 7.425 = \underline{7.4 \text{ sq. in.}}$$

S2 TO S1

35° TOTAL LOSS

45° TOTAL LOSS

60° TOTAL LOSS

Sur. 1

6.188"

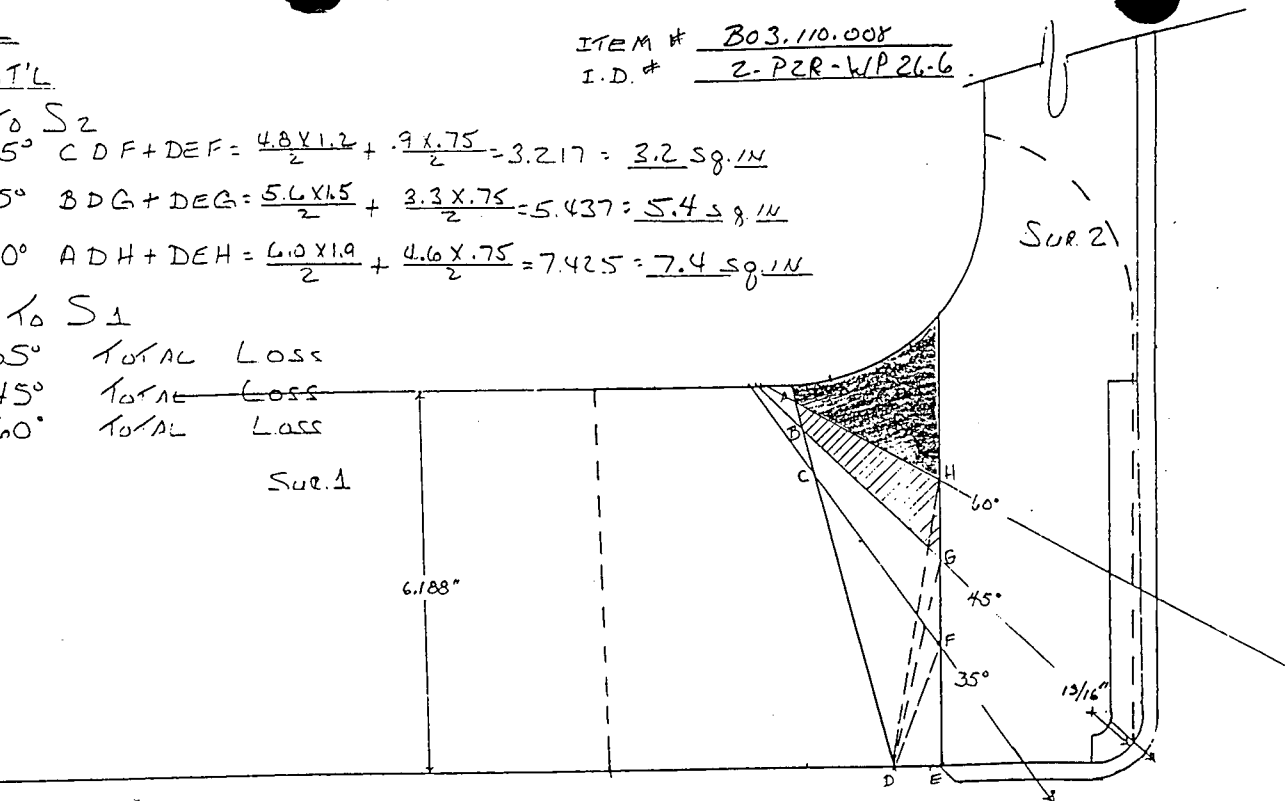
Sur. 2

SCALE .5" = 1.0"

☐ FULL COVERAGE
☒ PARTIAL COVERAGE
☒ NO COVERAGE

Pg 11 of 11

Request For Relief 98-03
 Page 33 of 33
 Attachment B



Duke Power Company
Oconee Nuclear Site
P.O. Box 1439
Seneca, SC 29679

J. W. HAMPTON
Vice President
(864) 885-3499 Office
(864) 885-5554 Fax



DUKE POWER

March 3, 1997

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

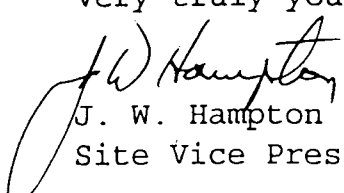
Subject: Duke Power Company
Oconee Nuclear Station, Units 1, 2, and 3
Docket No. 50-269, -270, -287
Third Ten Year Inservice Inspection Interval
Request for Relief ONS-009

Request for Relief ONS-009 was previously submitted to the NRC in a Duke letter dated June 14, 1994. This request for relief addresses the High Pressure Injection System letdown coolers for Units 1, 2, and 3. The NRC approved this request for relief in a Safety Evaluation Report (SER) to Duke dated November 15, 1995.

Please find attached Revision 1 to Request for Relief ONS-009, which includes an editorial change which deletes the weld identification numbers. The weld identification numbers are redundant to the code item numbers. Weld identification numbers are subject to change due to replacement of like-for-like components. This editorial revision does not affect the basis for relief granted in the November 15, 1995, SER since letdown cooler joint configuration and examination accessibility have not been affected.

If there are any questions or further information is needed you may contact D. A. Nix at (864) 885-3634.

Very truly yours,


J. W. Hampton
Site Vice President

Attachment

U. S. Nuclear Regulatory Commission
March 3, 1997
Page 2

xc (w/attch): Mr. D. E. LaBarge
 Project Manager
 Office of Nuclear Reactor Regulation
 U. S. Nuclear Regulatory Commission
 Washington, DC 20555

 Mr. L. A. Reyes
 Regional Administrator, Region II
 U. S. Nuclear Regulatory Commission

xc (w/o attch): Mr. M. A. Scott
 Senior NRC Resident Inspector
 Oconee Nuclear Station

 Mr. Max Batavia
 Bureau of Radiological Health
 SC Dept. of Health & Environmental Control
 2600 Bull St.
 Columbia, SC 29201

U. S. Nuclear Regulatory Commission

March 3, 1997

Page 3

bxc (w/ attch): ISI Relief Request File
 J. O. Barbour
 D. A. Nix
 R. G. Rouse
 T. J. Coleman

bxc (w/o attch): B. W. Carney
 M. B. Chapman
 J. C. Shropshire
 V. B. Dixon
 ELL ECO50
 R. L. Gill (EC12R)

DUKE POWER COMPANY

Request for Relief From
Inservice Inspection Requirement

Station: Oconee

Unit: 1, 2 & 3

Requesting Department: Nuclear Generation

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

I. Component for which exemption is requested:

a. Name and Identification Number:

Letdown Cooler Nozzles (Inside Radius Section) for Units 1, 2 & 3
OM-201-3107 (Attachment "A"). The following item numbers are affected:

Oconee 1

Item No.

B03.160.001
B03.160.002
B03.160.003
B03.160.004

Oconee 2

Item No.

B03.160.001
B03.160.002
B03.160.003
B03.160.004

Oconee 3

Item No.

B03.160.001
B03.160.002
B03.160.003
B03.160.004

b. Function:

The Letdown Cooler reduces the temperature of the letdown flow from the
Reactor Coolant System to a temperature suitable for demineralization.

c. ASME Section XI Code Class:
Class 1

d. Construction Code and Class (If Applicable):

N/A

e. Valve Category (If Applicable):

N/A

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

Table IWB-2500, Examination Category B-D, Item Number B03.160. Table requires
that an inside radius volumetric examination be performed on heat exchanger nozzles.

III. Basis for Requesting Relief:

Due to the size and geometry of the nozzle inside radius on the Letdown Coolers, we have been unable to perform a meaningful (i.e. unable to get sound into the area of interest) volumetric examination.

IV. Alternate Examination:

Perform the volumetric examination on the weld volume, as required by ASME Section XI, Table IWB-2500-1, Examination Category B-D, Item Number B03.150. This will provide adequate Assurance of the welded connection. The alternate proposed inservice testing will provide an acceptable level of quality and safety and ensures the level of public health and safety is not reduced.

V. Implementation Schedule:

Ocone 1		Ocone 2		Ocone 3	
Item No.	RFO	Item No.	RFO	Item No.	RFO
B03.160.001	16	B03.160.001	15	B03.160.001	17
B03.160.002	16	B03.160.002	15	B03.160.002	17
B03.160.003	20	B03.160.003	20	B03.160.003	21
B03.160.004	20	B03.160.004	20	B03.160.004	21

Evaluated By:

R.M. Raue

Date

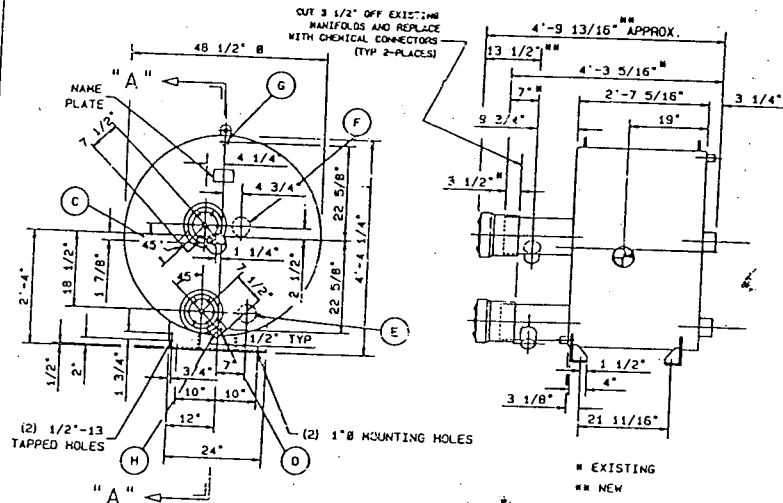
2/10/97

Reviewed By:

J. Barlow

Date

2/11/97



- (C) TUBE SIDE INLET --- 3" SCH. 160 (.438")
 - (D) TUBE SIDE OUTLET --- 3" SCH. 160 (.438")
 - (E) SHELL SIDE INLET --- 4" SCH. 40 (.237")
 - (F) SHELL SIDE OUTLET --- 4" SCH. 40 (.237")
 - (G) SHELL SIDE VENT --- 1" 3000# SOCKET WELD
 - (H) SHELL SIDE DRAIN --- 1" 3000# SOCKET WELD
- UNIT: INCHES

NOTES:
 1. U-GROOVE WELD WITH COMPLETABLE INSERT OR V-GROOVE WELD WITHOUT COMPLETABLE INSERT IS ACCEPTABLE.
 2. FOR TUBE PLUGGING INFO. RMR LETDOWN COOLER DESIGNATION SEE OM-201-3120, ATTACHMENT 1.

PART NO.	PART NAME	MATERIAL	SPEC.	REMARKS
1	TUBE COILS	T-316L S.S.	SA-213	.070 BWG. SML'S. ULTRASONIC TESTED
2	TUBE SHEET	T-316L S.S.	SA-240	PLATE
3	TUBE SIDE CHANNEL BODY	T-316L S.S.	SA-162	FORGED BAR
5	CHANNEL NOZZLE	T-316L S.S.	SA-162	FORGED BAR
6	CASING BASE PLATE	CARB. STEEL	SA-516-70	PLATE
7	CASING END PLATE	CARB. STEEL	SA-516-70	PLATE
8	CASING SHELL	CARB. STEEL	SA-516-70	PLATE
9	CASING NOZZLE PIPE	CARB. STEEL	SA-106-8	SEAMLESS PIPE
10	CASING PIPE TO TUBE SHEET	CARB. STEEL	SA-106-8	SEAMLESS PIPE
11	SOCKET WELD CPLG	FORGED STEEL	SA-105	
12	SUPPORTS	CARB. STEEL	SA-516-70	PLATE
13	FLOWSEAL	T-304 S.S.		
14	CHEMICAL CONNECTOR			

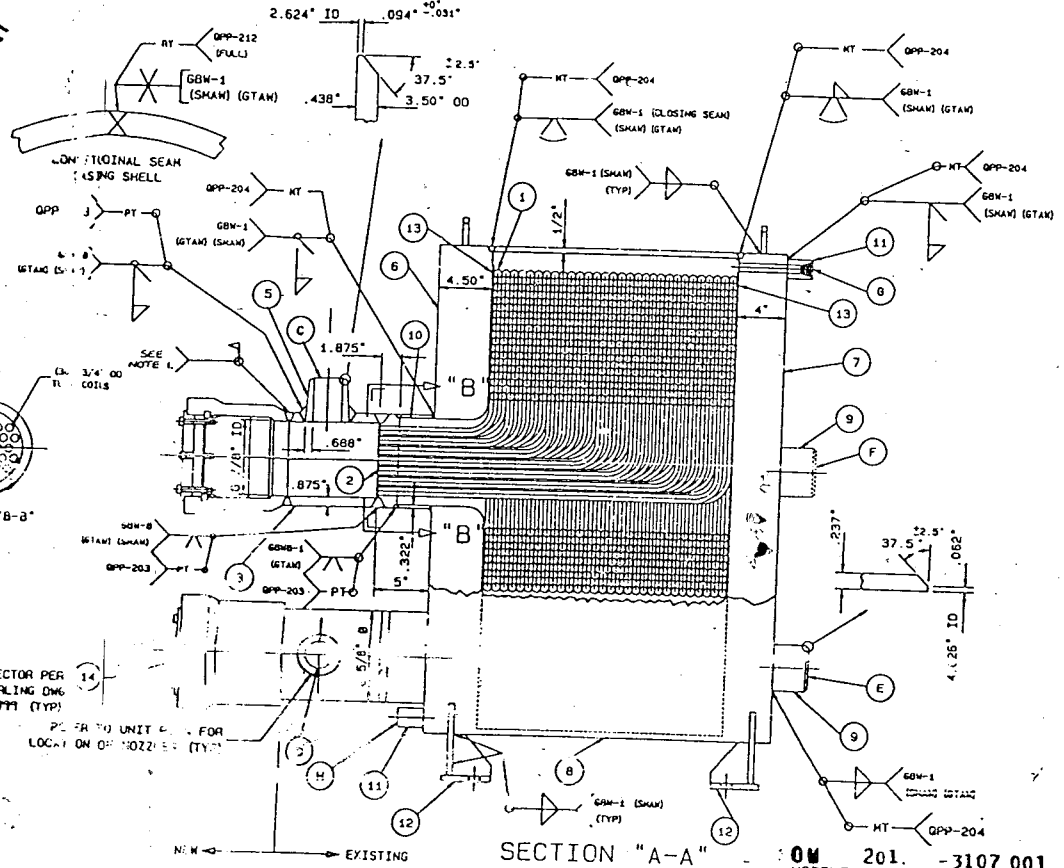
CUSTOMER --- MILL POWER SUPPLY CO.
 CUST. ORD. NO. --- N46923-13
 GRAHAM JOB NO. --- 64770HC (ORIGINAL JOB NO. FOR COOLERS- 34097HC AND 44773HC) Δ
 DESIGN --- A.S.M.E. SECT. III, CL-3 (1980), ADDENDUM THRU SUMMER 1980
 CONSTRUCTION --- A.S.M.E.
 INSPECTION --- A.S.M.E. & CUSTOMER
 STAMPING --- A.S.M.E. ("N" STAMP REQ'D)
 PAINT --- COMM GRIT BLAST CARBON STEEL
 (1) PRIME COAT CARBO-ZINC 11 (3) MILS D.F.T.
 (1) FINISH COAT PHENOLINE 305 (4) MILS D.F.T.
 PER DUKE POWER CO. NUCLEAR COATING SPEC. 5001-1, REV 12/1/78

DUKE POWER CO. SPECIFICATION NO. --- OSS-0201.00-00-0004 REV. 1

INFORMATION ONLY

DE

CHEMICAL CONNECTOR PER ANCHOR/DARLING DWG. 93-15799 (TYP)



"NUCLEAR SAFETY RELATED"
 O.A. CONDITION #1

LOAD CASE	Qx (PSI)	Qy (PSI)	ALLOWABLE (REF 2)
NORMAL OP.			.6Sy-
NORMAL OP. + OBE			.6Sy-
NORMAL OP. + SSE			.8Sy-

TUBE SIDE INLET & OUTLET	Fa (LB)	Fsr (LB)	Mt (IN-LB)	Mbr (IN-LB)
NORMAL OP.	842	842	11000	11000
NORMAL OP. + OBE	1684	1684	12000	12000
NORMAL OP. + SSE	2105	2105	14380	14380

SHELL SIDE INLET & OUTLET	Fa (LB)	Fsr (LB)	Mt (IN-LB)	Mbr (IN-LB)
NORMAL OP.	634	634	6420	6420
NORMAL OP. + OBE	1268	1268	12840	12840
NORMAL OP. + SSE	1585	1585	16050	16050

STATION --- 001
 O.A. FILE # --- 037412, 06-00-0002-00
 MP. ORD # --- N46923-13

ESTIMATED WEIGHT
 EMPTY --- 6560 LBS
 FLOODED --- 8060 LBS

	M.A.W.P.	TEST PRESS.	DESIGN TEMP
SHELL SIDE	200 PSIG	300 PSIG	350°F
TUBE SIDE	2500 PSIG	3750 PSIG	630°F

GRAHAM MANUFACTURING CO., INC.
 20 FLORENCE AVE. BATAVIA, NEW YORK
 MODIFICATION OF EXISTING LETDOWN COOLER (PLUGGABLE DESIGN) WITH MECHANICAL JOINT (CHEMICAL CONNECTOR) FOR CHANNEL ACCESS
 QUAL CONTROL APPROVAL GG
 SCALE MADE CHKD APPD DATE DATE
 NONE 2-11-88 2-15-88
 NU-D-1124-1 DE

CERTIFIED CORRECT
 GRAHAM MFG. CO. INC.
 E.A. JENNINGS
 C.E. JENNINGS

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-O98-5073
LER No:

Action Category: 3
Other Report:

I. Problem ID

Discovered Time/Date: 11:00 10/25/98

Occurred Time/Date:

Unit(s): 3

Status at Time Discovered

Mode
% Power

Unit 1

N/A

Unit 2

N/A

Unit 3

NOMODE

Unit Status Remarks:

System(s) Affected: HPI
RC

Other High Pressure Injection Equip.
Reactor Coolant

Affected Equipment

Comp.

WMS Equipment ID No.

Code

Manufacturer

Location of Problem - Bldg: R

Column Line:

Elev:

Location Remarks:

Method Used to Discover Problem:

Radiographic examination

Brief Problem Description:

Radiographic examination reveals visible gap between HPI/MU Nozzles and Thermal Sleeves.

Detailed Problem Description:

Radiographic examination of 3B-1 and 3B-2 HPI/MU Nozzle Thermal Sleeves revealed gaps that are reportable to the acceptance standards of Duke Power procedure NDE-105 Revision 2.

Radiographic film for all previous radiographic examinations of Thermal Sleeves 3B-1 and 3B-2 were reviewed to determine maximum visible gap length and to determine if the visible gap had increased in length.

Radiographic film for Nozzle/Thermal Sleeve 3B-1 shows an expansion area of 2.25 inches in length. Visible gap was observed between the nozzle and thermal sleeve on the nozzle side of the expansion area with a maximum gap length of 1.125 inches.

Radiographic film for Nozzle/Thermal Sleeve 3B-2 shows an expansion area of 2.125 inches in length. Visible

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-O98-5073
LER No:

Action Category: 3
Other Report:

gap was observed between the nozzle and thermal sleeve on the nozzle side of the expansion area with a maximum gap length of 0.5625 inches.

Based on comparison to previous radiographs, no apparent change was observed for Nozzle/Thermal Sleeves 3B-1 and 3B-2 in visible gap length or in thermal sleeve position.

No new gaps were observed during radiographic examination.

Recommend that this PIP be screened as LSE Cat.3 and assigned to CEN for evaluation/resolution

Originated By: TLT8302: TUCKER, TIMOTHY L Team: KWS8302 Group: QAT Date: 10/25/98

Last Updated By: TLT8302: TUCKER, TIMOTHY L Team: KWS8302 Group: QAT Date: 10/25/98

Last Updated By: TLT8302: TUCKER, TIMOTHY L Team: KWS8302 Group: QAT Date: 10/25/98

Other Units/Components/Systems/Areas Affected (Y,N,U): N

Industry Plants Affected (Y,N,U): U

Immediate Corrective Actions:

Problem Found While Working with Document No. :

Immediate Corrective Action Work Request / Work Order No. :

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date:</u>
Problem Identified By:	TLT8302	KWS8302	QAT	10/25/98
Problem Entered By:	TLT8302	KWS8302	QAT	10/25/98

II. Screening

Is the Problem Significant? N Action Category: 3

OEP No:

Other Report Nos:

Event Codes: F Equipment/System Concerns

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-O98-5073
LER No:

Action Category: 3
Other Report:

Screening Remarks:

This event has been reviewed by the CST and found not to meet the MSE significance criteria.

Screening members present for this review: Richard Ledford (MNT), Sandy Severance (ENG), and Mike Pruitt (OPS).

Originated By: RWV1470: VASSEY, RAY W Team: RTB7310 Group: SRG Date: 10/26/98

Responsible Group(s) for Problem Evaluation: CEN Civ, Elect., Nuclear
Responsible Group for Present Operability: N/A
Responsible Group for Past Operability: N/A
Responsible Group for Reportability: N/A
Responsible Group for Overall PIP approval: QAT QA Tech. Services

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Screened By:	RWV1470	RTB7310	SRG	10/26/98

III. Operability

Present Operability:

Responsible Group: Status:

Sys/Comp Operable?(Y,N,C,E) :

Required Mode:

Comments:

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
No current Signatures for this section.				

Past Operability:

Responsible Group: Status:

Sys/Comp Operable?(Y,N,C,E) :

Required Mode:

Comments:

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-O98-5073
LER No:

Action Category: 3
Other Report:

Indiv
No current Signatures for this section.

Team

Group

Date

IV. Reportability/Investigation

Responsible Group: Status:

Problem Reportable(Y,N,E):

Reportable Per:

Comments:

Indiv
No current Signatures for this section.

Team

Group

Date

Investigation Report:

Responsible Group:

Act Date:

Investigator:

Due Date:

Date Due to VP or Sta. Mgr:

Date Regulatory or Agency Rpt Due:

Date Investigation Report Approved:

NRC Cause Codes:

V. Problem Evaluation

System(s) Affected: HPI Other High Pressure Injection Equip.
RC Reactor Coolant

Affected Equipment

WMS Equipment ID No.

Comp.
Code

Manufacturer

Event Cause Cd Cause Description
F N/A Not Applicable

Primary Causing Group(s)
Yes UNK

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-O98-5073
LER No:

Action Category: 3
Other Report:

Problem Evaluation From: Resp. Group: CEN Status: Closed OEDB Checked: No

No apparent cause evaluation is needed. This PIP was written as required by acceptance criteria of NDE procedure referenced and involves existing known equipment conditions. The condition is being identified by PIP as a tracking mechanism for necessary procedural changes.

Originated By: BWC7315: CARNEY JR, BASIL W Team: RAH8344 Group: CEN Date: 11/03/98

See PIP 2-O98-1658 for Unit 2's PIP on RT inspection results.

Last Updated By: BWC7315: CARNEY JR, BASIL W Team: RAH8344 Group: CEN Date: 11/03/98

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Due Date:	11/24/98			
Accepted By:	RAH8344	RAH8344	CEN	10/28/98
Assigned To:	BWC7315	RAH8344	CEN	10/28/98
Ready For Approval:	BWC7315	RAH8344	CEN	11/03/98
Approval Assigned To:	RAH8344	RAH8344	CEN	11/03/98
Approved By:	RAH8344	RAH8344	CEN	11/03/98

VII. Corrective Actions

Seq. No: 1

Resp Group: QAT Status: Closed
Orig Group: CEN Event Code: F
Prop CAC: A3 Cause Code: N/A

Proposed Corrective Action:

NDE Procedure NDE-105 to be revised (and issued) to include baseline data for Unit 3 as an acceptable evaluation standard.

Originated By: BWC7315: CARNEY JR, BASIL W Team: RAH8344 Group: CEN Date: 11/03/98

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Ready For Approval:	BWC7315	RAH8344	CEN	11/03/98
Approval Assigned To:	RAH8344	RAH8344	CEN	11/03/98
Approved By:	RAH8344	RAH8344	CEN	11/03/98

General:

Outage: Mode:

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-098-5073
LER No:

Action Category: 3
Other Report:

Other Tracking Processes

Type Number Text

Actual Corrective Action:

Actual CAC:
Due Date: 01/23/99

Status: Open

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Due Date:	01/23/99			
Accepted By:	KWS8302	KWS8302	QAT	11/04/98
Assigned To:	TLT8302	KWS8302	QAT	11/04/98

VIII. Final and Overall PIP Approval

Responsible Group: QAT Status: Screened

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Assigned To:			QAT	10/26/98

Closure Document Type

Closure Document No

Supplemental Concurrences - These do not affect PIP closure.

Concurrences Associated with External Commitments:

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Concurred By:				

IX. Attachments

Generic Applicability

Generic Applicability Review Not Required for this PIP.

Environmental

No Environmental for this PIP.

Failure Prevention Investigation:

Oconee Nuclear Station
Problem Investigation Process - PIP
Problem Investigation Form

PIP Serial No: 3-O98-5073
LER No:

Action Category: 3
Other Report:

No FPI for this PIP.

Remarks

No Remarks for this PIP

Maintenance Rule

No Maintenance Rule for this PIP

End of the Document for PIP No: 3-O98-5073
The status of this PIP is: Screened
The duration of this PIP was: 3 days

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-O98-5083
LER No:

Action Category: 3
Other Report:

I. Problem ID

Discovered Time/Date: 10/26/98

Occurred Time/Date:

Unit(s): 3

Status at Time Discovered
Mode
% Power

Unit 1
N/A

Unit 2
N/A

Unit 3
NOMODE

Unit Status Remarks:

System(s) Affected: HPI Other High Pressure Injection Equip.

Affected Equipment

<u>WMS Equipment ID No.</u>	<u>Comp. Code</u>	<u>Manufacturer</u>
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Location of Problem - Bldg: R Column Line: Elev:

Location Remarks:

Method Used to Discover Problem:

Brief Problem Description:

Weld isometric 3RC-211 rev. 3 does not reflect the way that the welds are numbered in the field on the HPI piping to 3A1 RC Pump discharge piping.

Detailed Problem Description:

The weld that joins 3HP-127 to the 2 1/2" HPI pipe is etched 3RC-211-54 in the field but is listed as 3RC-211-56 on the weld isometric. The weld that joins the 2 1/2" HPI pipe to the 2 1/2" safe end is etched 3RC-211-56 in the field but is listed as 3RC-211-54 on the weld isometric. A comparison was made of previous weld documentation (RT film and UT data) and the documentation reflects field etchings.

Originated By: TJC0182: COLEMAN, TOMMY J Team: RHL8302 Group: MNT Date: 10/26/98

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-O98-5083
LER No:

Action Category: 3
Other Report:

Other Units/Components/Systems/Areas Affected (Y,N,N):

Industry Plants Affected (Y,N,U): N

Immediate Corrective Actions:

Problem Found While Working with Document No. :

Immediate Corrective Action Work Request / Work Order No. :

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date:</u>
Problem Identified By:	TJC0182	RHL8302	MNT	10/26/98
Problem Entered By:	TJC0182	RHL8302	MNT	10/26/98

II. Screening

Is the Problem Significant? N Action Category: 3

OEP No:

Other Report Nos:

Event Codes: D6 Drawings or Calculations

Screening Remarks:

This event has been reviewed by the CST and found not to meet the MSE significance criteria.

Screening members present for this review: Richard Ledford (MNT), Sandy Severance (ENG), and Mike Pruitt (OPS).

Originated By: RWV1470: VASSEY, RAY W Team: RTB7310 Group: SRG Date: 10/26/98

Responsible Group(s) for Problem Evaluation:	WCG	Work Control
Responsible Group for Present Operability:	N/A	
Responsible Group for Past Operability:	N/A	
Responsible Group for Reportability:	N/A	
Responsible Group for Overall PIP approval:	MNT	Maintenance MECH/IAE

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Screened By:	RWV1470	RTB7310	SRG	10/26/98

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-098-5083
LER No:

Action Category: 3
Other Report:

III. Operability

Present Operability:

Responsible Group: Status:

Sys/Comp Operable?(Y,N,C,E) :

Required Mode:

Comments:

<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
No current Signatures for this section.			

Past Operability:

Responsible Group: Status:

Sys/Comp Operable?(Y,N,C,E) :

Required Mode:

Comments:

<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
No current Signatures for this section.			

IV. Reportability/Investigation

Responsible Group: Status:

Problem Reportable(Y,N,E):

Reportable Per:

Comments:

<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
No current Signatures for this section.			

Investigation Report:

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-O98-5083
LER No:

Action Category: 3
Other Report:

Responsible Group:

Act Date:

Investigator:

Due Date:

Date Due to VP or Sta. Mgr:

Date Regulatory or Agency Rpt Due:

Date Investigation Report Approved:

NRC Cause Codes:

V. Problem Evaluation

System(s) Affected: HPI Other High Pressure Injection Equip.

Affected Equipment

<u>WMS Equipment ID No.</u>	<u>Comp. Code</u>	<u>Manufacturer</u>
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<u>Event</u>	<u>Cause Cd</u>	<u>Cause Description</u>	<u>Primary</u>	<u>Causing Group(s)</u>
D6	F3d	Self-checking not applied to ensure correct component	Yes	ESS MNT WCG

Problem Evaluation From: Resp. Group: WCG Status: Closed OEDB Checked: Yes

Weld isometric 3RC-211 was reviewed to determine if previous revisions had changed the location of welds 54 and 56 there is no objective evidence that this occurred. The likely scenario is that the section of piping was pre-fabbed and marked prior to installation and that it was installed backwards. Review of the weld tickets for the subject welds was inconclusive as both weld tickets identified a new piece of pipe welded to existing material. It cannot be determined which weld was made to the safe end and which one was made to the existing valve. With the exception of the weld number, the process control for these welds is identical. ie same inspector same welder etc. This discrepancy was detected by the ISI UT inspectors who used the weld isometric to locate the weld to be examined and noted that it did not correspond to the previous inspection data for these welds.

There was one inappropriate action, failure to use self checking, and four groups involved:

The craft team that installed the piping had the responsibility of verifying that it was installed per the drawing.

The QC welding inspector failed to verify that the weld identification numbers marked on the pipe were located as shown on the isometric sketch.

The ESS QC inspectors who performed the RT inspections of these welds should have verified the weld location to the

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-O98-5083
LER No:

Action Category: 3
Other Report:

weld isometric.

The ESS QC inspectors who performed the PSI UT inspections also failed to verify the weld location to the weld isometric.

Originated By: CRH4406: HENSON, CHARLES R Team: GES8270 Group: WCG Date: 11/04/98

OEDB Comments:

No matches were identified for the situation identified in this PIP.

Originated By: CRH4406: HENSON, CHARLES R Team: GES8270 Group: WCG Date: 11/11/98

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Due Date:	11/25/98			
Accepted By:	CLC1517	RHL8302	WCG	10/28/98
Assigned To:	GES8270	GES8270	WCG	10/28/98
Ready For Approval:	CRH4406	GES8270	WCG	11/16/98
Approval Assigned To:	GES8270	GES8270	WCG	11/16/98
Approved By:	GES8270	GES8270	WCG	11/16/98

VII. Corrective Actions

Seq. No: 1

Resp Group: MNT Status: Closed
Orig Group: WCG Event Code: D6
Prop CAC: D1 Cause Code: F3d

Proposed Corrective Action:

Maintenance welding group shall reinforce the requirement to verify that piping and components must be installed in accordance with applicable drawings to all welders and fitters.

Originated By: CRH4406: HENSON, CHARLES R Team: GES8270 Group: WCG Date: 11/04/98

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Ready For Approval:	CRH4406	GES8270	WCG	11/04/98
Approval Assigned To:	GES8270	GES8270	WCG	11/12/98
Approved By:	GES8270	GES8270	WCG	11/16/98

General:

Outage: Mode:

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-O98-5083
LER No:

Action Category: 3
Other Report:

Other Tracking Processes

Type Number Text

Actual Corrective Action:

Actual CAC:
Due Date: 01/24/99

Status: Open

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Due Date:	01/24/99			
Accepted By:	CLC1517	RHL8302	MNT	11/16/98
Assigned To:	WTM5506	ESL7310	MNT	11/16/98

Seq. No: 2

Resp Group: WCG
Orig Group: WCG
Prop CAC: D1

Status: Closed
Event Code: D6
Cause Code: F3d

Proposed Corrective Action:

QC inspection supervisor to counsel welding inspectors on importance of verifying weld location on the isometric sketch and the procedural requirement to do so. (QAL-16 paragraph 5.3.1.b)

Originated By: CRH4406: HENSON, CHARLES R Team: GES8270 Group: WCG Date: 11/04/98

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Ready For Approval:	CRH4406	GES8270	WCG	11/12/98
Approval Assigned To:	GES8270	GES8270	WCG	11/12/98
Approved By:	GES8270	GES8270	WCG	11/12/98

General:

Outage: Mode:

Other Tracking Processes

Type Number Text

Actual Corrective Action:

Actual CAC:
Due Date: 01/24/99

Status: Open

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Due Date:	01/24/99			
Accepted By:	CLC1517	RHL8302	WCG	11/17/98

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-098-5083
LER No:

Action Category: 3
Other Report:

Assigned To: GER8996 JNW8302 WCG 12/22/98

Seq. No: 3

Resp Group: ESS
Orig Group: WCG
Prop CAC: D1

Status: Closed
Event Code: D6
Cause Code: F3d

Proposed Corrective Action:

ESS QC RT supervisor shall stress the importance of using drawings to identify the location of welds and components. He shall also evaluate current QV&V and STAR practices used by his team to determine correct component and or weld and make improvements if necessary.

Originated By: CRH4406: HENSON, CHARLES R Team: GES8270 Group: WCG Date: 11/04/98

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Ready For Approval:	CRH4406	GES8270	WCG	11/12/98
Approval Assigned To:	GES8270	GES8270	WCG	11/12/98
Approved By:	GES8270	GES8270	WCG	11/12/98

General:

Outage: Mode:

	<u>Other Tracking Processes</u>	
<u>Type</u>	<u>Number</u>	<u>Text</u>

Actual Corrective Action:

Actual CAC: C
Due Date: 01/24/99

Status: ReadyForApprove

The Radiographer's practice for verifying that they are inspecting the correct component or weld is to verify that the weld number or component number etched on or near the item agrees with the documentation supplied to them. Isometric drawings are not usually supplied with the documentation package, unless the weld or component is an inservice inspection item. It is important to add here that the Radiographers did not violate a procedural requirement, however it is a good practice to employ a questioning attitude in everything we do. All radiography team members have been provided with the first stages of Human Error Reduction training since this incident occurred, and are now more aware of the need to use the six tools.

Entered for Richard M Painter

Originated By: VRQ8337: QUINN, VERNON R Team: VRQ8337 Group: ESS Date: 12/14/98

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Due Date:	01/24/99			

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-098-5083
LER No:

Action Category: 3
Other Report:

Accepted By:	VRQ8337	VRQ8337	ESS	11/16/98
Assigned To:	VRQ8337	VRQ8337	ESS	11/16/98
Ready For Approval:	VRQ8337	VRQ8337	ESS	12/14/98
Approval Assigned To:	RDR5271	VRQ8337	ESS	12/14/98

Seq. No: 4

Resp Group: ESS Status: Closed
Orig Group: WCG Event Code: D6
Prop CAC: D1 Cause Code: F3d

Proposed Corrective Action:

ESS QC UT supervisor shall counsel team on importance of using drawings and other available tools to verify correct component and or weld. Current QV&V and STAR methods used by his team shall be evaluated and improvements made if necessary.

Originated By: CRH4406: HENSON, CHARLES R Team: GES8270 Group: WCG Date: 11/04/98

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Assigned To:	GES8270	GES8270	WCG	11/12/98
Ready For Approval:	GES8270	GES8270	WCG	11/12/98
Approval Assigned To:	GES8270	GES8270	WCG	11/12/98
Approved By:	GES8270	GES8270	WCG	11/12/98

General:

Outage: Mode:

Other Tracking Processes

<u>Type</u>	<u>Number</u>	<u>Text</u>
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Actual Corrective Action:

Actual CAC:
Due Date: 01/24/99

Status: Open

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Due Date:	01/24/99			
Accepted By:	VRQ8337	VRQ8337	ESS	11/16/98
Assigned To:	VRQ8337	VRQ8337	ESS	11/16/98

Seq. No: 5

Resp Group: WCG Status: Closed
Orig Group: WCG Event Code: D6

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-O98-5083
LER No:

Action Category: 3
Other Report:

Prop CAC:

B2

Cause Code: F3d

Proposed Corrective Action:

Welding Technical shall revise weld isometric to reflect the installed configuration.

Originated By: CRH4406: HENSON, CHARLES R Team: GES8270 Group: WCG Date: 11/04/98

Last Upd ated By: CRH4406: HENSON, CHARLES R Team: GES8270 Group: WCG Date: 11/04/98

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Assigned To:	GES8270	GES8270	WCG	11/12/98
Ready For Approval:	GES8270	GES8270	WCG	11/12/98
Approval Assigned To:	GES8270	GES8270	WCG	11/12/98
Approved By:	GES8270	GES8270	WCG	11/12/98

General:

Outage: Mode:

Other Tracking Processes

<u>Type</u>	<u>Number</u>	<u>Text</u>
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Actual Corrective Action:

Actual CAC: B1d
Due Date: 01/24/99

Status: ReadyForApprove

WELD ISOMETRIC HAS BEEN REVISED TO RELOCATE WELDS 3RC211-54 AND 3RC211-56.

Originated By: HLV8344: VINSON JR, HARRY L Team: GES8270 Group: WCG Date: 12/17/98

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Due Date:	01/24/99			
Accepted By:	CLC1517	RHL8302	WCG	11/17/98
Assigned To:	TMC4757	GES8270	WCG	12/14/98
Ready For Approval:	HLV8344	GES8270	WCG	12/17/98
Approval Assigned To:	GES8270	GES8270	WCG	12/17/98

Seq. No: 6

Resp Group: QAT
Orig Group: WCG
Prop CAC: B2

Status: Closed
Event Code: D6
Cause Code: F3d

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-098-5083
LER No:

Action Category: 3
Other Report:

Proposed Corrective Action:

QATS shall revise the ISI plan to reflect the installed configuration.

Originated By: CRH4406: HENSON, CHARLES R Team: GES8270 Group: WCG Date: 11/04/98

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Assigned To:	GES8270	GES8270	WCG	11/12/98
Approval Assigned To:	GES8270	GES8270	WCG	11/12/98
Ready For Approval:	GES8270	GES8270	WCG	11/12/98
Approved By:	GES8270	GES8270	WCG	11/12/98

General:

Outage: Mode:

Other Tracking Processes		
<u>Type</u>	<u>Number</u>	<u>Text</u>

Actual Corrective Action:

Actual CAC:
Due Date: 01/24/99

Status: Open

The ISI Plan has been revised to reflect the changes made on revision 4 of isometric 3RC-211. Plan Addenda serial number ONS3-091 documents this change.

Originated By: RGR8304: ROUSE, RICHARD G Team: KWS8302 Group: QAT Date: 01/07/99

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Due Date:	01/24/99			
Accepted By:	KWS8302	KWS8302	QAT	11/30/98
Assigned To:	LCK8302	KWS8302	QAT	11/30/98

VIII. Final and Overall PIP Approval

Responsible Group: MNT Status: Screened

	<u>Indiv</u>	<u>Team</u>	<u>Group</u>	<u>Date</u>
Assigned To:			MNT	10/26/98

Closure Document Type

Closure Document No

Oconee Nuclear Station

Problem Investigation Process - PIP

Problem Investigation Form

PIP Serial No: 3-O98-5083
LER No:

Action Category: 3
Other Report:

Supplemental Concurrences - These do not affect PIP closure.

Concurrences Associated with External Commitments:

Concurred By: Indiv Team Group Date

IX. Attachments

Generic Applicability

Generic Applicability Review Not Required for this PIP.

Environmental

No Environmental for this PIP.

Failure Prevention Investigation:

No FPI for this PIP.

Remarks

No Remarks for this PIP

Maintenance Rule

No Maintenance Rule for this PIP

End of the Document for PIP No: 3-O98-5083
The status of this PIP is: Screened
The duration of this PIP was: 2 days

10.0 Class 1 and 2 Repairs and Replacements

As required by ASME Section XI 1989 Edition, no Addenda, a record (Form NIS-2) of the Class 1 and Class 2 Repairs and Replacements for work performed from March 15, 1997 through December 19, 1998 is provided and is included in this section of the report. The individual work request documents are on file at Oconee Nuclear Station.

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 6-2-97

Sheet 1 of 1

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 97043201
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # _____

4. Identification of System HP Class Z

5. (a) Applicable Construction Code ANSI B31.7 1969 Edition, August Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1980, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	PIPING	D.P.Co.	N/A	N/A	N/A	12/74	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced Minimum Flow Orifices For 3A HPS Pen,

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks Tested IAW ASME Code Case N416-1

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed J & M Mason QA Spec Date 6-17, 1997
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 5-15-97 to 6-18-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

JMB Chapman
Inspector's Signature

Commissions

NC914

National Board, State, Providence and Endorsements

Date 6-18, 1997

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 5-22-97

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 970-39297
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # EC 10405

4. Identification of System HP Class 2

5. (a) Applicable Construction Code B31.7 19 69 Edition, 8-69 Addenda, NO Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>Pipins</u>	<u>DPC</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>9/74</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced LDST RESERVOIRS AND INSTRUMENTS

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks Tested IAW ASME Code Case N416-1

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed J. B. Mason QA Spec Date 5-28, 1997
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 5-13-97 to 5-28-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MBC Chapman
Inspector's Signature

Commissions NC 914
National Board, State, Providence and Endorsements

Date 5-28, 1997

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 8-1-96

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 96033696-01
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # N/A

4. Identification of System LPI Class 2

5. (a) Applicable Construction Code B31.7 19 69 Edition, 8-69 Addenda, NO Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>3 LPI FE 0004</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced bolting ON Flange 3LPIFE0004

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed Charles R. Hensen Date 8-1, 19 96
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 7-9-96 to 8-5-96; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M.B. Chapman
Inspector's Signature

Commissions NC914
National Board, State, Providence and Endorsements

Date 8-5, 1996

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-23-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98105812
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. ~~NSM~~ or MM # 13044

4. Identification of System SF Class Z

5. (a) Applicable Construction Code ANSI B31.7 1969 Edition, August Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>S/R</u> <u>56-0-2478A-GPD-0501</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

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7. Description of Work Modified 5/R 56-D-2478A-GRD-0501 by notching items 2+3 to provide clearance for valve 35F-76

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed J. S. Mason

Date 11-23, 1988

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-24-88 to 11-24-88; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
Inspector's Signature

Commissions

NC914

National Board, State, Providence and Endorsements

Date 11-24, 1988

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 1-12-99

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98019185
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System BS Class 2

5. (a) Applicable Construction Code ANSI B31.7 1969 Edition, August Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Snubber on S/R 3-54B-D-2477-H9B	Grinnell	34184	NA	NA	NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced Snubber on S/R 3-54B-0-2477-H9B

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed *J. S. Mason* Date 1-12, 19 99
 Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-21-98 to 1-12-99; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

J. M. B. Chapman
 Inspector's Signature

Commissions NC914
 National Board, State, Providence and Endorsements

Date 1-12, 1999

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-24-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3a. Work Order # 98049103
 Repair Organization Job # _____

3b. ~~NSM~~ or MM # 11240

4. Identification of System RC Class 1

5. (a) Applicable Construction Code ANSI B31.7 1969 Edition, August Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Snubber on S/R 3-50-0-1066A- RCPM-3B1-SS1	Grinnell	34026	NA	NA	NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	Snubber on S/R 3-50-0-1066A- RCPM-3B1-SS2	Grinnell	34027 30427 ^{eam}	NA	NA	NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C	Snubber on S/R 3-50-0-1066A- RCPM-3B1-SS3	Grinnell	34028	NA	NA	NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

Replaced mechanical snubbers with hydraulic snubbers on S/R.

7. Description of Work 3-50-0-1066A-RCPM-3B1-SS1, SS2, & SS3 per OE 11240

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed *D. S. Mason*

Date 11-24, 19 98

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State of Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 8-12-98 to 11-25-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman

Inspector's Signature

Commissions

NC914

National Board, State, Providence and Endorsements

Date 11-25, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-25-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3a. Work Order # 98027246-09
 Repair Organization Job # _____

3b. ~~NSM~~ or MM # 10943

4. Identification of System GWD Class 1

5. (a) Applicable Construction Code ANSI B31.7 1969 Edition, August Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>5/R 3-57-0-2481A-EWD-H/701</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced spring can on S/R 3-57-0-2481A-EWD-H1701 per OE-10943

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed D. S. Mason

Date 11-25, 1998

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-9-98 to 11-25-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
Inspector's Signature

Commissions NC 914

National Board, State, Providence and Endorsements

Date 11-25, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-30-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 56

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 97104109
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. ~~NSM~~ or MM # 11264

4. Identification of System LPS Class 2

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>S/R</u> 3-14B-0-2480A-H36B	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	<u>S/R</u> 3-14B-0-2480A-H13A	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C	<u>S/R</u> 3-14B-0-2480A-H13-B	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
D	<u>S/R</u> 3-14B-0-2480A-H14A	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
E	<u>S/R</u> 3-14B-0-2480A-H14B	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
F	<u>S/R</u> 3-14B-0-2480A-H24A	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Repaired/Modified hangers as required for LPSW piping replacement

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed DB Mason

Date 11-30, 19 98

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 8-3-98 to 12-1-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 12-1, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-30-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 2 of 56

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 97104109
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. ~~NSM~~ or MM # 11264

4. Identification of System LP5 Class 2

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>S/R</u> 3-14B-O-2480A-H25A	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	<u>S/R</u> 3-14B-O-2480A-H25B	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C	<u>S/R</u> 3-14B-O-2480A-H26A	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
D	<u>S/R</u> 3-14B-O-2480A-H26B	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
E	<u>S/R</u> 3-14B-O-2480A-H33A	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
F	<u>S/R</u> 3-14B-O-2480A-H33B	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Repaired/Modified hangers as required for LPSU piping replacement

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed DB Mason

Date 11-30, 1998

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 8-3-98 to 12-1-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions NC 914

National Board, State, Providence and Endorsements

Date 12-1, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-30-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 3 of 56 ^{20m}

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 97104109
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. ~~NSM~~ or MM # 11264

4. Identification of System LPS Class 2

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>S/R</u> 3-14B-D-2480A-H34A	DPC	NA	NA	NA	NA	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	<u>S/R</u> 3-14B-D-2480A-H34B	DPC	NA	NA	NA	NA	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C	<u>S/R</u> 3-14B-D-2480A-H35A	DPC	NA	NA	NA	NA	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
D	<u>S/R</u> 3-14B-D-2480A-H35B	DPC	NA	NA	NA	NA	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
E	<u>S/R</u> 3-14B-D-2480A-H36A	DPC	NA	NA	NA	NA	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
F	<u>S/R</u> 3-14B-D-2480C-H6549	DPC	NA	NA	NA	NA	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Repaired/Modified hangers as required for LPSW piping replacement

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed J. S. Mason

Date 11-30, 19 98

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 8-3-98 to 12-1-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
Inspector's Signature

Commissions N.C. 914

National Board, State, Providence and Endorsements

Date 12-1, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-30-98 ^{Don}

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 4 of 56

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 97104109
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. ~~NSM~~ or MM # 11264

4. Identification of System LPS Class 2

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>S/R</u> <u>3-14B-248C-H4551</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	<u>S/R</u> <u>3-14B-D-2480A-H5A</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C	<u>S/R</u> <u>3-14B-D-2480A-H5B</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
D	<u>S/R</u> <u>3-14B-D-2480A-H6B</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
E	<u>S/R</u> <u>3-14B-D-2480A-H7A</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
F	<u>S/R</u> <u>3-14B-D-2480A-H7B</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Repaired/Modified hangers as required for LPSW piping replacement

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed J. B. Mason

Date 11-30, 19 98

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 8-3-98 to 12-1-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 12-1, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-30-98 ^{am}
 Sheet 5 of 56

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 97104109
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. ~~NSM~~ or MM # 11264

4. Identification of System LPS Class 2

5. (a) Applicable Construction Code ANSI B31.1 1947 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>5/R</u> <u>3-148-2480A-H8B</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	<u>5/R</u> <u>3-148-2480A-H11A</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C	<u>5/R</u> <u>3-148-2480A-H12B</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Repaired/Modified hangers as required for LPSW piping replacement

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed J.B. Mason
Owner or Owner's Designee, Title

Date 11-30, 19 98

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 8-3-98 to 12-1-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M.B. Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 12-1, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-17-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 6 of 6

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3a. Work Order # 97104109
 Repair Organization Job # _____

3b. NSM or ~~MM~~ # 11264

4. Identification of System LPS Class B

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	VLV. 3LPSW-96	ITT	92-59833-4-5	8026		1993	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
B	VLV. 3LPSW-96		3-14-62	NA		NA	<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C	VLV. 3LPSW-92	ITT	92-59833-4-13	8034		1993	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
D	VLV. 3LPSW-92		3-14-47	NA		NA	<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
E	PIPING	D.P. Co.	NA	NA		12/94	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
F	Flange Bolting	D. P. Co.	N/A	N/A		N/A	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work

REPLACED PIPING & VALVES #S 3LPS-92 & 96 & FLANGE
BOLTING TO RCP MOTOR COOLERS.

8. Test Conducted:

☒ Hydrostatic☐ Pneumatic☐ Nominal Operating Pressure☐ Other☐ ExemptPressure 205 psigTest Temp. 74.3 °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

D. J. Mason

Date

12-1, 1998

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 8-3-98 to 12-1-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
 Inspector's Signature

Commissions

NC914

National Board, State, Providence and Endorsements

Date 12-1, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 12-1-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98103480
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System FDW Class 2

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>S/R</u> <u>3-03A-1-A-24-1B-SR5</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Welded shim to J/R 3-D3A-1-D-2401B-SR5

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed DS Mason

Date 12-1, 19 98

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-18-98 to 12-2-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
 Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 12-2, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 12-1-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98104218
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System RC Class 1

5. (a) Applicable Construction Code ANSI B31.7 1969 Edition, August Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>SR</u> 3-50-D-2479A-H2A	DPC	NA	NA	NA	NA	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced reservoir support bracket bolts and tightened middle pipe clamp bolt on S/R 3-50-0-2479A-H2A

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed DS Mason

Date 12-1, 1998

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-17-98 to 12-1-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 12-1, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner - **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 12-1-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98103388
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System FDW Class 2

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>S/R</u> <u>3-03-0-2480A-H6B</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced middle pipe clamp bolt on S/R 3-03-A-2480A-H6B

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed *Q. B. Mason* Date 12-1, 1998
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-14-98 to 12-1-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
Inspector's Signature

Commissions NC 914
National Board, State, Providence and Endorsements

Date 12-1, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-17-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3a. Work Order # 98096060
 Repair Organization Job # _____

3b. NSM or MM # NA

4. Identification of System RC Class 1

5. (a) Applicable Construction Code ANSI B31.7 1969 Edition, August Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Snubber on S/R 3-50-0-2479A-H12	Grinnell	18604	NA	NA	NA	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Installed new reservoir cylinder body on SR 3-50-0-2479A-142

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed *D. S. Mason*

Date 11-17, 1998

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-7-98 to 11-17-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M.B. Chapman
Inspector's Signature

Commissions

NC914

National Board, State, Providence and Endorsements

Date 11-17, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-20-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98099677
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. ~~NSM~~ or MM # 12982

4. Identification of System LWD Class 2

5. (a) Applicable Construction Code ANSI B31.7 1969 Edition, August Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>S/R</u> <u>3-64-2435B-H5597</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Added item # 5 to S/R 3-44-24358-K5597 by welding

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed W. S. Mason

Date 11-20, 1998

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N. C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-13-98 to 11-20-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
 Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 11-20, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-23-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3a. Work Order # 98047780
 Repair Organization Job # _____

3b. ~~NSM~~ or MM # 11238

4. Identification of System RC Class 1

5. (a) Applicable Construction Code ANSI B31.7 19 49 Edition, August Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Snubber on S/R 3-5D-O-1066A- RCPM-3A1-SS1	Grinnell	34023	NA	NA	NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	Snubber on S/R 3-5D-O-1066A- RCPM-3A1-SS2	Grinnell	34025	NA	NA	NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C	Snubber on S/R 3-5D-O-1066A- RCPM-3A1-SS3	Grinnell	34017	NA	NA	NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced mechanical snubbers with hydraulic snubbers on S/Rs
3-50-0-1066A-RCPM-3A1-SS1, SS2, & SS3 per OE 11238

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed OS Mason
 Owner or Owner's Designee, Title

Date 11-23, 19 98

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 8-12-98 to 11-24-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
 Inspector's Signature

Commissions NC914
 National Board, State, Providence and Endorsements

Date 11-24, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-25-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98050105
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. ~~NSM~~ or MM # 11686

4. Identification of System LP Class L

5. (a) Applicable Construction Code ANSI B31.7 1969 Edition, August Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>S/R</u> <u>3-53A-0-2481A HWA-1728</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Modified S/R 3-53A-0-2481A-HWA-1728 per DE-11686

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed ED Mason

Date 11-25, 1998

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-25-98 to 11-25-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions

NC914

National Board, State, Providence and Endorsements

Date 11-25, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-25-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98050105
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. ~~NSM~~ or MM # 11686

4. Identification of System RC Class 1

5. (a) Applicable Construction Code ANSI B31.7 1969 Edition, August Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>S/R</u> <u>3-50-0-2481A-H6</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Modified S/R 3-50-0-2481A-H6 per OE-11686

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed *D. Mason* Date 11-25, 1998
 Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-3-98 to 11-25-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M.B. Chapman
 Inspector's Signature

Commissions NC914
 National Board, State, Providence and Endorsements

Date 11-25, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-24-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98049118
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. ~~NSM~~ or MM # 11241

4. Identification of System RC Class L

5. (a) Applicable Construction Code ANSI B31.7 1969 Edition, August Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989 No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Snubber on S/R 3-50-0-1066A- RCPM-382-SS1	Grinnell	34015	NA	NA	NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	Snubber on S/R 3-50-0-1066A- RCPM-382-SS2	Grinnell	34011	NA	NA	NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C	Snubber on S/R 3-50-0-1066A- RCPM-382-SS3	Grinnell	34012	NA	NA	NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced mechanical snubbers with hydraulic snubbers on S/Rs
3-50-D-1066A-RCPM-3B2-SS1, SS2, +SS3 per OE 11241

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed D. S. Mason

Date 11-24, 19 98

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 8-12-98 to 11-24-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
Inspector's Signature

Commissions NC 914

National Board, State, Providence and Endorsements

Date 11-24, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-24-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98049049
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. ~~NSM~~ or MM # 11239

4. Identification of System RC Class L

5. (a) Applicable Construction Code ANSI B31.7 1969 Edition, August Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Snubber on S/R 3-50-D-1066A- RCPM-3A2-SS1	Grinnell	34018	NA	NA		<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	Snubber on S/R 3-50-D-1066A- RCPM-3A2-SS2	Grinnell	34024	NA	NA		<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C	Snubber on S/R 3-50-D-1066A- RCPM-3A2-SS3	Grinnell	34010	NA	NA	NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

Replaced mechanical snubbers with hydraulic snubbers on S/Rs

7. Description of Work 3-50-0-1066A-RCPM-3A2-SS1, SS2, +SS3 per OE 11239

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed *Q8 Mason* Date 11-24, 19 98
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N. C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 8-12-98 to 11-24-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M.B. Chapman
Inspector's Signature

Commissions N C 914
National Board, State, Providence and Endorsements

Date 12-1-24, 19 98
11-24-98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 8-11-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 97049618
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System MS Class 2

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Snubber on S/R 3-01A-0-2401B-R10	Grinnell	9460	NA	NA	NA	<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	Snubber on S/R 3-01A-0-2401B-R10	Grinnell	34193	NA	NA	NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced snubber on S/R 3-01A-D-2401B-R10

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed Q. S. Mason

Date 8-11, 1998

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 7-14-98 to 8-11-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 8-11, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-3-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98032097
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System MS Class 2

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Snubber on S/R 3-01A-D-2441-R9(A)	Grinnell	9455	NA	NA	NA	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Rebuilt Hydraulic Snubber on S/R 3-01A-D-2441-R9(A)

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed DMason

Date 11-3, 1998

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-12-98 to 11-3-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

W.B. Chapman
Inspector's Signature

Commissions

NC914

National Board, State, Providence and Endorsements

Date 11-3, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-3-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98032097
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System MS Class 2

5. (a) Applicable Construction Code ASME B31.1 1967 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Snubber on S/R 3-DIA-O-2441-RX(C)	Grinnell	9453	NA	NA	NA	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Rebuilt hydraulic snubber on S/R 3-01A-0-2441-R9(C)

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed D. J. Mason

Date 11-3, 19 98

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-12-98 to 11-3-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 11-3, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-3-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98032097
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System MS Class 2

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>Snubber on S/R</u> <u>3-01A-2441-R7</u>	<u>Griener</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced end brackets on hydraulic snubber 3-01A-2441-R7

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed JB Mason

Date 11-3, 1998

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of NC and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-3-98 to 11-3-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

JB Chapman
Inspector's Signature

Commissions

NC 914

National Board, State, Providence and Endorsements

Date 11-3, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-3-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98032097
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System RC Class 1

5. (a) Applicable Construction Code ANSI B31.7 1969 Edition, August Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Snubber on S/R 3-50-D-2479A-H3A	Grinnell	Unavailable	NA	NA	NA	<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	Snubber on S/R 3-50-D-2479A-H3A	Grinnell	34184	NA	NA	NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced snubber on S/R 3-50-0-2479A-H3A

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed JB Mason

Date 11-3, 1998

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-24-98 to 11-3-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

JB Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 11-3, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-10-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 970.36780
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System MS Class 2

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>S/R</u> <u>3-01A-D-2441-H11</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced spring can on S/R 3-01A-0-2441-H11

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed *D. S. Mason*
 Owner or Owner's Designee, Title

Date 11-10, 1998

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State of Providence of N. C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 5-15-97 to 11-11-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
 Inspector's Signature

Commissions N.C. 914

National Board, State, Providence and Endorsements

Date 11-11, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-11-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98034048
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System LPS Class 2

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>3A RBCLU</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced bolting on 3A RBCU

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed *D. J. Mason* Date 11-11, 1998
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-19-98 to 11-11-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M.B. Chapman
Inspector's Signature

Commissions NC 914

National Board, State, Providence and Endorsements

Date 11-11, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-11-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98036318
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System LPS Class Z

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	3B RBCU	NA	NA	NA	NA	NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced bolting on 3B RBCU

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed Q. Mason Date 11-11, 19 98
 Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State of Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-26-98 to 11-11-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M.B. Chapman
 Inspector's Signature

Commissions NC914
 National Board, State, Providence and Endorsements

Date 11-11, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-11-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 480 36319
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System LPS Class 2

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	3C RBCU	NA	NA	NA	NA	NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced bolting on 3C RBCU

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed *D. S. Mason*

Date 11-11, 19 98

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-22-98 to 11-11-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. S. Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 11-11, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-17-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98091453
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System HP Class 2

5. (a) Applicable Construction Code ANSI B31.7 1949 Edition, August Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	^{S/R} 3B Pump Hanger # 2	DPC	NA	NA	NA	NA	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	Piping	DPC	NA	NA	NA	NA	<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

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7. Description of Work welded shim to correct clearance on SR 3B Pump - Hanger #2
Replaced downstream block orifice associated w/ 3B HPI Pump.

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks

Tested IAW ASME Code Case N446-1

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed

E. S. Mason

Date 1-11, 19 99

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-23-98 to 1-12-99; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
Inspector's Signature

Commissions

NC914

National Board, State, Providence and Endorsements

Date 1-12, 19 99

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 2/22/97

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 95027076-22

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

Repair Organization Job #

3b. NSM or MM # 32915

4. Identification of System 51A Class A

5. (a) Applicable Construction Code B31.7 1969 Edition, N/A Addenda, N/A Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>S/R</u> <u>3-51A-0-2479A-H1B</u>	<u>DPC</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	<u>H2E</u> <u>3-51A-0-2479E-H2E</u>	<u>DPC</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C	<u>H13B</u> <u>3-51A-0-2479A-H13B</u>	<u>DPC</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

COMPONENT A:

REMOVED EXISTING SUPPORT AND INSTALLED NEW SUPPORT ITEMS

7. Description of Work 1 AND 2, REUSED ITEM 3 (SPRING CAN)

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks COMPONENTS B & C: SPRING CAN SETTINGS WERE RESET TO GREATER VALUE TO ACCOMMODATE LARGER VALVE.

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed W. McCleave
Owner or Owner's Designee, Title

Date 2/22, 19 97

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-12-96 to 10-28-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
Inspector's Signature

Commissions NC 914
National Board, State, Providence and Endorsements

Date 10-28, 19 97

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required By The Provisions Of The ASME Code Section XI

1. Owner **Duke Power Company**
Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 2/22/97

2. Plant **Oconee Nuclear Station**
Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units)

3a. Work Order # 96009036-14
Repair Organization Job #

3. Work Performed By **Duke Power Company**
Address **526 S. Church Street, Charlotte, NC 28201-1006**
Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # 32979/AM1

4. Identification of System OIA Class B

5. (a) Applicable Construction Code B31.1 1969 Edition, N/A Addenda, N/A Code Cases
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>S/R</u> <u>3-OIA-3-0-2403D-H5</u>	<u>DPC</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	<u>3-OIA-2403D-H4348</u>	<u>DPC</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work SEE 9. REMARKS

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks A. ITEMS #1 THROUGH #7 WERE REMOVED AND REPLACED WITH
ITEMS #11 THROUGH #19.
B. NEW S/R WAS ADDED TO THE SYSTEM PER MODIFICATION.

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed _____

Wm McClure
Owner or Owner's Designee, Title

Date 2/22, 19 97

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of _____ and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period _____ to _____; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Inspector's Signature _____

Commissions _____

National Board, State, Providence and Endorsements _____

Date _____, 19 _____

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 4/17/97

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 97014492-01
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # N/A

4. Identification of System OIA Class B

5. (a) Applicable Construction Code B31.1 1969 Edition, N/A Addenda, N/A Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>3/R</u> <u>3-OIA-D-2401B-R14</u>	<u>GRINNELL</u>	<u>22097</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

OIL RESERVOIR
REFURBISHED SNUBBER, BY REPLACING CYLINDER RESERVOIR

7. Description of Work BODY, SEALS, AND VENT PLUG WITH NEW PARTS.

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed _____

Wm McClure
 Owner or Owner's Designee, Title

Date 4/17, 1997

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N. C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 2-16-97 to 4-21-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
 Inspector's Signature

Commissions _____

NC914

National Board, State, Providence and Endorsements

Date 4-21, 1997

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 6/2/97

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 97039576-01
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # N/A

4. Identification of System HPI Class B

5. (a) Applicable Construction Code B31.7 19 69 Edition, N/A Addenda, N/A Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>SUPPORT/RESTRAINT</u> <u>#1 AT 3B HPI PUMP</u>	<u>DPC</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	<u>SUPPORT/RESTRAINT</u> <u>#2 AT 3B HPI PUMP</u>	<u>DPC</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

TEMPORARY REMOVAL OF SUPPORTS. WELDED SUPPORTS BACK IN

7. Description of Work POSITION. SHIMMED AS NECESSARY. INSTALLED NEW ANCHORS ON S/R #1.

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed _____

WDMC Clave

Date _____

6/2, 19 97

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 5-15-97 to 6-23-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions _____

NC914

National Board, State, Providence and Endorsements

Date 6-23, 19 97

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 6/11/97

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 9703 7884-08
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # N/A

4. Identification of System 53B Class B

5. (a) Applicable Construction Code B31.7 1969 Edition, — Addenda, — Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>S/R</u> <u>A3-53B-2436E-DE033</u>	<u>DPL</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

INSTALLED 2 NEW CONCRETE ANCHORS, ITEM # 7, DURING

7. Description of Work REPLACEMENT OF S/R INTO POSITION.

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed _____

Wm McClure
Owner or Owner's Designee, Title

Date 6/11, 1997

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 5-15-97 to 6-11-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MR. Repman
Inspector's Signature

Commissions _____

NC914

National Board, State, Providence and Endorsements

Date 6-11, 1997

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 3-4-1-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3a. Work Order # 97112 710-01
 Repair Organization Job # _____

3b. NSM or MM # n2

4. Identification of System OIA (ms) Class 2

5. (a) Applicable Construction Code B31-1 1967 Edition, 7-67 Addenda, no Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Snubber 3-OIA-4-0-2403D-R8	Grinnell	10354	n/a	n/a	n/a	<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	Snubber 3-OIA-4-0-2403D-R8	Grinnell	33613	n/a	n/a	n/a	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Removed AND Replaced Snubber

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks Replacement Snubber was tested per
SM/O/A/8/10/001

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed C.R. Hansen QA SPECIALIST
Owner or Owner's Designee, Title

Date 4-1, 19 98

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 2-11-98 to 2-11-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 4-1, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 8-6-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98041363
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System LP Class Z

5. (a) Applicable Construction Code ANSI B31.7 1969 Edition, August Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Snubber on S/R 3-538-5-0-24358-SR39	Grinnell	_____	NA	NA	NA	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Installed new reservoir cylinder body on SR3-53B-5-0-2435B-SR39

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed JB Mason

Date 8-6, 1998

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 7-30-98 to 8-10-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 8-10, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 8-10-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98010086
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System MS Class 2

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>S/R</u> <u>3-01A-1-1-0-2401B-H42</u>	<u>DPC</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Welded shim to S/R 3-01A-1-L-D-2401B-H42

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed J. S. Mason Date 8-10, 1998
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 6-1-98 to 8-10-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
Inspector's Signature

Commissions NC914
National Board, State, Providence and Endorsements

Date 8-10, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 6-18-96

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 97037884
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # N/A

4. Identification of System HPI Class 2

5. (a) Applicable Construction Code B31.7 1969 Edition, 8-69 Addenda, NO Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	3B HPI Pump	INGERSOLL-RAND	43339	N/A	N/A	N/A	<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	3B HPI Pump	Ingersoll-RAND	68332	N/A	^{CPI} AT 6-18-96 UTC 962476	N/A	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced 3B HPT Pump, CASING bolts, and Flange bolting

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☒ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed D. S. Mason

Date 8-4, 1997

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 5-4-97 to 8-4-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

J. M. B. Chapman
Inspector's Signature

Commissions NC 914

National Board, State, Providence and Endorsements

Date 8-4, 1997

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 6-23-97

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3a. Work Order # 97037887
 Repair Organization Job # _____

3b. NSM or MM # N/A

4. Identification of System HPI Class 2

5. (a) Applicable Construction Code B31.7 1967 Edition, 8-69 Addenda, NO Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>HPI PU 0001</u>	<u>INGERSOLL-RAND</u>	<u>28101</u>	<u>N/A</u>		<u>N/A</u>	<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	<u>HPI PU 0001</u>	<u>INGERSOLL-RAND</u>	<u>43408</u>	<u>N/A</u>	<u>UTC #</u> <u>962133</u>	<u>N/A</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced "3A" HPI Pump

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☒ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed

JB Mason QA Tech
Owner or Owner's Designee, Title

Date 8-4, 1997

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 5-5-97 to 8-4-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions

NC914
National Board, State, Providence and Endorsements

Date 8-4, 1997

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-7-97

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3a. Work Order # 97065998-4
 Repair Organization Job # _____

3b. NSM or MM # N/A

4. Identification of System HPI Class 2

5. (a) Applicable Construction Code B31.7 1969 Edition, 8-69 Addenda, NO Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	3B HPI Pump	Ingersoll-RAND	68332	N/A	HPI Pu 0002	N/A	<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	3B HPI Pump	Ingersoll-RAND	43339	N/A	HPI Pu 0002	N/A	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced 3B HPI Pump

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☒ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure 3080 psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed DS Mason QA Spec
Owner or Owner's Designee, Title

Date 11-7, 1997

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 9-27-97 to 11-7-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions NC914
National Board, State, Providence and Endorsements

Date 11-7, 1997

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 1-6-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 97108268-01
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # N/A

4. Identification of System HP Class 2

5. (a) Applicable Construction Code B31.7 19 69 Edition, 8-69 Addenda, NO Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	VALVE 3 HP-122	VEIAN	N/A	N/A	model B9-314B-13ms	4/A	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced body to bonnet balling valve 3HP-122

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed CR Hanson QA SPECIALIST
Owner or Owner's Designee, Title

Date 1-6, 19 98

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N. C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 12-17-97 to 1-6-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 1-6, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 10/21/98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98042021-04
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # _____

4. Identification of System MS Class 2

5. (a) Applicable Construction Code B31.1 1967 Edition, _____ Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Valve	Crane	Unknown	N/A	N/A	N/A	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced Body/Bonnet studs in Valve 3m5-33

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed Attooh OC Specialist
Owner or Owner's Designee, Title

Date 10-21, 19 98

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-22-98 to 10-22-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions NC 914

National Board, State, Providence and Endorsements

Date 10-22, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-19-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98011407-01
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # —

4. Identification of System CS Class 2

5. (a) Applicable Construction Code B31.1 1967 Edition, — Addenda, — Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Valve 3CS-12	Anchor/Darling	E1581-55-2	712	N/A	1986	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced Bonnet Nut on Valve 3CS-12

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed A. Johnson QC Specialist Date 11-19, 19 98
 Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-3-98 to 11-19-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
 Inspector's Signature

Commissions NC 914

National Board, State, Providence and Endorsements

Date 11-19, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 12-3-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 97039973-01
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # _____

4. Identification of System LP Class 2

5. (a) Applicable Construction Code B31.7 1969 Edition, — Addenda, — Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Valve 3LP-21	Powell	62546	N/A	N/A	N/A	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced 2 Body/Bonnet Nuts on valve 3LP-21

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed Altohn QC Specialist Date 12-3, 19 98
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-29-98 to 12-3-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 12-3, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-18-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98013326-01
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # _____

4. Identification of System CF Class 1

5. (a) Applicable Construction Code B31.7 1969 Edition, — Addenda, — Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Valve 3CF-13	Crane	7913	N/A	N/A	N/A	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced Disc in Valve 3CF-13

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed Attoohr QC Specialist
Owner or Owner's Designee, Title

Date 11-18, 19 98

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-19-98 to 11-19-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 11-19, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 12-9-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98045463-01
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # _____

4. Identification of System CF Class 1

5. (a) Applicable Construction Code B31.7 1969 Edition, _____ Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Valve 3CF-12	Crane	Unavailable	Unavailable	N/A	N/A	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced disc in valve 3CF-12

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed Al Johnson QC Specialist
Owner or Owner's Designee, Title

Date 12-9, 19 98

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-2-98 to 12-14-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 12-14, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 12-9-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98013316-01
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # —

4. Identification of System CF Class 1

5. (a) Applicable Construction Code B31.7 1969 Edition, — Addenda, — Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Valve 3CF-11	Crane	Unavailable	Unavailable	N/A	N/A	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced disc in valve 3CF-11

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed Al Johnson QC Specialist Date 12-9, 19 98
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-2-98 to 12-14-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M.B. Chapman
Inspector's Signature

Commissions NC914
National Board, State, Providence and Endorsements

Date 12-14, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 1/7/99

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98042018-04
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # _____

4. Identification of System MS Class 2

5. (a) Applicable Construction Code B31.1 1967 Edition, _____ Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	Valve 3ms-24	Crane	Unavailable	N/A	N/A	N/A	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced Body/Bonnet bolting and disc in valve 3ms-24

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed AL Johnson QC Specialist
Owner or Owner's Designee, Title

Date 1-7, 1999

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-2-98 to 1-7-99; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions

SC914

National Board, State, Providence and Endorsements

Date 1-7, 1999

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-24-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98009735
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # 11461

4. Identification of System RC Class 1

5. (a) Applicable Construction Code ASME III 19 65 Edition, SUMMER Addenda, 1332-2, 3, 4 / 1339-1 Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda
1336 / 1359-1 / 1338-3 + 4 ALT. 1

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	3B OTSG	B+W	620-0009-55-2	N128		1971	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work

REPAIRED TUBES IN 3B OTSG.

8. Test Conducted:

☐ Hydrostatic☐ Pneumatic☐ Nominal Operating Pressure☐ Other☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Arthur Z. BlumhagenQA SPECIALISTDate 11-24, 19 98

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-5-98 to 11-25-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M.B. Chapman
Inspector's Signature

Commissions

NC914

National Board, State, Providence and Endorsements

Date 11-25, 19 94

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-24-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98009730
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or ~~MM~~ # 11460

4. Identification of System Re Class 1

5. (a) Applicable Construction Code ASME III 1965 Edition, Summer 1967 Addenda, 1332-2, 3, 4 / 1339-1 Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda
1336 / 1359-1 / 1338-3 & 4 ACT. 1

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	3A OTSG	B+W	620-0009-55-1	N127		1971	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work REPAIRED 3A OTSG TUBES.

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed _____

Date 11-24, 19 98

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-3-98 to 11-24-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions _____

NC917
National Board, State, Providence and Endorsements

Date 11-24, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required By The Provisions Of The ASME Code Section XI

1. Owner **Duke Power Company**
Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-30-98

2. Plant **Oconee Nuclear Station**
Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98092876
Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
Address **526 S. Church Street, Charlotte, NC 28201-1006**
Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # _____

4. Identification of System MFDW Class B

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition, JULY Addenda, _____ Code Cases
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	BOLTING	NA	NA	NA	NA	NA	<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	BOLTING	NA	NA	NA	NA	NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work

MFOW
REPLACED BOLTING ON 3A OTSG RISER #20

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

A. J. Blumhagen QA SPECIALIST
 Owner or Owner's Designee, Title

Date 11-30, 19 98

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-5-98 to 11-30-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

YMB Chapman
 Inspector's Signature

Commissions

NC914

National Board, State, Providence and Endorsements

Date 11-30, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 12-2-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98092876
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System MFDW Class Z

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition JULY Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>PIPING</u>	<u>D.P. Co.</u>	<u>NA</u>	<u>NA</u>	<u>MFDW RISER FLANGE #20</u>	<u>12/74</u>	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work PERFORMED BMR TO SEATING SURFACE ON MPDW RISER FLANGE TO OBTAIN ORIGINAL THICKNESS.

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed Arthur L. Bunting

Date 12-2, 1998

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-22-98 to 12-2-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions NC 914

National Board, State, Providence and Endorsements

Date 12-2, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 12-8-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98014936
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # _____

4. Identification of System RC Class 1

5. (a) Applicable Construction Code ASME III 19 65 Edition, SUMMER 67 Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	3B OTSG UPPER PRIMARY HANDHOLE BOLTING	B+W	STEAM GEN. S/N 620-0009-55-2	S.GEN. #N128		1971	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work REPLACED BELTING ON UPPER PRIMARY HANDHOLE,
INSTALLED (1) NEW NUT ON STUD No. 1, FIRST NUT ON STUD.

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed

Arthur B. Blumhagen **QA SPECIALIST**
 Owner or Owner's Designee, Title

Date 12-8, 19 98

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-29-98 to 12-9-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
 Inspector's Signature

Commissions NC 914

National Board, State, Providence and Endorsements

Date 12-9, 19 99

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 12-1-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98095726
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # _____

4. Identification of System MFDW Class 2

5. (a) Applicable Construction Code ANSI B31.1 19 67 Edition July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>BOLTING</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	<u>BOLTING</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work

REPLACED BELTING ON MPDW RISER TO HEADER FLANGE: #26.

8. Test Conducted:

☐ Hydrostatic☐ Pneumatic☐ Nominal Operating Pressure☐ Other☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

Arthur L. Buchanan QA SPECIALIST
Owner or Owner's Designee, Title

Date 12-1, 19 98

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N. C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-29-98 to 12-9-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 12-9, 1998

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required By The Provisions Of The ASME Code Section XI

1. Owner **Duke Power Company**
Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 12-9-98

2. Plant **Oconee Nuclear Station**
Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98047357
Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
Address **526 S. Church Street, Charlotte, NC 28201-1006**
Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # _____

4. Identification of System RC Class 2

5. (a) Applicable Construction Code ASME III 1965 Edition SUMMER 67 Addenda, _____ Code Cases
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	#2 HANDHOLE COVER ON 3B-OTSG (LWR. SECONDARY)	B+W	S/G S/N. 620-0009-55-2	S/G # N-128		1971	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work REPLACE LWR. SEC. HANDHOLE COVER ON 3B-OTSG, HANDHOLE #2.

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed L. J. Blubaugh **QA SPECIALIST**

Date 12-9, 19 98

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-2-98 to 12-9-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 12-9, 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 1-13-99

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98095727
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # NA

4. Identification of System MFDW Class 2

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition MARCH 69 Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>MFW RISER #</u> <u>28 ON OTSG 3A</u>	<u>B+W</u>	<u>NA</u>	<u>NA</u>	<u>#28</u>	<u>1971</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work

REPLACED BOLTING ON RISER TO HEADER FLANGES,
ON RISER # 28 ON OTSG 3A.

8. Test Conducted:

☐ Hydrostatic☐ Pneumatic☐ Nominal Operating Pressure☐ Other☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/ACertificate of Authorization No. N/AExpiration Date N/A

Signed

M. J. Blumhugh QA Specialist
 Owner or Owner's Designee, Title

Date 1-13, 1999

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-26-98 to 1-13-99; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
 Inspector's Signature

Commissions

NC 914

National Board, State, Providence and Endorsements

Date 1-13, 1999

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 12-11-96

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 3

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 95027076
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # 32975

4. Identification of System HP Class 1 (A)

5. (a) Applicable Construction Code ANSI B31.7 1969 Edition, AUGUST Addenda, NA Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	VLV. 3HP-486	ANCHOR DARLING	EZ 496-1-7	1913		1996	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	VLV. 3HP-126	VELAN	962103-3	NA		NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C	VLV. 3HP-487	ANCHOR DARLING	EZ 496-1-9	1915		1996	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
D	VLV. 3HP-127	VELAN	962103-4	NA		NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
E	VLV. 3HP-489	ANCHOR DARLING	EZ 496-1-6	1912		1996	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
F	VLV. 3HP-152	VELAN	962103-7	NA		NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work REPLACED VLVs. 3HP-126, 3HP-127, 3HP-152, 3HP-153
AND ADDED VLVs. 3HP-486, 3HP-487, 3HP-488, 3HP-489

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks Tested IAW ASME Code Case N416-1

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed E. S. Mason D.A. Spec Date 10-22, 1997
 Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-12-96 to 10-28-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
 Inspector's Signature

Commissions NC 914
 National Board, State, Providence and Endorsements

Date 10-28, 1997

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 12-11-96

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 2 of 3

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 95027076
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # 32975

4. Identification of System HP Class 1 (A)

5. (a) Applicable Construction Code ANSI B31.7 19 69 Edition, AUGUST Addenda, NA Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	VLV. 3HP-488	ANCHOR DARLING	E2496-1-8	1914		1996	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	VLV. 3HP-153	VELAN	962103-1	NA		NA	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C	TIPING	D.P.C.	NA	NA		12/94	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work See page 1

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig Test Temp. _____ °F

Pressure _____ psig Test Temp. _____ °F

Pressure _____ psig Test Temp. _____ °F

9. Remarks See page 1

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed W. S. Mason QA Spec Date 10-22, 19 97

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-17-96 to 10-28-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions NC914
National Board, State, Providence and Endorsements

Date 10-28, 19 97

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required By The Provisions Of The ASME Code Section XI

1. Owner **Duke Power Company**
Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-12-96

2. Plant **Oconee Nuclear Station**
Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 3 of 3

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 95027076-01
Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
Address **526 S. Church Street, Charlotte, NC 28201-1006**
Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # 32975

4. Identification of System HPI Class 1 (A)

5. (a) Applicable Construction Code ANSI B31.7 19 69 Edition, AUGUST Addenda, _____ Code Cases
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989/No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	VLV. 3HP-127	VELAN ENGINEERING	NA	NA			<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
B	VLV. 3HP-126	"	34	NA			<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
C	VLV. 3HP-153	"	31	NA			<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
D	VLV. 3HP-152	"	32	NA			<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work See page 1

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks See page 1

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed

OS Mason QA Spec
Owner or Owner's Designee, Title

Date 10-22, 1997

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-12-97 to 10-28-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions

BC914

National Board, State, Providence and Endorsements

Date 10-28, 1997

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date **2-25-97**

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet **1** of **1**

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # **96084197**
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # **NA**

4. Identification of System **FDW** Class **2**

5. (a) Applicable Construction Code **ASME III** 19 **65** Edition, **SUMMER 69** Addenda, **NA** Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	A STM.GEN. MFDW NOZZLE	BABCOCK & WILCOX	620-0009-55-1	N-127		1971	<input checked="" type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work MADE WELD REPAIR TO No. 3A OTSG-MFDW
RISER No. 20 GASKET SEATING SURFACE.

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☒ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed *J. S. Mason*

Date 1-13, 1999

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 11-5-96 to 1-14-99; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 1-14, 1999

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 2-26-97

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 96013880
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. ☒ NSM or MM # 32989

4. Identification of System MS Class 2

5. (a) Applicable Construction Code ANSI B31.1 19 67 Edition JULY Addenda, NA Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>PIPING</u>	<u>D.P.C.</u>	<u>NA</u>	<u>NA</u>		<u>12/74</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work INSTALLED THERMOWELL & REINFORCING COLLAR.

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☒ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks PERFORMED TESTING & NDE PER ASME CODE CASE N-416-1.

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed J. S. Mason

Date 1-18, 19 99

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of NC and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 12-8-98 to 1-18-99; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 1-18, 1999

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date

6-2-97

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet

1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3a. Work Order #

97039576

Repair Organization Job #

3b. NSM or MM #

4. Identification of System HP Class 2

5. (a) Applicable Construction Code ASME B31.7 1969 Edition, AUGUST Addenda, _____

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

Code Cases

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>PIPING</u>	<u>D.P.Co.</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>12/74</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work REMOVED + INSPECTED 3B HPI PUMP MIN. FLOW ORFICES AND REINSTALLED.

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☒ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks Tested IAW ASME Code Case N416-1

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed D. S. Mason QA Spec Date 6-19, 1997
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 5-15-97 to 6-23-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
Inspector's Signature

Commissions NC914
National Board, State, Providence and Endorsements

Date 6-23, 1997

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 5-26-97

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 97037962
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # 10390

4. Identification of System RC Class 1

5. (a) Applicable Construction Code B31.7 19 69 Edition, 8-69 Addenda, NO Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>PIPINS</u>	<u>DPC</u>	<u>N/A</u>	<u>N/A</u>		<u>12-1974</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work Replaced piping and thermal sleeve 3A1 nozzle

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks Tested IAW ASME Code Case N416-1

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed W. B. Mason QA Tech Date 8-4, 19 97
Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 5-8-97 to 8-4-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

W. B. Chapman Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 8-4, 19 97

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 10-17-97

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 97087156
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # N/A

4. Identification of System LPS Class 2

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition JULY Addenda, N/A Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	3LPS-FX-0009 FLEX HOSE	PARKER HANNIFAN	030	N/A		1991	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
B	3LPS-FX-0009 FLEX HOSE	UNKNOWN	UNKNOWN	N/A		N/A	<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C	PIPING	D.P.C.	N/A	N/A		N/A	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
D	PH 10/17/97 Flex line	DPC	NA	NA			<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E	S/R 1-148-0-248A-H24A	DPC	N/A	N/A		N/A	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
F	Wm 1/12/98						<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work REPLACED FLEX HOSE and flange bolting ^{WTM 1/12/98}
~~REPLACED U-BOLT ON SUPPORT RESTRAINT.~~

8. Test Conducted: ☒ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure 130 psig

Test Temp. 92.0 °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed DB Mason

GA Spec

Date 10-21, 19 97

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-7-97 to 10-21-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions NC914

National Board, State, Providence and Endorsements

Date 10-21, 19 97

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 10-17-97

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 2

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 97087963
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # _____

4. Identification of System LPS Class 2

5. (a) Applicable Construction Code ANSI B31.1 1967 Edition July Addenda, NA Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>FLEX HOSE</u> <u>LPS FX 0005</u>	<u>PARKER</u> <u>HANNIFIN</u>	<u>035</u>	<u>NA</u>		<u>1991</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
B	<u>PIPING</u>	<u>D.P.C.</u>	<u>NA</u>	<u>NA</u>		<u>12/74</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C	<u>FLEX HOSE</u>	<u>UNKNOWN</u>	<u>UNKNOWN</u>	<u>NA</u>		<u>NA</u>	<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work

REPLACED FLEX HOSE CPS FX 0005

8. Test Conducted:



Hydrostatic



Pneumatic



Nominal Operating Pressure



Other



Exempt

Pressure 130 psigTest Temp. 92.2 °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**Certificate of Authorization No. **N/A**Expiration Date **N/A**

Signed

DB Mason QA SpecDate 10-21, 19 97

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-9-97 to 10-21-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
Inspector's Signature

Commissions

NC 914

National Board, State, Providence and Endorsements

Date 10-31, 19 97

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 10-17-97

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 2

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 97087963-01
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # N/A

4. Identification of System LPS Class 2

5. (a) Applicable Construction Code B31.1 1967 Edition, 7-67 Addenda, NO Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	<u>Flex line</u>	<u>DPC</u>	<u>N/A</u>	<u>N/A</u>	<u>LPS FX 0005</u>	<u>1974</u>	<input type="checkbox"/> Repaired <input checked="" type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B	<u>S/R</u> <u>1-14B-0-2480A-H35A</u>	<u>DPC</u>	<u>N/A</u>	<u>N/A</u>		<u>N/A</u>	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work ~~B) REPLACED 1/2 BOLT ON SUPPORT / RESTRAINT.~~ WTM 11/2/98
 Replaced bolting ON Fkx line LPS FX 005 Flanges

8. Test Conducted: ☐ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☒ Exempt

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp **N/A**

Certificate of Authorization No. **N/A**

Expiration Date **N/A**

Signed C.R. Henson QA Specialist Date 10-17, 19 97
 Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-9-97 to 10-21-97; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

MB Chapman
 Inspector's Signature

Commissions

NC 914
 National Board, State, Providence and Endorsements

Date 10-21, 19 97

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS **As Required By The Provisions Of The ASME Code Section XI**

1. Owner **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**

1a. Date 11-3-98

2. Plant **Oconee Nuclear Station**
 Address **P.O. Box 1439, Seneca, S.C. 29679**

Sheet 1 of 1

2a. Unit ☐ 1 ☐ 2 ☒ 3 ☐ Shared (specify Units _____)

3a. Work Order # 98077760
 Repair Organization Job # _____

3. Work Performed By **Duke Power Company**
 Address **526 S. Church Street, Charlotte, NC 28201-1006**
 Type Code Symbol Stamp **N/A** Authorization No. **N/A** Expiration Date **N/A**

3b. NSM or MM # _____

4. Identification of System LPS Class 2

5. (a) Applicable Construction Code ANSI B31.1 19 69 Edition, July Addenda, _____ Code Cases
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components

	Column 1	Column 2	Column 3	Column 4	Column 5	Col. 6	Column 7	Column 8
	Name of Component	Name of Manufacturer	Manufacturer Serial Number	National Board Number	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (yes or no)
A	PIPING	D.P.Co.	N/A	N/A		12/74	<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input checked="" type="checkbox"/> Replacement	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
B							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
C							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
D							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
E	L'						<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes
F							<input type="checkbox"/> Repaired <input type="checkbox"/> Replaced <input type="checkbox"/> Replacement	<input type="checkbox"/> No <input type="checkbox"/> Yes

Form NIS-2 (Back)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8 1/2 in. x 11 in. (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

7. Description of Work REPLACED FLANGES ON SPARE OIL COOLER FOR RCP MOTOR. 3A-1

8. Test Conducted: ☒ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure 145 psig

Test Temp. 71.1 °F

Pressure _____ psig

Test Temp. _____ °F

Pressure _____ psig

Test Temp. _____ °F

9. Remarks _____

(Applicable Manufacturer's Data Records to be Attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this **repair or replacement** conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Expiration Date N/A

Signed C. B. Mason

Date 11-5, 1998

Owner or Owner's Designee, Title

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Providence of N.C. and employed by **HSBI and I Company of Hartford Connecticut** have inspected the components described in this Owner's Report during the period 10-13-98 to 11-10-98; and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

M. B. Chapman
Inspector's Signature

Commissions NC 914

National Board, State, Providence and Endorsements

Date 11-10, 1998

11.0 Pressure Testing

There are three refueling outages scheduled for the second period of the third inspection interval for Duke Power Company's Oconee Nuclear Station Unit 3. This section describes Pressure Tests performed during the 1998 refueling outage (also referred to as EOC-17).

<i>Examination Category</i>	<i>Test Requirement</i>	<i>Total Examinations Required For This Period</i>	<i>Total Examinations Credited For This Period</i>	<i>(%) Examinations Complete For This Period</i>
B-E	System Hydrostatic Test (IWB-5222)	0	0	0%
B-P	System Leakage Test (IWB-5221)	3	1	33.3%
B-P	System Hydrostatic Test (IWB-5222)	0	0	0%
C-H	System Inservice/Functional Test (IWC-5221)	38	2	5.3%
C-H	System Hydrostatic Test (IWC-5222)	7	1	1.4%

A detailed description of each Examination Category listed above is located in subsection 11.1 of this report. Results of each examination category are located in subsection 11.2 of this report.

11.1 Required Examinations This Outage:

A listing of each VT-2 Visual Examination required for EOC-17 is included in this section.

The information shown below is a field description for the listing format included in this section of the report:

Item No.	=	ASME Section XI Tables IWB-2500-1 (Class 1) and IWC-2500-1 (Class 2)
Flow Drawing	=	Detail Drawing of Inspection Boundary
Required Test	=	Type of Pressure Test
System Name	=	Name of Pressure Retaining Component System
Required Inspection	=	Type of Visual Examination Required
Required Procedure	=	Required Inspection Procedure
Comments	=	General and/or Detail Description

Duke Energy Corporation - Oconee Unit 3
Pressure Testing Item Number Listing

Outage 17

<u>Item Number</u>	<u>Flow Drawing</u>	<u>Required Test</u>	<u>System Name</u>	<u>Required Inspection</u>	<u>Required Procedure</u>	<u>Comments</u>
B15.050.001	SEE COMMENTS	LEAK	RC SYSTEM	VT-2	QAL-15	Drawings that make up the Class A Leakage Boundary: OFDL-100A-3.1/0, OFDL-100A-3.2/0, OFDL-100A-3.3/0, OFDL-101A-3.1/0, OFDL-101A-3.4/0, OFDL-101A-3.5/0, OFDL-102A-3.1/0, OFDL-102A-3.2/0, OFDL-102A-3.3/0, OFDL-110A-3.1/0, OFDL-110A-3.4/0, OFDL-127B-3.2/0

**Duke Energy Corporation - Oconee Unit 3
Pressure Testing Item Number Listing**

Outage 17

<u>Item Number</u>	<u>Flow Drawing</u>	<u>Required Test</u>	<u>System Name</u>	<u>Required Inspection</u>	<u>Required Procedure</u>	<u>Comments</u>
C07.030.001	OFD-101A-3.1	INS/FUN	HPI SYSTEM	VT-2	QAL-15	Penetrations 6 and 7 - Test Pkg. #31L-300. EOC#16 station pkg #33S-301, #32FRN-352, 32SI-401. EOC-17 Station Pkg #32S-451.
C07.030.002	OFD-101A-3.2	INSERT	HPI SYSTEM	VT-2	QAL-15	Test Pkg. #32FRN-329. EOC-16 Station Pkg.# 32F-354, 32F-355, 32F-356A, 32F-356B, # 32F-361B
C07.030.003	OFD-101A-3.3	INSERT	HPI SYSTEM	VT-2	QAL-15	Test Pkg. #32F-331, #32F-332, #32FRN-342. EOC-16 Station Pkg.# 32F-356A, 32SI-404, 32FI-405, 32FI-407, 32FI-408, 32SI-401, 32SI-406
C07.030.004	OFD-101A-3.4	INS/FUN	HPI SYSTEM	VT-2	QAL-15	Penetrations 8, 9, 10, 23 and 52 - Test Pkg. #32S-324, #32FRN-342, #32FRN-326. EOC-16 Station Pkg.# 33S-301, 32SI-401. EOC-17 Station Pkg.#32S-451.
C07.030.005	OFD-101A-3.5	INSERT	HPI SYSTEM	VT-2	QAL-15	Station Pkg. #32F-359, #31LRN-351
C07.030.006	OFD-102A-3.1	INS/FUN	LPI SYSTEM	VT-2	QAL-15	This test shall include VT-2 for Telltale hole of Item No. C02.033.001 - Test Pkg. #32F-331, #32F-332. EOC-16 Station Pkg.# 32F-361A, # 32F-361B. EOC-17 Station Pkg.#32FI-409, 32FI-410, 32IDPT-306, 32SI-406
C07.030.007	OFD-102A-3.2	INS/FUN	LPI SYSTEM	VT-2	QAL-15	Penetrations 15 and 16 - Test Pkg. #32FRN-333, #32F-331, #32F-332. EOC-16 Station Pkg. # 32F-361B, # 32F-362A, #32F-362B, 32HR-438. EOC-17 Station Pkg.# 32F-462, 32F-463. C02.033.002 & C02.033.003.

**Duke Energy Corporation - Oconee Unit 3
Pressure Testing Item Number Listing**

Outage 17

<u>Item Number</u>	<u>Flow Drawing</u>	<u>Required Test</u>	<u>System Name</u>	<u>Required Inspection</u>	<u>Required Procedure</u>	<u>Comments</u>
C07.030.008	OFD-102A-3.3	FUNCT	LPI SYSTEM	VT-2	QAL-15	Penetrations 39 and 59 - Test Pkg. #32F-305, #32S-304, #32IDPT-307. EOC-17 Station Pkg.#32S-464.
C07.030.010	OFD-104A-3.1	FUNCT	SF SYSTEM	VT-2	QAL-15	Penetration 56. EOC-16 Station Pkg.# 32F-359, #32F-363, #32SI-406. EOC-17 Station Pkg.#32F-465.
C07.030.031	OFD-124B-3.2	FUNCT	LPSW SYSTEM	VT-2	QAL-15	Penetrations 30, 31, 32, 33, 34 and 35 - Test Pkg. #32S-320, #33SI-425
C07.030.032	OFD-124B-3.4	INSERT	LPSW SYSTEM	VT-2	QAL-15	Penetrations 21 and 22 - Test Pkg. #32S-321, #33SI-425
C07.040.002	OFD-101A-3.2	HYDRO	HPI SYSTEM	VT-2	QAL-15	
C07.040.003	OFD-101A-3.3	HYDRO	HPI SYSTEM	VT-2	QAL-15	
C07.040.006	OFD-102A-3.1	HYDRO	LPI SYSTEM	VT-2	QAL-15	This test shall include VT-2 for Telltale hole of Item No. C02.033.001. EOC-17 Station Pkg.#32SN-460.
C07.040.007	OFD-102A-3.2	HYDRO	LPI SYSTEM	VT-2	QAL-15	Penetrations 15 and 16
C07.040.011	OFD-104A-3.2	HYDRO	SF SYSTEM	VT-2	QAL-15	

**Duke Energy Corporation - Oconee Unit 3
Pressure Testing Item Number Listing**

Outage 17

<u>Item Number</u>	<u>Flow Drawing</u>	<u>Required Test</u>	<u>System Name</u>	<u>Required Inspection</u>	<u>Required Procedure</u>	<u>Comments</u>
D01.011.001	OFD-100A-3.3	INSERT	RC SYSTEM	VT-2	QAL-15	EOC-17 Station Pkg.#32S-451
D01.011.002	OFD-101A-3.1	INSERT	HPI SYSTEM	VT-2	QAL-15	EOC-16 Station Pkg.# 33S-301. EOC-17 Station Pkg.#32S-451
D01.011.005	OFD-101A-3.4	INSERT	HPI SYSTEM	VT-2	QAL-15	EOC-16 Station Pkg.# 33S-301, 32SI-401. EOC-17 Station Pkg.#32S-451
D01.011.006	OFD-101A-3.5	INSERT	HPI SYSTEM	VT-2	QAL-15	EOC-16 Station Pkg.# 33S-301. EOC-17 Station Pkg.# 32S-451
D02.011.002	OFD-121A-3.3	FUNCT	C SYSTEM	VT-2	QAL-15	Station Pkg. # 33F-374
D02.011.004	OFD-121A-3.8	FUNCT	C SYSTEM	VT-2	QAL-15	Station Pkg. # 33F-374, 32FI-421
D02.011.007	OFD-121D-3.1	FUNCT	EFW SYSTEM	VT-2	QAL-15	Test Pkg. #33FRN-316A, #33FRN-317A, #33FRN-318, #32SRN-311, # 32F-364, # 33F-365, # 33F-366, #32FI-421
D02.011.013	OFD-124B-3.1	FUNCT	LPSW SYSTEM	VT-2	QAL-15	Test Pkg. #33S-339, #33S-340, 32SI-427, #33FI-425. EOC-17 Station Pkg.#33FRN-490

11.2 Examination Results For This Outage:

The results of each VT-2 Visual Examination required for EOC-17 are included in this section.

The information shown below is a field description for the Class 1, Class 2, and Class 3 listing format included in this section of the report:

Item No.	=	ASME Section XI Tables IWB-2500-1 (Class 1), IWC-2500-1 (Class 2), and IWD-2500-1 (Class 3)
Flow Drawing	=	Detail Drawing of Inspection Boundary
Examination Date	=	VT-2 Examination Date
Required Test	=	Type of Pressure Test Required
Test Status	=	Complete, Partial, Not Tested, or Not Required
Test Result	=	Clear, Recordable, or Reportable
VT-2 Date	=	Date of VT-2 visual examination
Comments	=	General and/or Detail Description

Duke Energy Corporation - Oconee Unit 3
Pressure Testing VT-2 Results For Outage 17

<u>Item Number</u>	<u>Flow Drawing</u>	<u>Required Test</u>	<u>Test Status</u>	<u>Test Result</u>	<u>VT-2 Date</u>	<u>Comments</u>
B15.050.001	SEE COMMENTS	LEAK	PARTIAL	CLEAR	12/05/98	Drawings that make up the Class A Leakage Boundary: OFDL-100A-3.1/0, OFDL-100A-3.2/0, OFDL-100A-3.3/0, OFDL-101A-3.1/0, OFDL-101A-3.4/0, OFDL-101A-3.5/0, OFDL-102A-3.1/0, OFDL-102A-3.2/0, OFDL-102A-3.3/0, OFDL-110A-3.1/0, OFDL-110A-3.4/0, OFDL-127B-3.2/0

**Duke Energy Corporation - Oconee Unit 3
Pressure Testing VT-2 Results For Outage 17**

<u>Item Number</u>	<u>Flow Drawing</u>	<u>Required Test</u>	<u>Test Status</u>	<u>Test Result</u>	<u>VT-2 Date</u>	<u>Comments</u>
C07.030.001	OFD-101A-3.1	INS/FUN	PARTIAL	CLEAR	12/05/98	Penetrations 6 and 7 - Test Pkg. #31L-300. EOC#16 station pkg #33S-301, #32FRN-352, 32SI-401. EOC-17 Station Pkg #32S-451.
C07.030.002	OFD-101A-3.2	INSERT	PARTIAL	CLEAR	11/30/98	Test Pkg. #32FRN-329. EOC-16 Station Pkg.# 32F-354, 32F-355, 32F-356A, 32F-356B, # 32F-361B
C07.030.003	OFD-101A-3.3	INSERT	PARTIAL	CLEAR	12/04/98	Test Pkg. #32F-331, #32F-332, #32FRN-342. EOC-16 Station Pkg.# 32F-356A, 32SI-404, 32FI-405, 32FI-407, 32FI-408, 32SI-401, 32SI-406
C07.030.004	OFD-101A-3.4	INS/FUN	PARTIAL	CLEAR	12/05/98	Penetrations 8, 9, 10, 23 and 52 - Test Pkg. #32S-324, #32FRN-342, #32FRN-326. EOC-16 Station Pkg.# 33S-301, 32SI-401. EOC-17 Station Pkg.#32S-451.
C07.030.005	OFD-101A-3.5	INSERT	COMPLETE	RECORDABLE	11/18/98	Station Pkg. #32F-359, #31LRN-351
C07.030.006	OFD-102A-3.1	INS/FUN	PARTIAL	CLEAR	11/30/98	This test shall include VT-2 for Telltale hole of Item No. C02.033.001 - Test Pkg. #32F-331, #32F-332. EOC-16 Station Pkg.# 32F-361A, # 32F-361B. EOC-17 Station Pkg.#32FI-409, 32FI-410, 32IDPT-306, 32SI-406
C07.030.007	OFD-102A-3.2	INS/FUN	PARTIAL	CLEAR	11/30/98	Penetrations 15 and 16 - Test Pkg. #32FRN-333, #32F-331, #32F-332. EOC-16 Station Pkg. # 32F-361B, # 32F-362A, #32F-362B, 32HR-438. EOC-17 Station Pkg.# 32F-462, 32F-463. C02.033.002 & C02.033.003.

**Duke Energy Corporation - Oconee Unit 3
Pressure Testing VT-2 Results For Outage 17**

<u>Item Number</u>	<u>Flow Drawing</u>	<u>Required Test</u>	<u>Test Status</u>	<u>Test Result</u>	<u>VT-2 Date</u>	<u>Comments</u>
C07.030.008	OFD-102A-3.3	FUNCT	PARTIAL	CLEAR	10/08/98	Penetrations 39 and 59 - Test Pkg. #32F-305, #32S-304, #32IDPT-307. EOC-17 Station Pkg.#32S-464.
C07.030.010	OFD-104A-3.1	FUNCT	PARTIAL	RECORDABLE	11/18/98	Penetration 56. EOC-16 Station Pkg.# 32F-359, #32F-363, #32SI-406. EOC-17 Station Pkg.#32F-465.
C07.030.031	OFD-124B-3.2	FUNCT	PARTIAL	CLEAR	11/16/98	Penetrations 30, 31, 32, 33, 34 and 35 - Test Pkg. #32S-320, #33SI-425
C07.030.032	OFD-124B-3.4	INSERT	COMPLETE	RECORDABLE	11/15/98	Penetrations 21 and 22 - Test Pkg. #32S-321, #33SI-425
C07.040.002	OFD-101A-3.2	HYDRO	PARTIAL	CLEAR	11/30/98	
C07.040.003	OFD-101A-3.3	HYDRO	PARTIAL	CLEAR	11/30/98	
C07.040.006	OFD-102A-3.1	HYDRO	PARTIAL	CLEAR	11/30/98	This test shall include VT-2 for Telltale hole of Item No. C02.033.001. EOC-17 Station Pkg.#32SN-460.
C07.040.007	OFD-102A-3.2	HYDRO	PARTIAL	CLEAR	11/30/98	Penetrations 15 and 16
C07.040.011	OFD-104A-3.2	HYDRO	COMPLETE	CLEAR	11/30/98	

**Duke Energy Corporation - Oconee Unit 3
Pressure Testing VT-2 Results For Outage 17**

<u>Item Number</u>	<u>Flow Drawing</u>	<u>Required Test</u>	<u>Test Status</u>	<u>Test Result</u>	<u>VT-2 Date</u>	<u>Comments</u>
D01.011.001	OFD-100A-3.3	INSERT	COMPLETE	CLEAR	10/08/98	EOC-17 Station Pkg.#32S-451
D01.011.002	OFD-101A-3.1	INSERT	COMPLETE	CLEAR	10/08/98	EOC-16 Station Pkg.# 33S-301. EOC-17 Station Pkg.#32S-451
D01.011.005	OFD-101A-3.4	INSERT	PARTIAL	CLEAR	10/08/98	EOC-16 Station Pkg.# 33S-301, 32SI-401. EOC-17 Station Pkg.#32S-451
D01.011.006	OFD-101A-3.5	INSERT	COMPLETE	CLEAR	10/08/98	EOC-16 Station Pkg.# 33S-301. EOC-17 Station Pkg.# 32S-451
D02.011.002	OFD-121A-3.3	FUNCT	COMPLETE	CLEAR	11/18/98	Station Pkg. # 33F-374
D02.011.004	OFD-121A-3.8	FUNCT	PARTIAL	CLEAR	11/18/98	Station Pkg. # 33F-374, 32FI-421
D02.011.007	OFD-121D-3.1	FUNCT	PARTIAL	CLEAR	11/29/98	Test Pkg. #33FRN-316A, #33FRN-317A, #33FRN-318, #32SRN-311, # 32F-364, # 33F-365, # 33F-366, #32FI-421
D02.011.013	OFD-124B-3.1	FUNCT	PARTIAL	CLEAR	11/03/98	Test Pkg. #33S-339, #33S-340, 32SI-427, #33FI-425. EOC-17 Station Pkg.#33FRN-490

11.3 Reportable Indications:

None