INSERVICE INSPECTION REPORT

DUKE POWER COMPANY
OCONEE NUCLEAR STATION
UNIT 3
SEVENTEENTH REFUELING OUTAGE

Duke Power SM

A Duke Energy Company

INSERVICE INSPECTION REPORT

Duke Power Company
Oconee Nuclear Station
Unit
Fourteenth Refueling Outage

CITIZENSHIP
DUKE POWER
SERVICE

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 Rowe	Date	2/16/99
Approved By:	R. Kevin Rhyne	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 Rhyne
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 NC 914
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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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

Item Number	*Description*	*Total Examined During Outage*
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

Item Number	*Description*	*Total Examined During Outage*
	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

Item Number	*Description*	*Total Examined During Outage*
	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

Item Number	*Description*	*Total Examined During Outage*
	Reactor Vessel	
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
	Pressurizer	
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
	Steam Generators	
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)

Item Number	*Description*	*Total Examined During Outage*
	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

Item Number	*Description*	*Total Examined During Outage*
	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)

Item Number	*Description*	*Total Examined During Outage*
	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

Item Number	*Description*	*Total Examined During Outage*
	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

Item Number	*Description*	*Total Examined During Outage*
	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

Item Number	*Description*	*Total Examined During Outage*
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)

Item Number	*Description*	*Total Examined During Outage*
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

Item Number	*Description*	*Total Examined During Outage*
	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

Item Number	*Description*	*Total Examined During Outage*
	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

Item Number	*Description*	*Total Examined During Outage*
	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

Item Number	*Description*	*Total Examined During Outage*
	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 Tubing[2]

Item Number	*Description*	*Total Examined During Outage*
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

Item Number	*Description*	*Total Examined During Outage*
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

Item Number	*Description*	*Total Examined During Outage*
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

Item Number	*Description*	*Total Examined During Outage*
C02.010	Nozzles in Vessels ≤ $^1/_2$" 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)

Item Number	*Description*	*Total Examined During Outage*
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

Item Number	*Description*	*Total Examined During Outage*
	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

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

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

Item Number	*Description*	*Total Examined During Outage*
C05.010	Piping Welds ≥$^3/_8$" 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 ≥ Nominal Pipe Size 2" and ≤ 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 ≥ 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

Item Number	*Description*	*Total Examined During Outage*
C05.050	Piping Welds ≥ $^{3}/_{8}$" Nominal Wall Thickness for Piping > Nominal Pipe Size 4"	
C05.051	Circumferential Weld	6
C05.052	Longitudinal Weld[3]	NA
C05.060	Piping Welds > $^{1}/_{5}$" Nominal Wall Thickness for Piping ≥ Nominal Pipe Size 2" and ≤ 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 ≥ 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

Item Number	Description	Total Examined During Outage
	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

Item Number	Description	Total Examined During Outage
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

Item Number	Description	Total Examined During Outage
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 < $^3/_8$" 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< $^3/_8$"	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 ≤ $^1/_5$" 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

Examination Category	*Description*	*Inspections Required*	*Inspections Completed*	*Percentage Completed*	[4]*Deferral Allowed*
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

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

Class 1 Inspections (Continued)

Examination Category	*Description*	*Inspections Required*	*Inspections Completed*	*Percentage Completed*	[5] *Deferral Allowed*
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-0	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)	31Supports	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

Examination Category	*Description*	*Inspections Required*	*Inspections Completed*	*Percentage Completed*	*[5] Deferral Allowed*
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

Description	*Percentage Complete*
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 17Requirements
Reactor Coolant Pump 3A2 and 3B1 Flange Joint, Studs, Adjacent Areas (Item No. Series G11)	100% of EOC 17Requirements
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

Steam Generators (Primary Side)

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

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				

Total B02.031 Items: 1

CATEGORY B-B, Pressure Retaining Welds in Vessels Other Than Reactor Vessels

Steam Generators (Primary Side)

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

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
****** Tubesheet-to-Head Weld ******									
B02.040.002	3-SGA-WG58-2	50	ISI-OCN3-003	NDE-620	UT	CS	119.000	40393	Steam Generator 3A Support Skirt Pc. 9 to Lower Tubesheet Pc. 50.
	Circumferential		OM-2201-222	NDE-640			8.000		
Class A					Head to Tubesheet				

Total B02.040 Items: 1

CATEGORY B-B, Pressure Retaining Welds in Vessels Other Than Reactor Vessels

Heat Exchangers (Primary Side)-Shell

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

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
****** 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				

Total B02.060 Items: 1

Total B02 Items: 3

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

Pressurizer

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

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
****** Nozzle-to-Vessel Welds ******									
B03.110.001	3-PZR-WP15	50	ISI-OCN3-002	NDE-620	UT	CS	15.250	40394	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	40395	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	40395	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	40395	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

Pressurizer

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

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
****** Nozzle Inside Radius Section ******									
B03.120.001	3-PZR-WP15	50	ISI-OCN3-002	NDE-680	UT	CS	0.000	40394	Pressurizer Surge Nozzle Pc. 8. (Inside Radius Section).
			OM-2201-229				4.750		
Class A			B 7W149786E		Nozzle to Lower Head				
B03.120.006	3-PZR-WP26-4	50	ISI-OCN3-002	NDE-680	UT	CS	0.000	40395	Pressurizer Sensing Nozzle Pc. 30. Between W & X Axis (Inside Radius Section).
			OM-2201-229				6.187		
Class A			B 7W149789E		Nozzle to Shell				
B03.120.007	3-PZR-WP26-5	50	ISI-OCN3-002	NDE-680	UT	CS	0.000	40395	Pressurizer Sensing Nozzle Pc. 30. Between Z & Y Axis (Inside Radius Section).
			OM-2201-229				6.187		
Class A			B 7W149789E		Nozzle to Shell				
B03.120.008	3-PZR-WP26-6	50	ISI-OCN3-002	NDE-680	UT	CS	0.000	40395	Pressurizer Sensing Nozzle Pc. 30. Between W & X Axis (Inside Radius Section).
			OM-2201-229				6.187		
Class A			B 7W149789E		Nozzle to Shell				

Total B03.120 Items: 4

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

Steam Generators (Primary Side)

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

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
****** 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.
	Circumferential		OM-2201-222	NDE-640			8.500		
Class A			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.
	Circumferential		OM-2201-222	NDE-640			8.500		
Class A			B&W109610E		Nozzle to Head				

Total B03.130 Items: 2

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

Steam Generators (Primary Side)

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

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
****** Nozzle Inside Radius Section ******									
B03.140.003	3-SGB-WG50-2	50	ISI-OCN3-004	NDE-680	UT	CS	38.380	40393	Steam Generator 3B Outlet Nozzle Pc. 65 Between
			OM-2201-222				8.500		W-Z Axis. (Inside Radius Section)
Class A			B&W109610E		Nozzle to Lower Head				
B03.140.004	3-SGB-WG50-1	50	ISI-OCN3-004	NDE-680	UT	CS	38.380	40393	Steam Generator 3B Outlet Nozzle Pc. 65 Between
			OM-2201-222				8.500		Y-Z Axis. (Inside Radius Section)
Class A			B&W109610E		Nozzle to Lower Head				

Total B03.140 Items: 2

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

Heat Exchangers (Primary Side)

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

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
****** 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 Pc.A
	Circumferential		OM-201-3107				0.875		
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 Head Pc. A. Corrected weld ID from 3-LDCA-OUT-V2 to 3-LDCA-OUT-V5. Reference Addenda ONS3-013
	Circumferential		OM-201-3107				0.875		
Class A			OFD-101A-3.1		Nozzle to Channel Body				

Total B03.150 Items: 2

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

Heat Exchangers (Primary Side)

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

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
****** Nozzle Inside Radius Section ******									
B03.160.001 Class A	3-LDCA-IN-V2	51A	1-97347-1 OM-201-3107 OFD-101A-3.1	NDE-680	UT Nozzle to Channel Body	SS	3.000 0.875	40411	LDC-3A Tubeside Inlet Nozzle Pc. C (Inside Radius Section). Reference Request for Relief ONS-009.
B03.160.002 Class A	3-LDCA-OUT-V5	51A	1-97347-1 OM-201-3107 OFD-101A-3.1	NDE-680	UT Nozzle to Channel Body	SS	3.000 0.875	40411	LDC-3A Tubeside Outlet Nozzle Pc. D to Channel Head Pc. A. (Inside Radius Section). Reference Request for Relief ONS-009.

Total B03.160 Items: 2

Total B03 Items: 16

CATEGORY B-F, Pressure Retaining Dissimilar Metal Welds

Pressurizer

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

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
****** 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				
	Dissimilar				Safe End				
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				
	Dissimilar				Safe End				
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				
	Dissimilar				Safe End				

Total B05.050 Items: 3

CATEGORY B-F, Pressure Retaining Dissimilar Metal Welds

Piping

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

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
****** 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	UT from elbow side
	Circumferential		OFD-100A-3.1				2.330		
Class A					Safe End to				
	Dissimilar				Elbow				
B05.130.009A	3-PDA2-2	50	ISI-OCN3-012	NDE-610	UT	SS-CS	33.500	40397	UT from Safe End side
	Circumferential		OFD-100A-3.1				2.330		
Class A					Safe End to				
	Dissimilar				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					Safe End to				
	Dissimilar				Elbow				

Total B05.130 Items: 3

CATEGORY B-F, Pressure Retaining Dissimilar Metal Welds

Piping

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

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
****** 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 Safe End				
	Dissimilar								

Total B05.140 Items: 1

Total B05 Items: 7

CATEGORY B-G-1, Pressure Retaining Bolting, Greater than 2" In Diameter

Pumps

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

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
****** Flange Surface, when connection dissassembled ******									
B06.190.003	3RCP-3B1-FLANGE	50	OM-1201D-0005	QAL-13	VT-1	SS	0.000		RCP 3B1 Main Flange 1" Annular Surface of Flange Surrouding each Stud.(insp. only if disass.) Ref. Addendum ONS3-020 - connection not disassembled during 3EOC15. Ref. Addendum ONS3-044 - connection not disassembled during 3EOC16.
			OM-1201D-0057				0.000		
Class A									

Total B06.190 Items:	1
Total B06 Items:	1

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

Steam Generators

ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/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

Valves

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

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
****** Bolts, Studs, and Nuts ******									
B07.070.014	3-51A-HP126	51A	OM-246-015	QAL-13	VT-1	NA	0.000 0.000		High Pressure Injection Valve 3-HP126 Bolting
Class A									

Total B07.070 Items: 1

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

CRD Housings

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 Class A	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.
B07.080.002 Class A	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.

Total B07.080 Items: 2

Total B07 Items: 4

CATEGORY B-J, Pressure Retaining Welds In Piping

NPS 4 or Larger

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

NPS 4 or Larger

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

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
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				

Total B09.011 Items: 12

CATEGORY B-J, Pressure Retaining Welds In Piping

Less Than NPS 4

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		This weld was listed previously as 2-51A-61-44A until iso 2-51A -61 was redrawn.
	Circumferential		OFD-100A-3.1				0.375		
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

Branch Pipe Connection Welds

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

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
****** 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 Piping

Socket Welds

ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
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
Inservice Inspection Database Management System

Pumps

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
****** Pump Casing Welds ******									
B12.010.003	3RCP-3B1	50	ISI-OCN3-009	NDE-12	RT	SS	0.000		Reactor Coolant Pump 3B1Casing 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

CATEGORY B-L-2, Pump Casings

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

Pumps

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
****** 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

Reactor Vessel

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

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
****** 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

Tubesheet-to-Shell Weld

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

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
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

Pressure Vessels

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

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
****** 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									

Total C03.010 Items: 2

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

Piping

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

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
****** Integrally Welded Attachments ******									
C03.020.010	3-01A-H9A	01A	0-2481A	NDE-25	MT	CS	26.000		File no. 0SC-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
							1.000		TO Z-AXIS
Class B									
C03.020.046	3SGB-WG87-WZ	03	B&W-149824E	NDE-25	MT	CS	0.000		SGB FDW. HDR. ATTACH. W-Z QUAD. NEAREST
							1.000		TO W-AXIS
Class B									
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 exmaination required.

Total C03.020 Items: 7

Total C03 Items: 9

CATEGORY C-D, Pressure Retaining Bolting Greater Than 2 in. In Diameter

Pumps

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

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
****** 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

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

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.
	Circumferential		OFD-102A-3.2				1.125		This weld was listed previously as 3-53A-24-11 until iso 3-53A-24 was redrawn.
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.
	Circumferential		OFD-102A-3.2				1.125		This weld was listed previously as 3-53A-24-5 until iso 3-53A-24 was redrawn.
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

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

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

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

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		Reference Request for Relief 95-GO-03 for calibration block.
	Circumferential		OFD-101A-3.4				0.674		
Class B					Elbow to Pipe				
C05.021.042A	3-51A-59-90	51A	3-51A-59	NDE-35	PT	SS	4.000		
	Circumferential		OFD-101A-3.4				0.674		
Class B					Elbow to Pipe				
C05.021.053	3-51A-67-10	51A	3-51A-67	NDE-600	UT	SS	2.500		Reference Request for Relief 95-GO-03 for calibration block.
	Circumferential		OFD-101A-3.1				0.375		
Class B					Pipe to Elbow				
C05.021.053A	3-51A-67-10	51A	3-51A-67	NDE-35	PT	SS	2.500		
	Circumferential		OFD-101A-3.1				0.375		
Class B					Pipe to Elbow				
C05.021.063	3-51A-87-44A	51A	3-51A-87	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					Valve 3HP-129 to Pipe				
C05.021.063A	3-51A-87-44A	51A	3-51A-87	NDE-35	PT	SS	4.000		
	Circumferential		OFD-101A-3.4				0.531		
Class B					Valve 3HP-129 to Pipe				
C05.021.073	3-51A-118-8	51A	3-51A-118	NDE-600	UT	SS	4.000		Reference Request for Relief 95-02 for calibration block.
	Circumferential		OFD-101A-3.4				0.531		
Class B					Pipe to Elbow				
C05.021.073A	3-51A-118-8	51A	3-51A-118	NDE-35	PT	SS	4.000		
	Circumferential		OFD-101A-3.4				0.531		
Class B					Pipe to Elbow				

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

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

ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	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.
	Circumferential		OFD-101A-3.4				0.375		
Class B					Tee to Pipe				This weld was originally listed as 3-51A-59-20, until isometric 3-51A-59 was redrawn as 3HP-312.
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 Piping

Socket Welds

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

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
C05.030.002	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

Pipe Branch Connections of Branch Piping >= NPS 2

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

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 ******									
C05.041.001	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

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

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

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

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

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		
Class B					Pipe to Pipe				Reference Request for Relief 95-02 for calibration block.
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

Pipe Branch Connections of Branch Piping >= NPS 2

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

Integral Attachment

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. 0SC-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. 0SC-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. 0SC-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

Integral Attachment

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. 0SC-513 Page 72
	Rigid Restraint		OFD-121B-3.3				1.000		Prob. No. 3-03A-02
Class C									EmergencyFeedwater 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. 0SC-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. 0SC-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

Integral Attachment

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

Total D02.040 Items: 2

Total D02 Items: 18

CATEGORY F-A, Supports (Category C)

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

Class 1 Mech. Conn. to Press. Retaining Comp. & Bld. Structure

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
F01.012.001 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. Inspect with Item No. F01.050.006
F01.012.002 Class A	3-50-H6 Constant Support	50	0-2481A OFD-100A-3.2	QAL-14	VT-3	NA	2.500 0.154		File No. OSC-1343-06 Vol.A of C Prob.No. 3-53-09 Page 138 Low Pressure Inj. Supply to PZR Spray
F01.012.005 Class A	3-51A-H2A Hyd Snubber	51A	0-2479A OFD-101A-3.4	QAL-14	VT-3	NA	2.500 0.154		File No. OSC-1343 Vol.B of C Prob. No. 3-53-10 Page 59 H.P.I. East Coolant Loop. Inspect with Item No. F01.050.009
F01.012.008 Class A	3-50-RCPM-3A1-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-1011-01-0001, Reactor Coolant Pump Motor Snubbers. Reference PIP 0-O96-1575. Inspect with F01.050.108

Total F01.012 Items: 4

CATEGORY F-A, Supports (Category A)

Class 2 Weld Connections to Building Structure

ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
F01.020.023 Class B	3-53B-H118 Rigid Restraint	53B	5-0-2435B OFD-102A-3.1	QAL-14	VT-3	NA	12.000 0.187		File N0. OS-549 Page 78; Problem No. 3-53-01 L P Injection & Decay Heat Removal
F01.020.026 Class B	3-53B-H20 Rigid Restraint	53B	5-0-2435B OFD-102A-3.1	QAL-14	VT-3	NA	14.000 0.187		File N0. OS-549 Page 78; Problem No. 3-53-01 L P Injection & Decay Heat Removal
F01.020.028 Class B	3-53B-H43 Rigid Restraint	53B	2-0-2435D OFD-101A-3.3	QAL-14	VT-3	NA	6.000 0.000		File No. OSC-539 Prob. No. 3-51-2 Page 145 H.P.I. Pumps 3A,3B,&3C Suction Header
F01.020.036 Class B	3-54A-SR20 Rigid Restraint	54A	3-0-2439B OFD-103A-3.1	QAL-14	VT-3	NA	8.000 0.500		File No. OSC-556 Page No. 65.1 Problem No. 3-54-03
F01.020.038 Class B	3-55-SR1 Rigid Restraint	55	1-0-2439C OFD-144A-3.2	QAL-14	VT-3	NA	6.000 0.000		File No. OSC-558 Page 42.3 Prob. No. 3-55-01 System 55
F01.020.041 Class B	3-01A-H13 Rigid Support	01A	0-2441 OFD-122A-3.1	QAL-14	VT-3	CS	36.000 0.000		Struc. calc # OSC-1000; Prob. # OS 506/3-01A; Data point 10(640)
F01.020.042 Class B	3-01A-H14 Rigid Support	01A	0-2441 OFD-122A-3.1	QAL-14	VT-3	CS	36.000 0.000		Struc. calc # OSC-1000-01-0021; Prob. # OS 506/3-01A; Data point 11(645)
F01.020.046 Class B	3-51B-H14 Rigid Restraint	51B	2-0-2436C OFD-101A-3.2	QAL-14	VT-3	NA	2.000 0.000		File No. OSC-538 Page 108 Prob. No. 51-1 sht.4 of 9

Total F01.020 Items: 8

CATEGORY F-A, Supports (Category B)

Class 2 Weld Connections to Building Structure

ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
F01.021.029	3-55-DE002	55	0-2439A	QAL-14	VT-3	NA	6.000		File noOSC-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. 0SC-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

Class 3 Weld/Mech Conns at Inter Joints in Multiconn Int & Nonint Supp

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
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. 0SC-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

Oconee 3

Inservice Inspection Plan for Interval 3 Outage 3

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

ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	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

Spring Supports & Constant Load Supports

ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	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. 0SC-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

CATEGORY F-A, Supports

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

Spring Supports & Constant Load Supports

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
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. 0SC-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. 0SC-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

CATEGORY F-A, Supports

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

Spring Supports & Constant Load Supports

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
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

CATEGORY F-A, Supports

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

Spring Supports & Constant Load Supports

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
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. 0SC-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. 0SC-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. 0SC-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. 0SC-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									

CATEGORY F-A, Supports

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ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
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.=
	Hyd Snubber		OFD-121D-3.1				0.000		3-03A-09; Emergency Feedwater System
Class C									
F01.050.034	3-03A-SR100PO	03A	1-0-2401A	QAL-14	VT-3	NA	6.000		File No. OS-519
	Hyd Snubber		OFD-121D-3.1				0.203		Page No. 55
Class C									Problem No. 3-03A-06
									Emergency Feedwater System
F01.050.035	3-03A-SR101PO	03A	1-0-2401A	QAL-14	VT-3	NA	6.000		File no. 0SC-513 Page72
	Hyd Snubber		OFD-121B-3.3				0.000		Prob. No. 3-03A-02
Class C									EmergencyFeedwater System
F01.050.036	3-03A-SR102PO	03A	1-0-2401A	QAL-14	VT-3	NA	6.000		File no. 0SC-513 Page71
	Hyd Snubber		OFD-121B-3.3				0.000		Prob. No. 3-03A-02
Class C									EmergencyFeedwater System
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.=
	Hyd Snubber		OFD-104A-3.1				0.000		3-56-02; Spent Fuel Cooling
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.=
	Hyd Snubber		OFD-104A-3.1				0.000		3-56-02; Spent Fuel Cooling
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.=
	Hyd Snubber		OFD-104A-3.1				0.000		3-56-02; Spent Fuel Cooling
Class C									
F01.050.040	3-56-SR116	56	1-0-2437A	QAL-14	VT-3	NA	8.000		File No OSC-563
	Hyd Snubber		OFD-104A-3.1				0.237		Page No. 93.2
Class C									Problem No. 3-56-02
									Spent Fuel Cooling

CATEGORY F-A, Supports

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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.=
	Hyd Snubber		OFD-104A-3.1				0.000		3-56-02; Spent Fuel Cooling
Class C									
F01.050.042	3-51A-SR14	51A	1-0-2444	QAL-14	VT-3	NA	4.000		File No. OSC-542
	Hyd Snubber		OFD-101A-3.3				0.000		Prob. No. 3-51-05 Page 42
Class B									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
	Hyd Snubber		OFD-122A-3.2				0.000		Prob. No. 3-01-09
Class B									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
	Hyd Snubber		OFD-122A-3.2				0.280		Prob. No. 3-01-09
Class B									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
	Hyd Snubber		OFD-122A-3.2				0.000		Prob. No. 3-01-09
Class B									Main Steam ByPass to Condenser
F01.050.046	3-53B-SR22	53B	2-0-2435B	QAL-14	VT-3	NA	14.000		File N0.= OS-549, Page 78; Problem No.= 3-53-01; L
	Hyd Snubber		OFD-102A-3.1				0.000		P Injection & Decay Heat Removal
Class B									
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.=
	Hyd Snubber		OFD-103A-3.1				0.000		3-54-01; Reactor Bld Spray
Class B									
F01.050.048	3-54A-SR7	54A	3-0-2435B	QAL-14	VT-3	NA	8.000		File No. OSC-555
	Hyd Snubber		OFD-103A-3.1				1.000		Page No. 42.1
Class B									Problem No. 3-54-02

CATEGORY F-A, Supports

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ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
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. 0SC-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. 0SC-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. 0SC-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. 0SC-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. 0SC-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									

CATEGORY F-A, Supports

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ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
F01.050.057	3-53B-SR38	53B	5-0-2435B	QAL-14	VT-3	NA	10.000		File No. OS-550
	Hyd Snubber		OFD-102A-3.2				0.000		Page No. 56
Class B									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.=
	Hyd Snubber		OFD-102A-3.2				0.000		3-53-03; System 53B
Class B									
F01.050.059	3-13-SR1	13	7-0-2400A	QAL-14	VT-3	NA	12.000		File no. OSC-523 Page 40
	Hyd Snubber		OFD-133A-3.2				0.000		Prob. No. 13-7
Class C									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
	Hyd Snubber		OFD-133A-3.2				0.000		Prob. No. 13-7
Class C									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
	Hyd Snubber		OFD-133A-3.2				0.000		Prob. No. 13-7
Class C									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.=
	Mech Snubber		OFD-121A-3.8				0.000		3-07-03; System 07A
Class C									
F01.050.063	3-03-DE001	03	0-2401A	QAL-14	VT-3	NA	24.000		File no. 0SC-512 Page136.1
	Mech Snubber		OFD-121B-3.3				0.000		Prob. No. 3-03-01
Class C									Main Feedwater System
F01.050.064	3-03-SR1	03	0-2401A	QAL-14	VT-3	NA	24.000		File no. 0SC-512 Page136.1
	Mech Snubber		OFD-121B-3.3				0.000		Prob. No. 3-03-01
Class C									Main Feedwater System

CATEGORY F-A, Supports

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ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
F01.050.065	3-03-SR10	03	0-2401A	QAL-14	VT-3	NA	24.000		File no. 0SC-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. 0SC-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. 0SC-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. 0SC-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. 0SC-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 N0. 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									

CATEGORY F-A, Supports

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

CATEGORY F-A, Supports

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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
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"

CATEGORY F-A, Supports

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ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
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. 0SC-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

CATEGORY F-A, Supports

Spring Supports & Constant Load Supports

ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
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. 0SC-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. 0SC-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. 0SC-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. 0SC-521 Page 120 Prob. No. 3-07A-01 Condensate System

CATEGORY F-A, Supports

Spring Supports & Constant Load Supports

ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
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		Calculaton 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		Calculaton 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		Calculaton 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		Calculaton 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		Calculaton 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		Calculaton 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.

CATEGORY F-A, Supports

Spring Supports & Constant Load Supports

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

Total F01.050 Items: 118

Total F01 Items: 144

CATEGORY AUG, Augmented Inspections

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

Reactor Coolant Pump Flywheel

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
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

CATEGORY AUG, Augmented Inspections

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

High Pressure Injection Nozzle Safe End

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
G02.001.005A Class A	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.
G02.001.005B Class A	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.
G02.001.005C Class A	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.
G02.001.005D Class A	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.
G02.001.006A Class A	3-PDA1-11	51A	ISI-OCN3-011 OFD-100A-3.1 OM-201-597	NDE-610	UT Make Up Nozzle, PC 46 to Safe End, PC 47	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.
G02.001.006B Class A	3-PDA2-11	51A	ISI-OCN3-012 OFD-100A-3.1 OM-201-597	NDE-610	UT Make Up Nozzle, PC 46 to Safe End, PC 47	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

ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
									with Engineering prior to scheduling the fourth interval.
G02.001.006C Class A	3-PDB1-11	51A	ISI-OCN3-013 OFD-100A-3.1 OM-201-597	NDE-610	UT HPI Nozzle, PC 46 to Safe End, PC 47	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.
G02.001.006D Class A	3-PDB2-11	51A	ISI-OCN3-014 OFD-100A-3.1 OM-201-597	NDE-610	UT HPI Nozzle, PC 46 to Safe End, PC 47	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.
G02.001.007A Class A	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.
G02.001.007B Class A	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.
G02.001.007C Class A	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

High Pressure Injection Nozzle Safe End

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
									interval. This schedule cannot be changed. Check with Engineering prior to scheduling the fourth interval.
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	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.
G02.001.008A Class A	3RC-211-56	51A	3RC-211 OFD-100A-3.1 OM-201-597	NDE-960	UT Pipe Safe End PC 47 to Pipe	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.
G02.001.008B Class A	3RC-210-24A	51A	3RC-210 OFD-100A-3.1 OM-201-597	NDE-960	UT Safe End PC 47 to Pipe	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 Safe End PC 47 to Pipe	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

High Pressure Injection Nozzle Safe End

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
									interval.
G02.001.008D Class A	3RC-213-26	51A	3RC-213 OFD-100A-3.1 OM-201-597	NDE-960	UT Safe End PC 47 to Pipe	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 Pipe to Pipe	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 Pipe to Valve 3HP-127	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 Pipe to Valve 3HP-126	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 Pipe to Valve 3HP-153	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.

CATEGORY AUG, Augmented Inspections

High Pressure Injection Nozzle Safe End

ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
G02.001.010D Class A	3RC-213-27	51A	3RC-213 OFD-100A-3.1 OM-201-597	NDE-960	UT Pipe to Valve 3HP-152	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.
G02.001.011A Class A	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.
G02.001.011B Class A	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.
G02.001.011C Class A	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.
G02.001.011D Class A	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.

CATEGORY AUG, Augmented Inspections

High Pressure Injection Nozzle Safe End

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**							

CATEGORY AUG, Augmented Inspections

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

Circumferential Pipe Welds With A Nom. Wall Thk. < 3/8" 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
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		OM-201-286		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

Total G09 Items: 4

CATEGORY AUG, Augmented Inspections

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

Class 1 RTE Mounting Bosses

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
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
	Branch		OFD-100A-3.1				2.875		
Class A					Nozzle RTE Nozzle to				
	Dissimilar				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
	Branch		OFD-100A-3.1				2.875		
Class A					Nozzle RTE Nozzle to				
	Dissimilar				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
	Branch		OFD-100A-3.1				2.875		
Class A					Nozzle RTE Nozzle to				
	Dissimilar				Pipe A Hot Leg Z W-axis				

Total G10.001 Items: 3

Total G10 Items: 3

CATEGORY AUG, Augmented Inspections

Reactor Coolant Pump 3A2 and 3B1 Alternate Examination

ITEM NUMBER	ID NUMBER	SYS	ISO/DWG NUMBERS	PROC	INSP REQ	MAT/SCH	DIA/THK	CAL BLOCKS	COMMENTS
G11.001.001 Class A	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 degredation. See 2nd interval request for relief ONS-010.(Note: when item# B06.190.002 is inspected then this inspection will not be required.
G11.001.002 Class A	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 degredation. See 2nd interval request for relief ONS-010.(Note: when item# B06.190.003 is inspected then this inspection will not be required.

Total G11.001 Items: 2

Total G11 Items: 2

CATEGORY AUG, Augmented Inspections

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

HPI System Upgrade

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
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)	=	Y Yes N No
RFR	=	Request for Relief Required
Comments	=	General and/or Detail Description

DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
In-Service Inspection Database Management System
Oconee 3 Inservice Inspection Listing
Interval 3 Outage 3

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 degredation.
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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ITEM NUMBER	ID NUMBER	SYSTEM	INSP DATE	INSP STATUS	INSP LIMITED	GEO REF	RFR	COMMENTS
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 boundry. 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

ITEM NUMBER	ID NUMBER	SYSTEM	INSP DATE	INSP STATUS	INSP LIMITED	GEO REF	RFR	COMMENTS
								and the support was found to be acceptable for service.
F01.020.046	3-51B-H14	51B	08/11/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service. Work Order 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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								Order 98052416 was written to correct problems.
F01.050.008	3-50-H3A	50	10/25/1998	REC	---	N	N	Discrepancies that were found were reviewed by civil engineering and the support was found to be acceptable for service.
F01.050.009	3-51A-H2A	51A	10/14/1998	CLR	---	N	N	
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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								and the support was found to be acceptable for service.
F01.050.033	3-03A-SR104PO	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. 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	Piston setting acceptable per sect. 9.2 of spec.
F01.050.036	3-03A-SR102PO	03A	07/30/1998	CLR	---	N	N	
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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								and the support was found to be acceptable for service.
F01.050.054	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. Work Order 98103481 was written to correct problems.
F01.050.055	3-53B-SR32	53B	10/31/1998	CLR	---	N	N	
F01.050.056	3-53B-SR33	53B	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.
F01.050.057	3-53B-SR38	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.
F01.050.058	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 # 98052431 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	
F01.050.064	3-03-SR1	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. Work Order 98103870 was written to correct problems.
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	
F01.050.067	3-03-SR2	03	07/22/1998	CLR	---	N	N	Piston setting acceptable per sect. 9.2 of OS-0027.00-00-0002.
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	
F01.050.070	3-03A-DE053	03A	07/22/1998	REC	---	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.
F01.050.071	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.

DUKE ENERGY CORPORATION
QUALITY ASSURANCE TECHNICAL SERVICES
In-Service Inspection Database Management System
Oconee 3 Inservice Inspection Listing
Interval 3 Outage 3

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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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								the nozzle bore. There was no change on the thru-wall depth reported on the previous inspection.
G02.001.005B	3-PDA2-46	51A	10/25/1998	CLR	---	N	N	
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

Item Number	***Request for Relief Serial Number***
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

Duke Energy.

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.

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
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ELL EC050
M. B. Chapman
J. C. Shropshire

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. Coleman. Date: 12, 1, 1998.

ANII Review: MBC. 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

Prepared by:
Structural Integrity Associates, Inc.
San Jose, California

Prepared by: _____ Date: 11/24/98
N. G. Cofie

Reviewed by: _____ Date: 11/24/98
R. L. Bax

Reviewed by: _____ Date: 11/24/98
A. J. Giannuzzi

Approved by: _____ Date: 11/24/98
N. G. Cofie

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

Section	Pages	Revision	Date	Comments
-	-	A	7/20/98	Draft
1.0	1-1 – 1-3	0	11/24/98	Initial Issue
2.0	2-1			
3.0	3-1 – 3-2			
4.0	4-1 – 4-40			
5.0	5-1			
6.0	6-1 – 6-3			
Appendix A	A-0 – A-1			

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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.

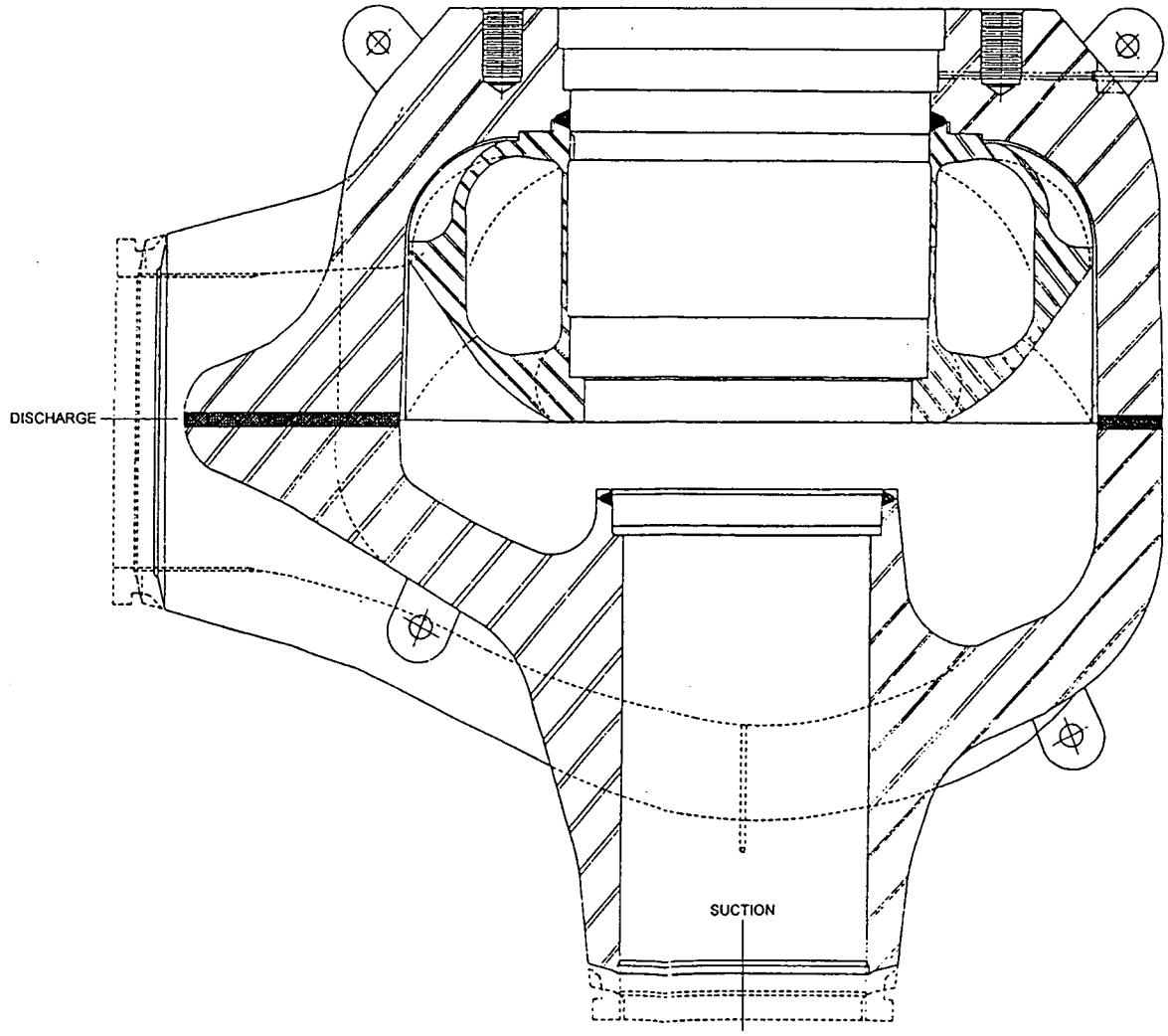


Figure 1-1. Oconee Unit 3 Reactor Coolant Pump Assembly

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]:

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

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

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:

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

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:

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

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

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

And for steels with >10% Ni by

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

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

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

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:

$$J_d = C\,[Cv_{sat}]^m [\Delta a]^n \tag{4-8}$$

where: J_d is the deformation J-Integral (kJ/m^2) 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]:

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

In English units, the J-R curve (units of J in in-kips/in^2 and Δa in inches) is given by:

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

The value of n at room temperature is given by:

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

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

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

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

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

The corresponding equations for CF8 cast stainless steel is given by

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

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

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

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

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

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

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

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

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

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

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

$$J_d = C\,[\Delta a]^n \tag{4-15}$$

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:

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

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

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:

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

where E is the elastic modulus (equals 25.5 x 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/in^2. This minimum value of 1043.4 in-lb/in^2 translates into a K_{Ic} value of 171.0 ksi $\sqrt{in}$ 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/in^2 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/in^2. Values of 990 and 650 in-lb/in^2 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 $\sqrt{in}$. 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-ft^2-°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-ft^2-°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 ksi $\sqrt{in}$. 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 ($T \leq 800°F$). 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_o was calculated as 1.84×10^{-10} for an air environment. A value of C_o 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/cm²) [Polynomial]	61.5	58.3	70.3	118.1
Cv_{sat} (J/cm²) [Φ]	66.5	73.0	111.7	162.7
Minimum Cv_{sat} (J/cm²)	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/in²)	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
Cr_{eq}	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/cm²) [Polynomial]	141.8	106.9	122.3	143.9	204.8	45.0
Cv_{sat} (J/cm²) [Φ]	99.0	85.3	99.4	107.1	412.5	24.8
Minimum Cv_{sat} (J/cm²)	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_{1c} (in-lb/in²)	1347.3	1252.3	1350.4	1401.0	1954.1	706.2
K_{1c} (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/cm²) [Polynomial]	265.7	178.7	104.3	71.3	263.7	65.2
Cv_{sat} (J/cm²) [Φ]	558.2	358.8	94.7	68.4	982.4	33.3
Minimum Cv_{sat} (J/cm²)	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_{Ic} (in-lb/in²)	2246.8	1818.7	1318.6	1126.1	2237.9	805.8
K_{Ic} (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/cm²) [Polynomial]	51.4	119.9	85.0	103.1	72.3
Cv_{sat} (J/cm²) [Φ]	42.0	94.5	38.2	80.4	56.9
Minimum Cv_{sat} (J/cm²)	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_{1c} (in-lb/in²)	895.7	1317.2	857.3	1217.2	1032.0
K_{1c} (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 $\sqrt{in}$)					
	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 $\sqrt{in}$)					
	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 $\sqrt{in}$)					
	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 $\sqrt{in}$)					
	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

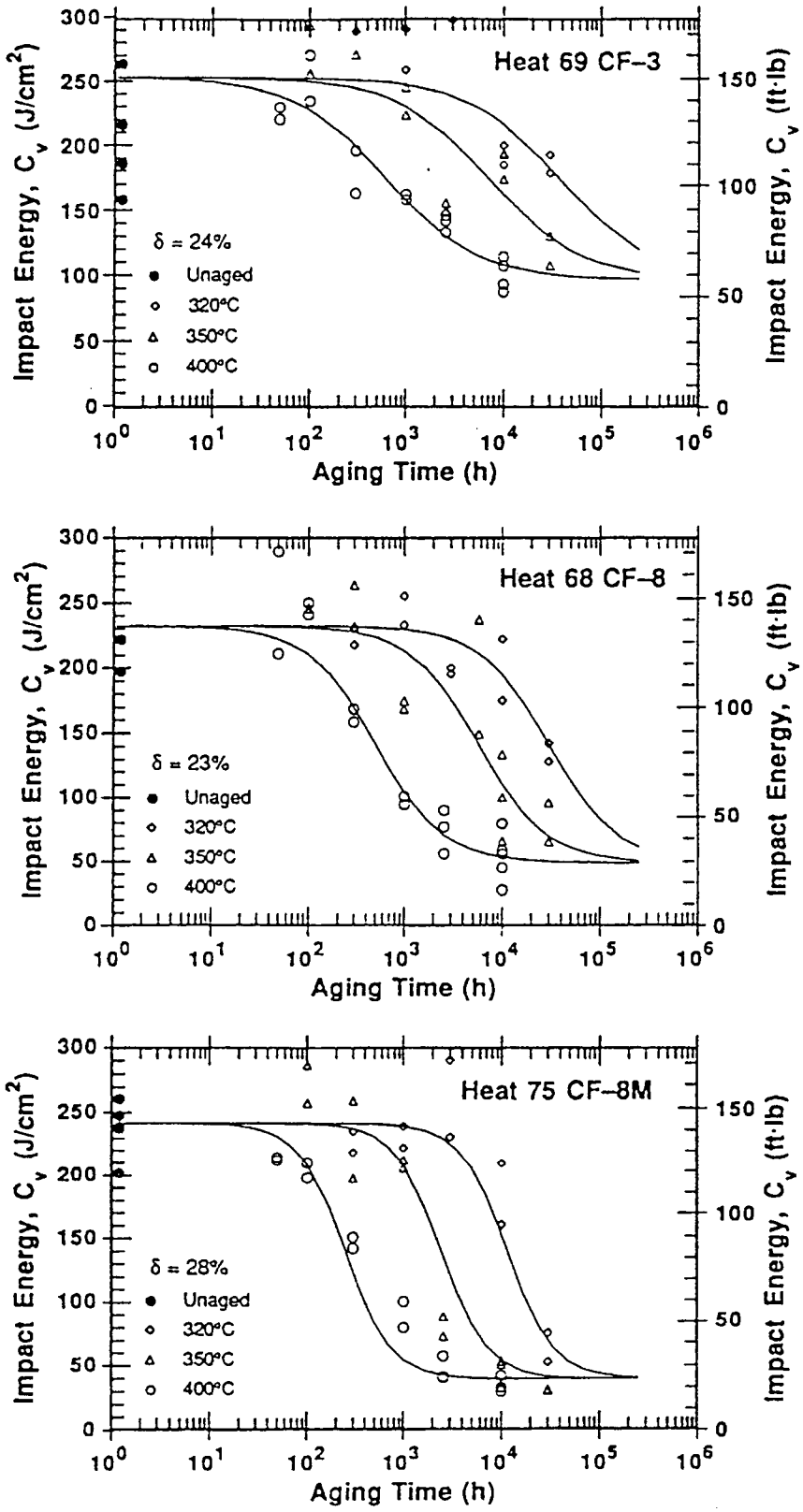


Figure 4-1. Effect of Thermal Aging on Room Temperature Impact Energy of CF3, CF8 and CF8M Cast Stainless Steel [10]

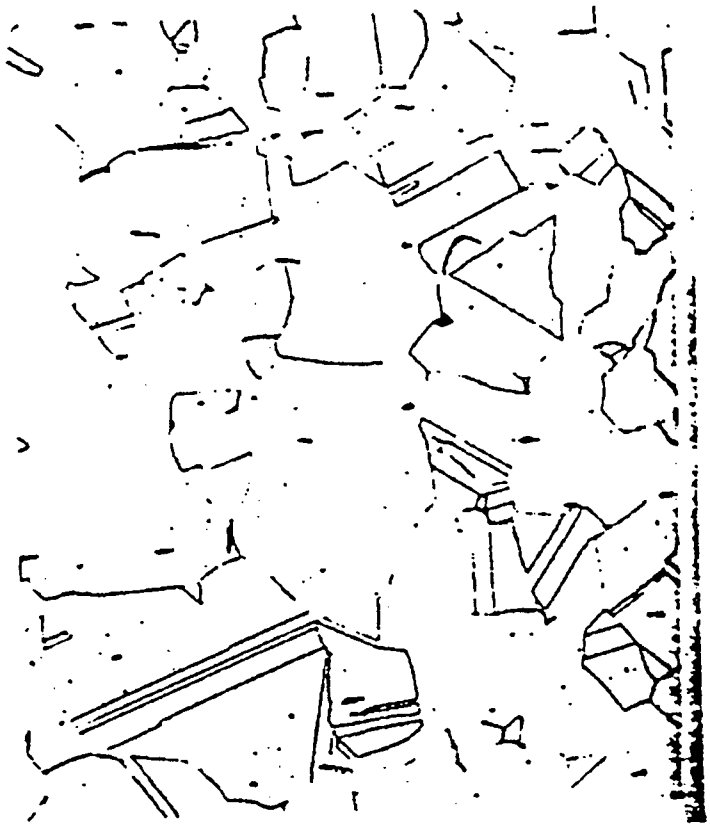


Figure 4-2. Microstructure of Solution Heat Treated Wrought Type 316 Stainless Steel

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

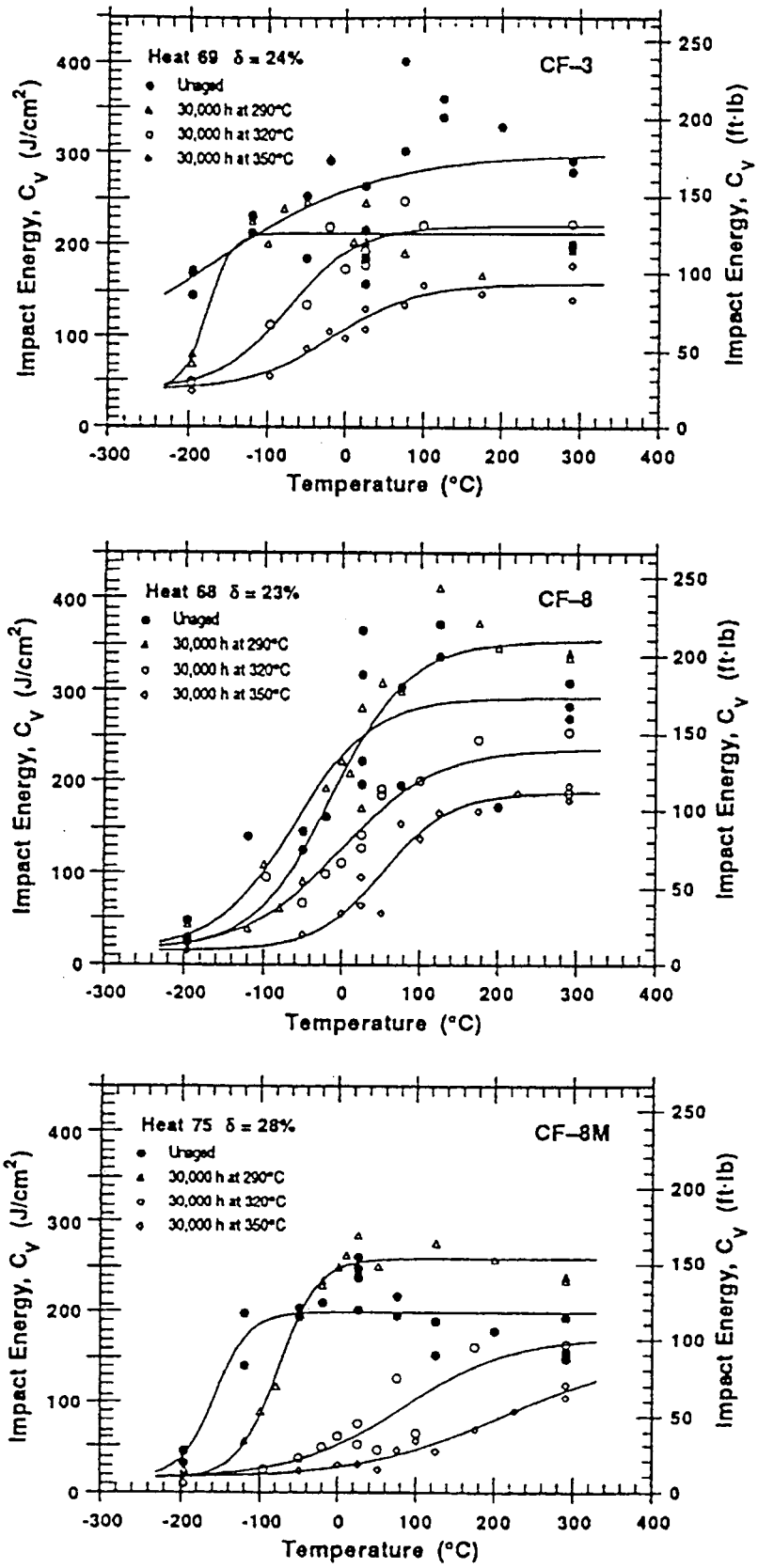


Figure 4-4. Effect of Temperature on Charpy Transition Curves of CF3, CF8 and CF8M Steels Aged for 30,000 hours [10]

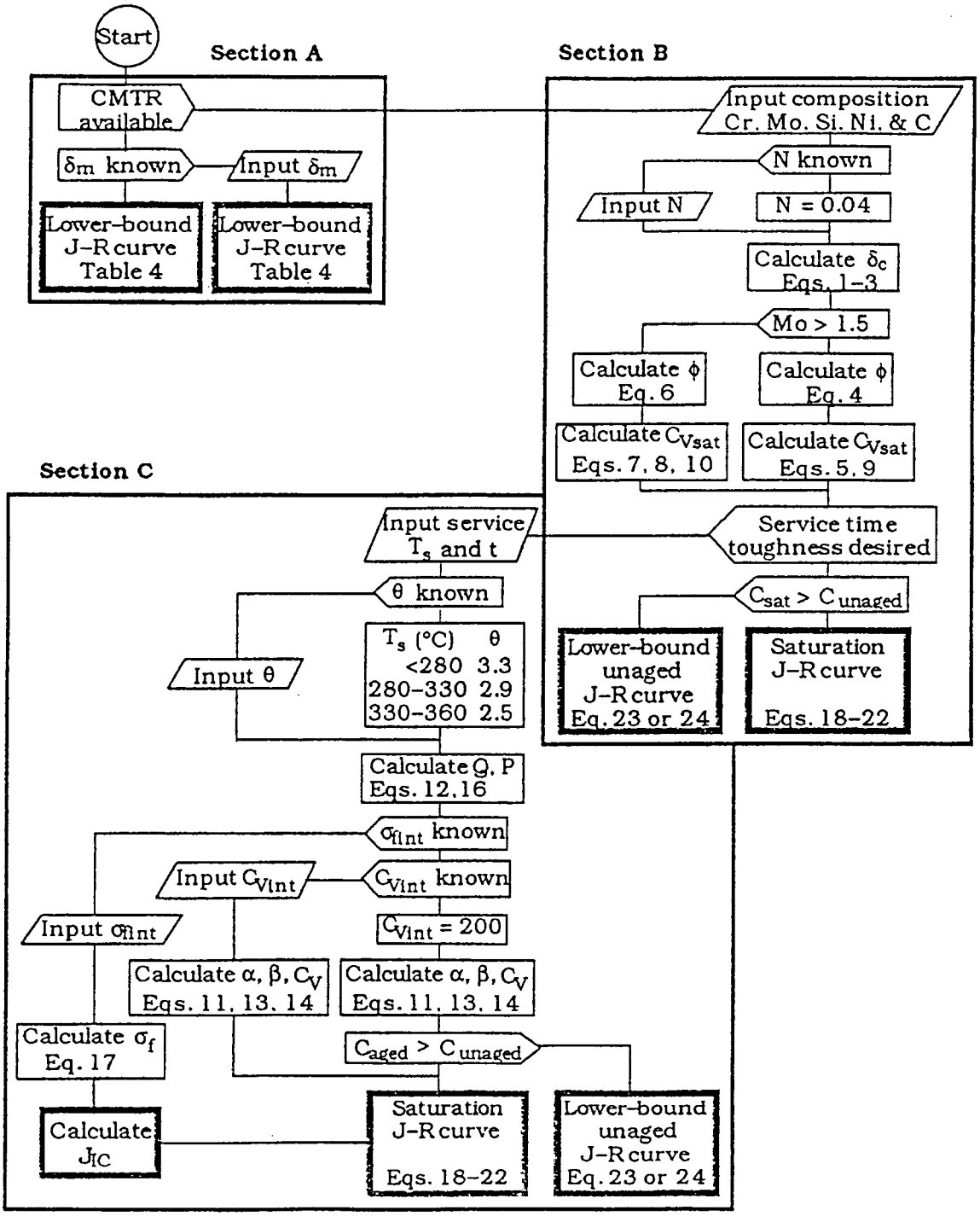


Figure 4-5. Flow Diagram for Estimating Mechanical Properties of Aged Cast Stainless Steels in LWR Systems [16]

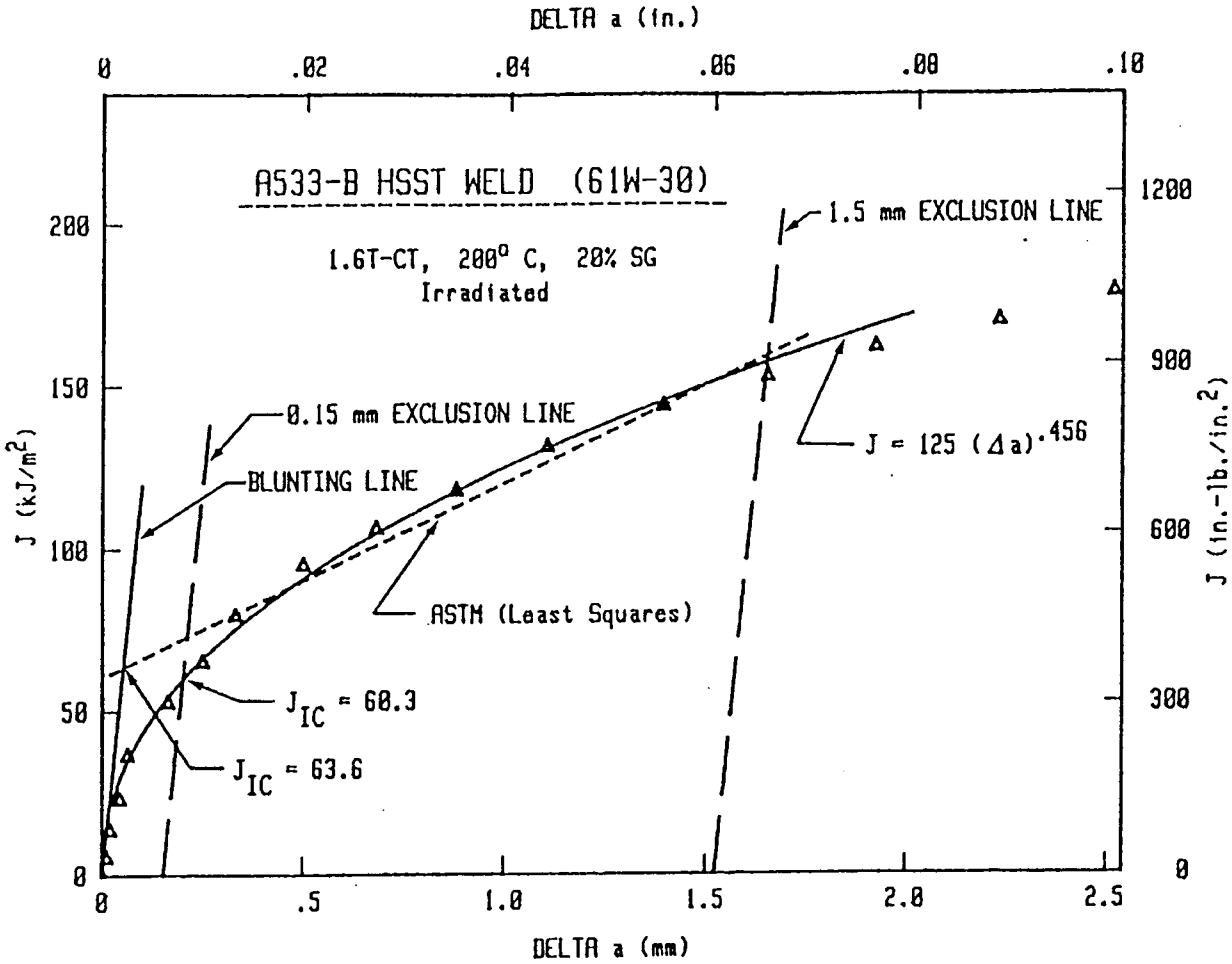


Figure 4-6. Example of a Typical J-R Curve and Determination of J_{Ic} Using the ASTM E 813-81 Methodology [9]

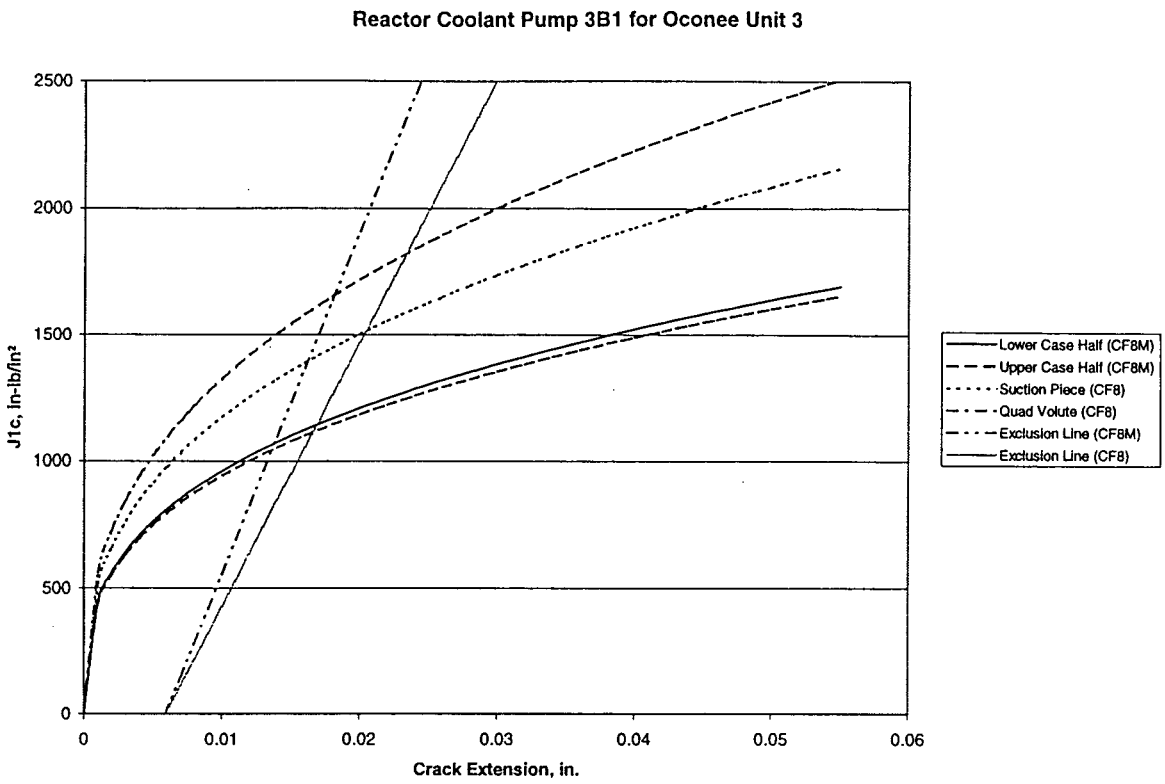


Figure 4-7. Determination of J_{Ic} for Oconee Unit 3 Reactor Coolant Pump 3B1 Casing

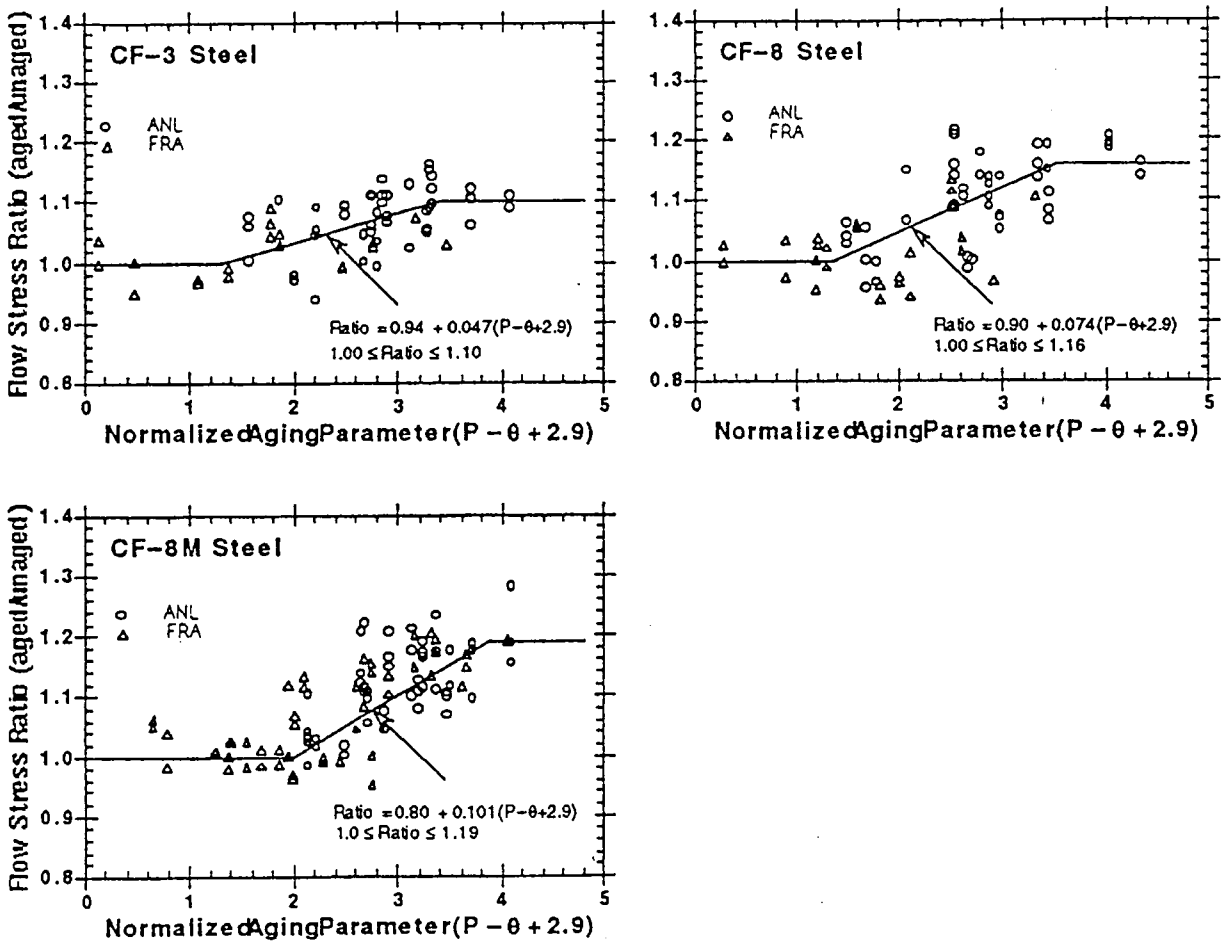


Figure 4-8. Flow Stress Ratio of Aged Cast Stainless Steels at Room Temperature as a Function of Normalized Aging Parameter [16]

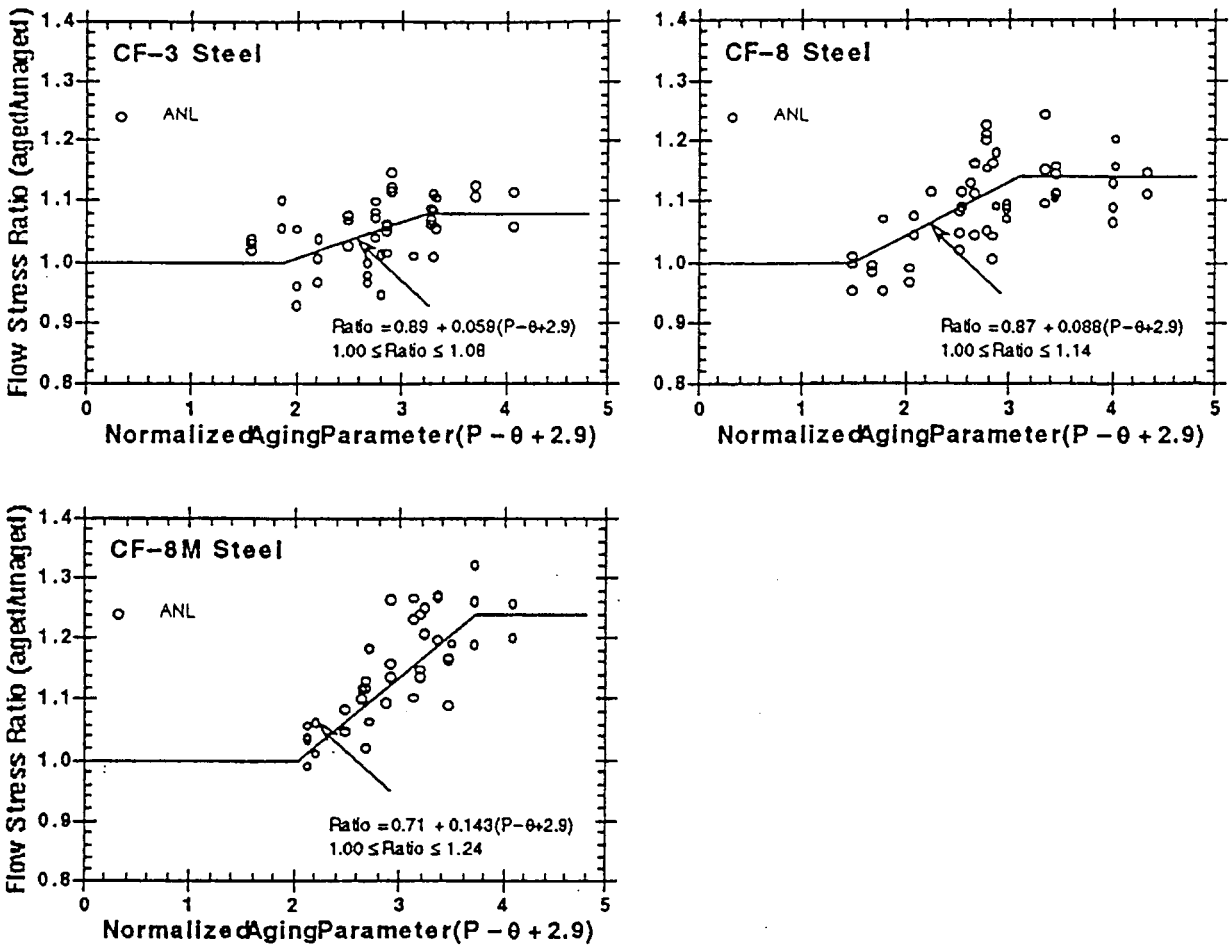


Figure 4-9. Flow Stress Ratio of Aged Cast Stainless Steels at 290°C as a Function of Normalized Aging Parameter [16]

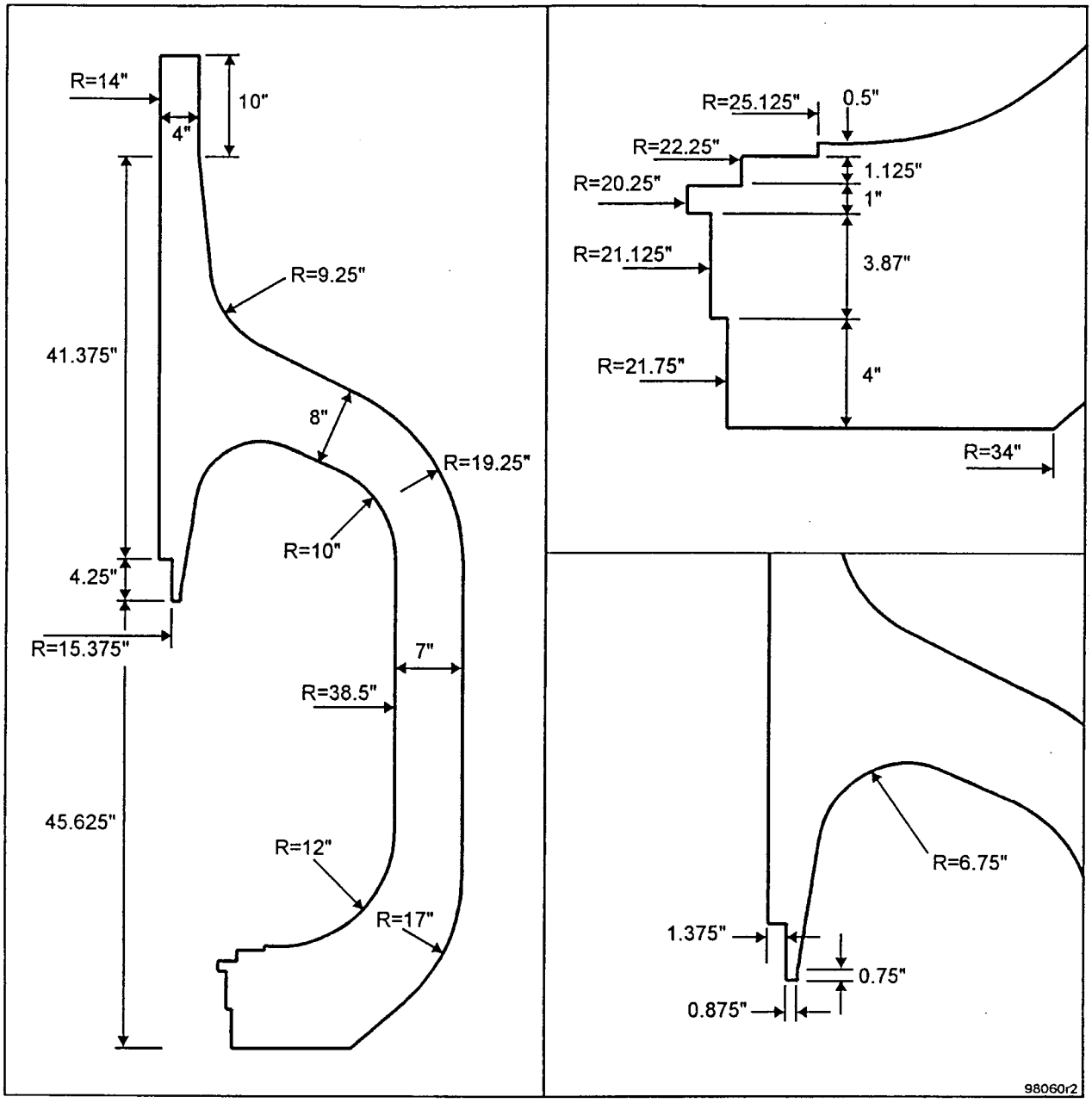


Figure 4-10. Dimensions Used for Finite Element Model for Oconee Unit 3 Pump Casing 3B1

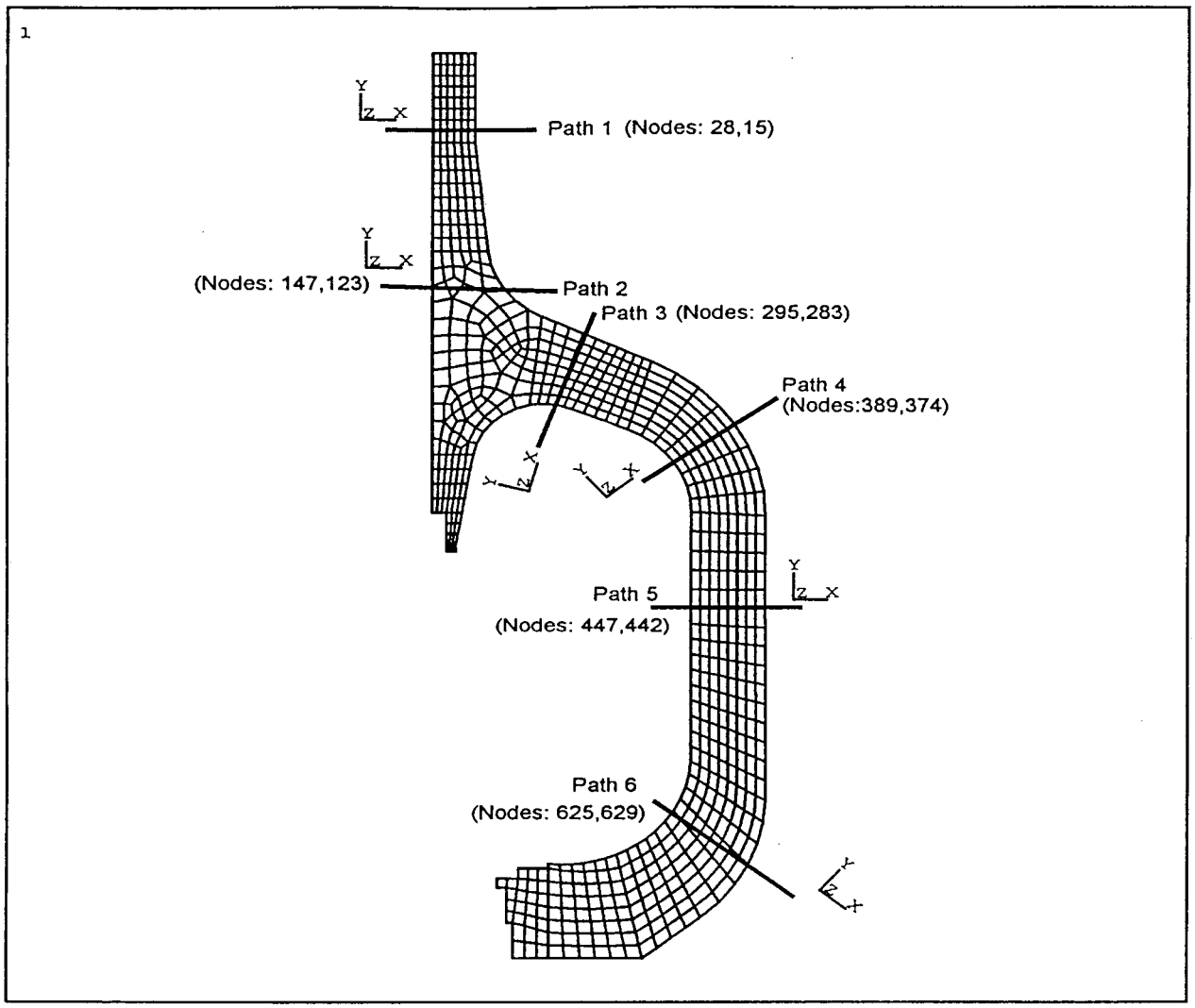


Figure 4-11. Overall Finite Element Model for Oconee Unit 3 Pump Casing 3B1

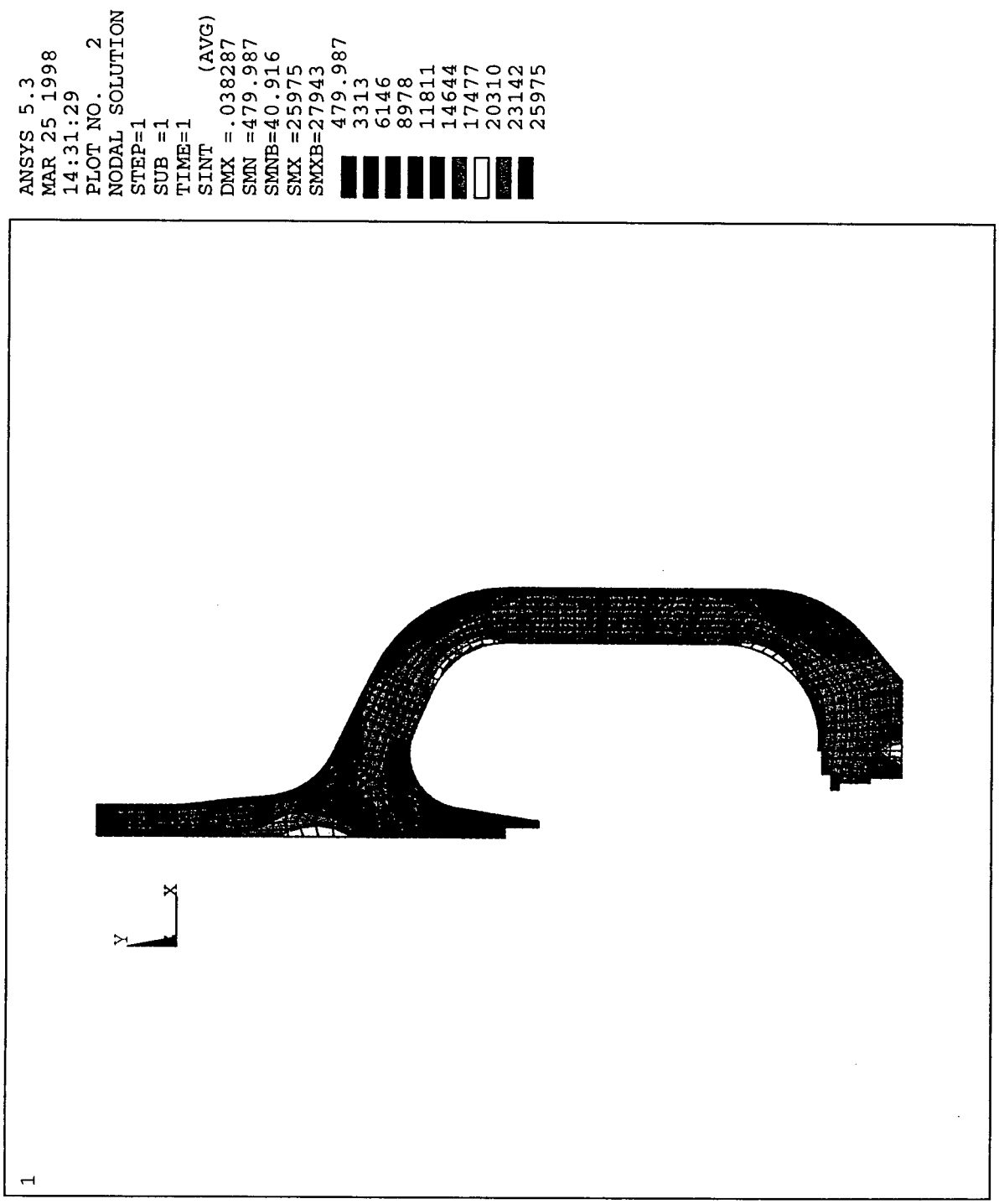


Figure 4-12. Stress Distribution Due to Internal Pressure of 2500 psig

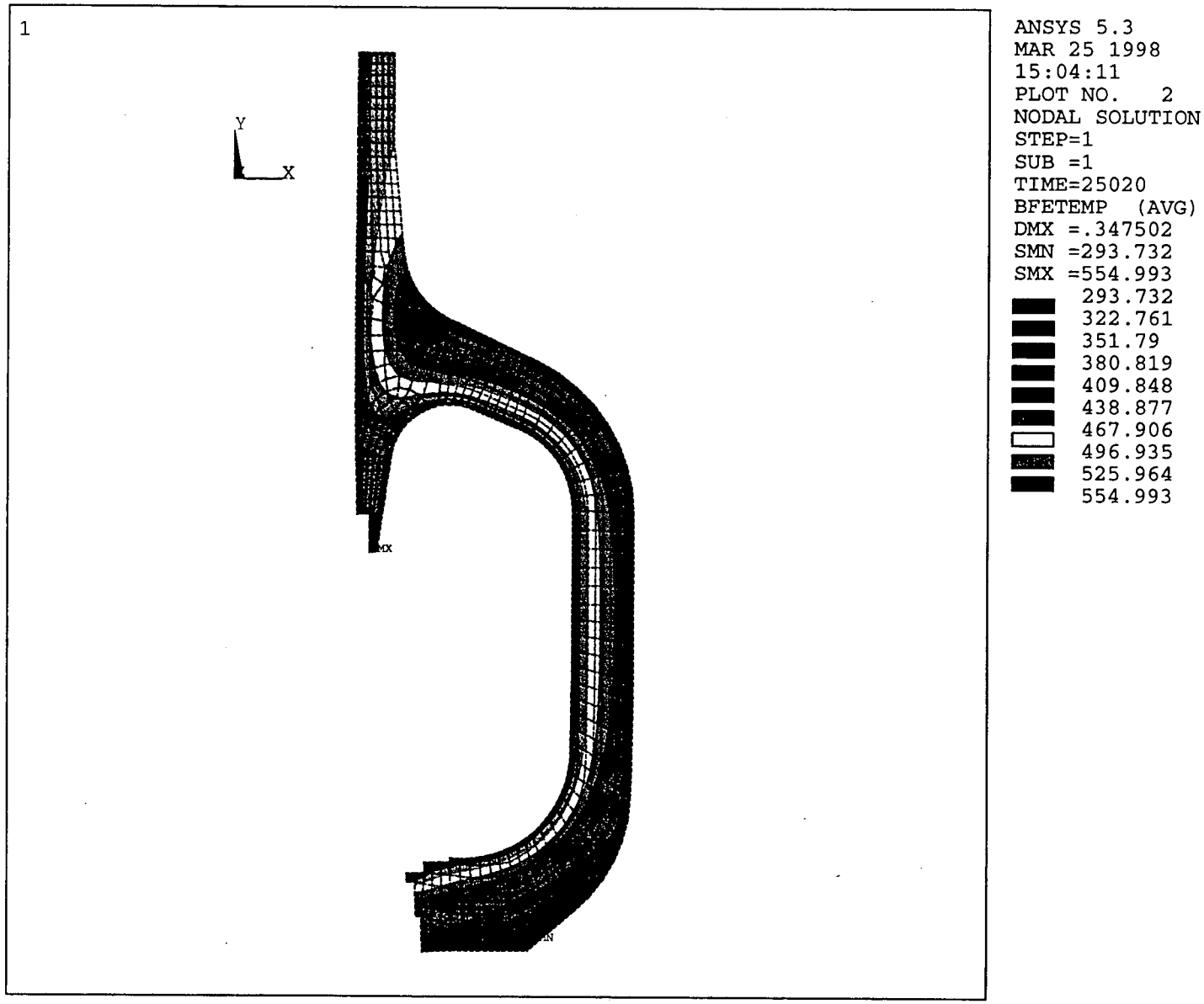


Figure 4-13. Temperature Distribution at End of Heatup

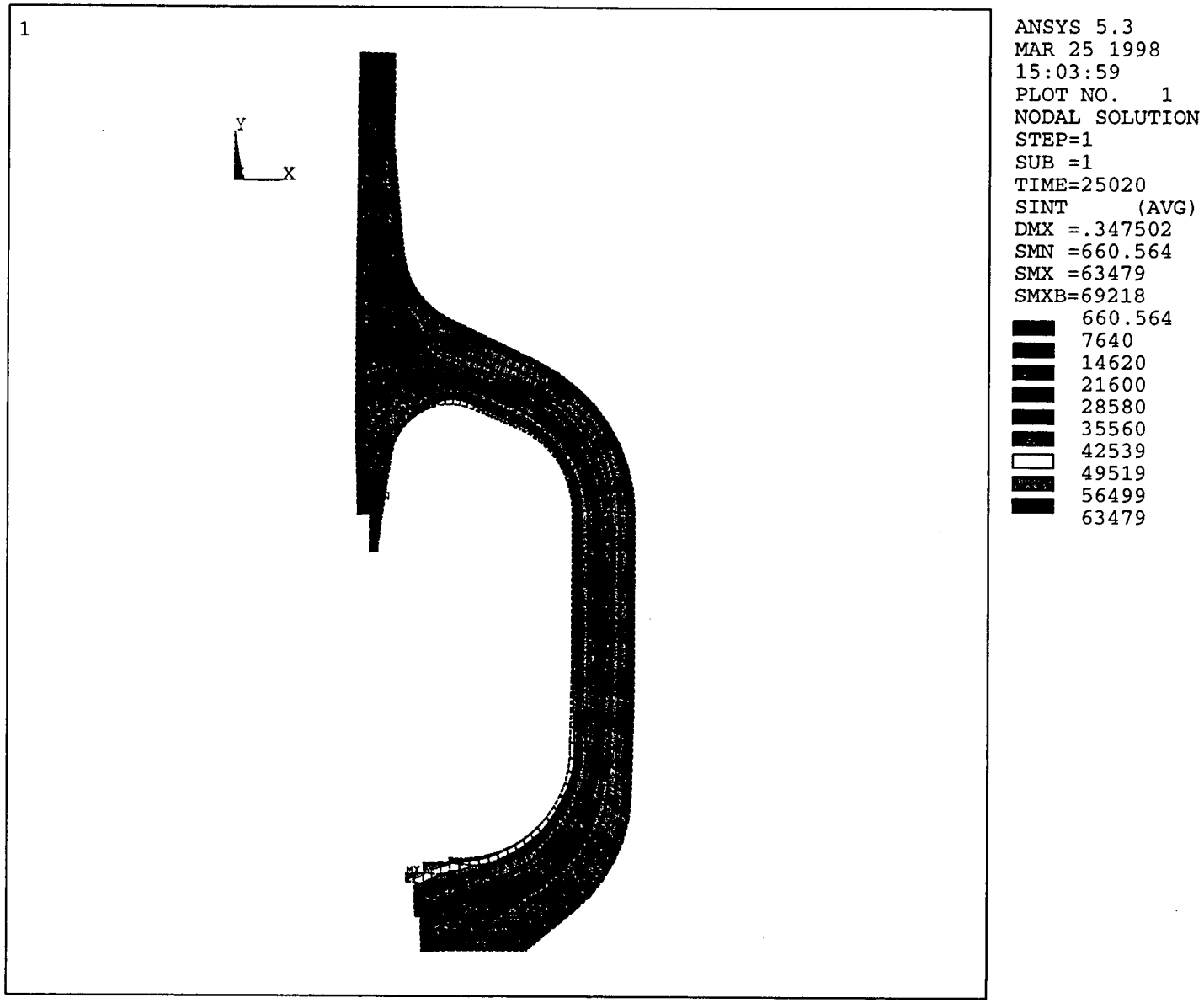


Figure 4-14. Stress Distribution at the End of Heatup

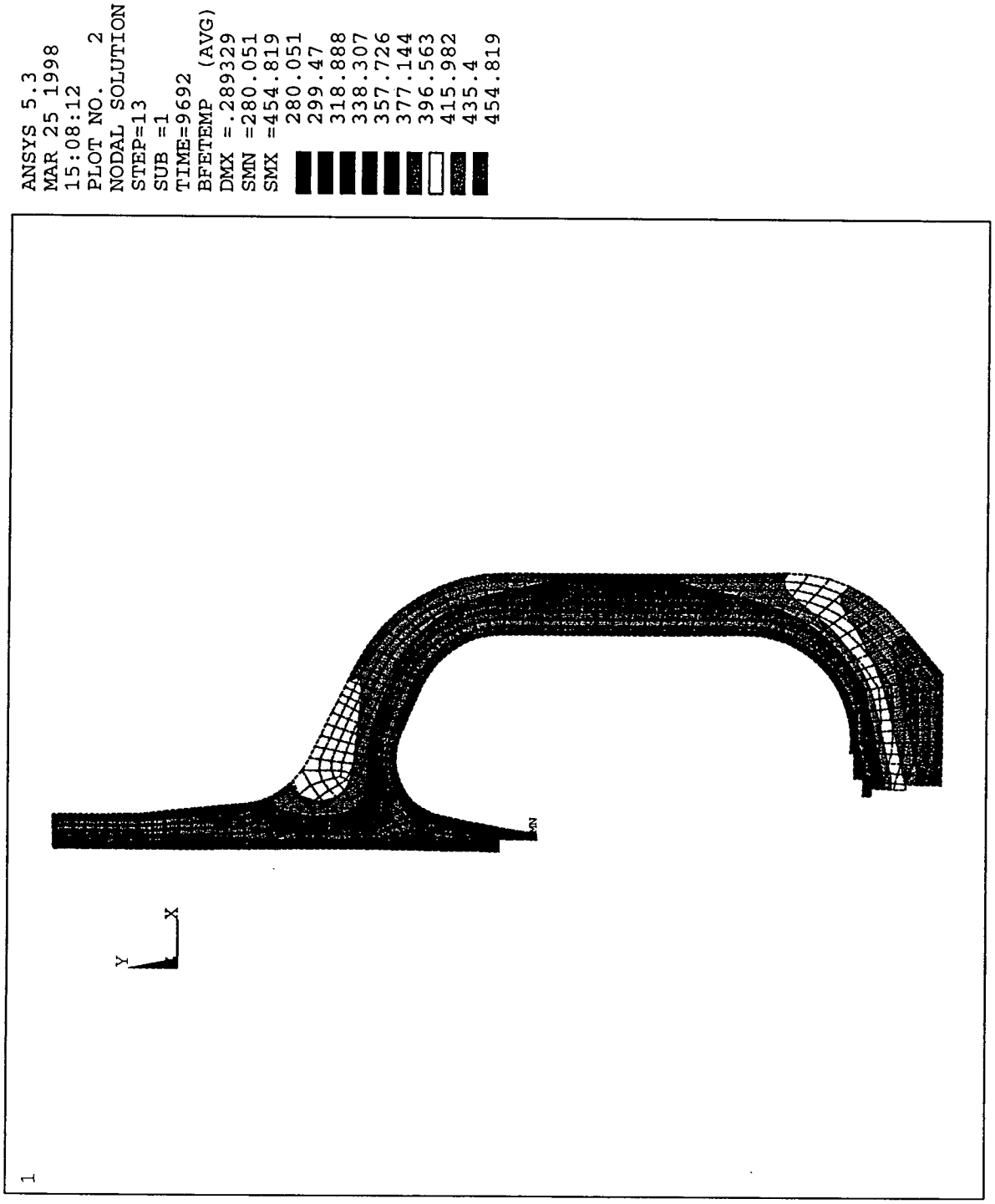


Figure 4-15. Temperature Distribution at Time = 9692 Seconds of Cooldown

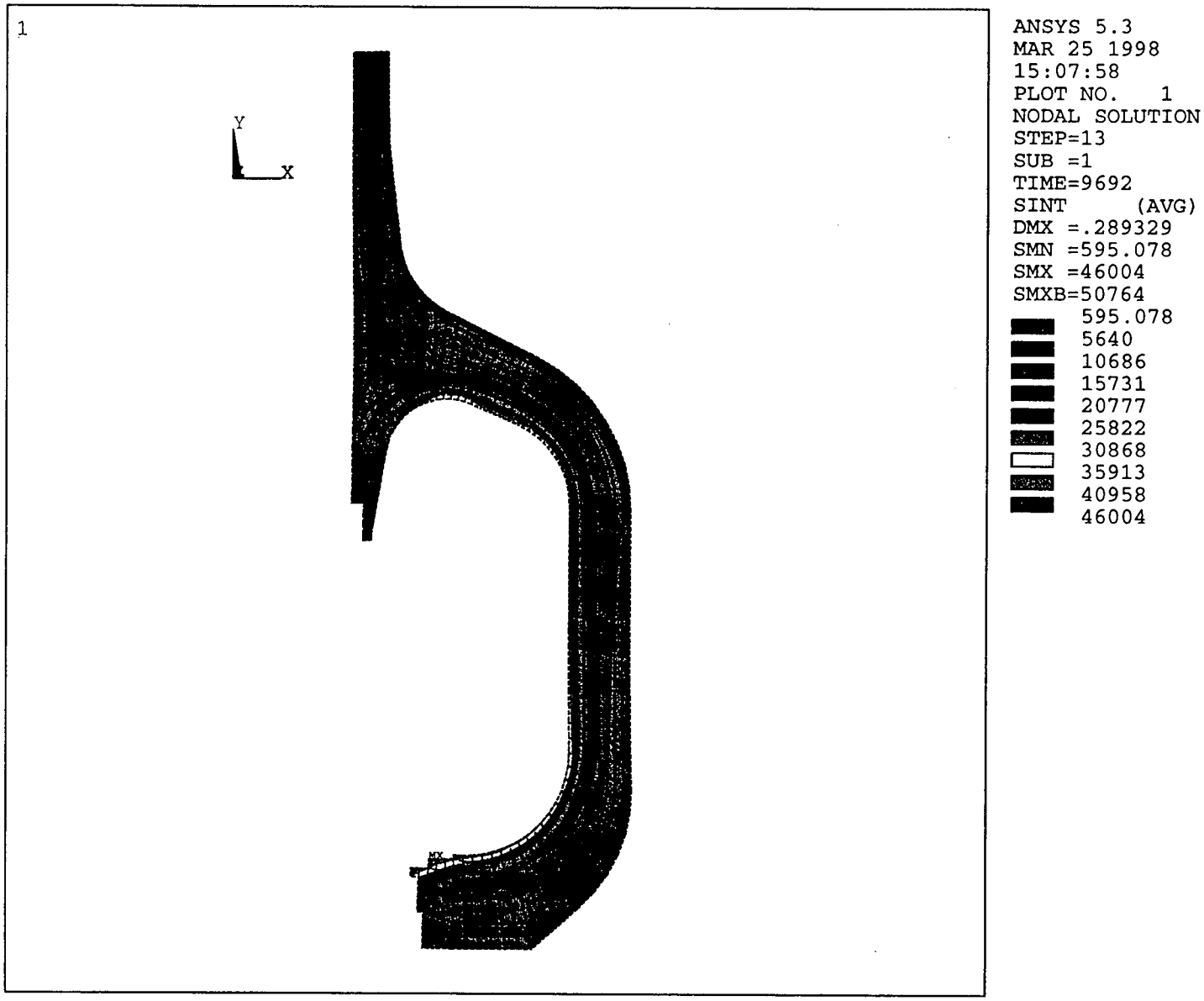
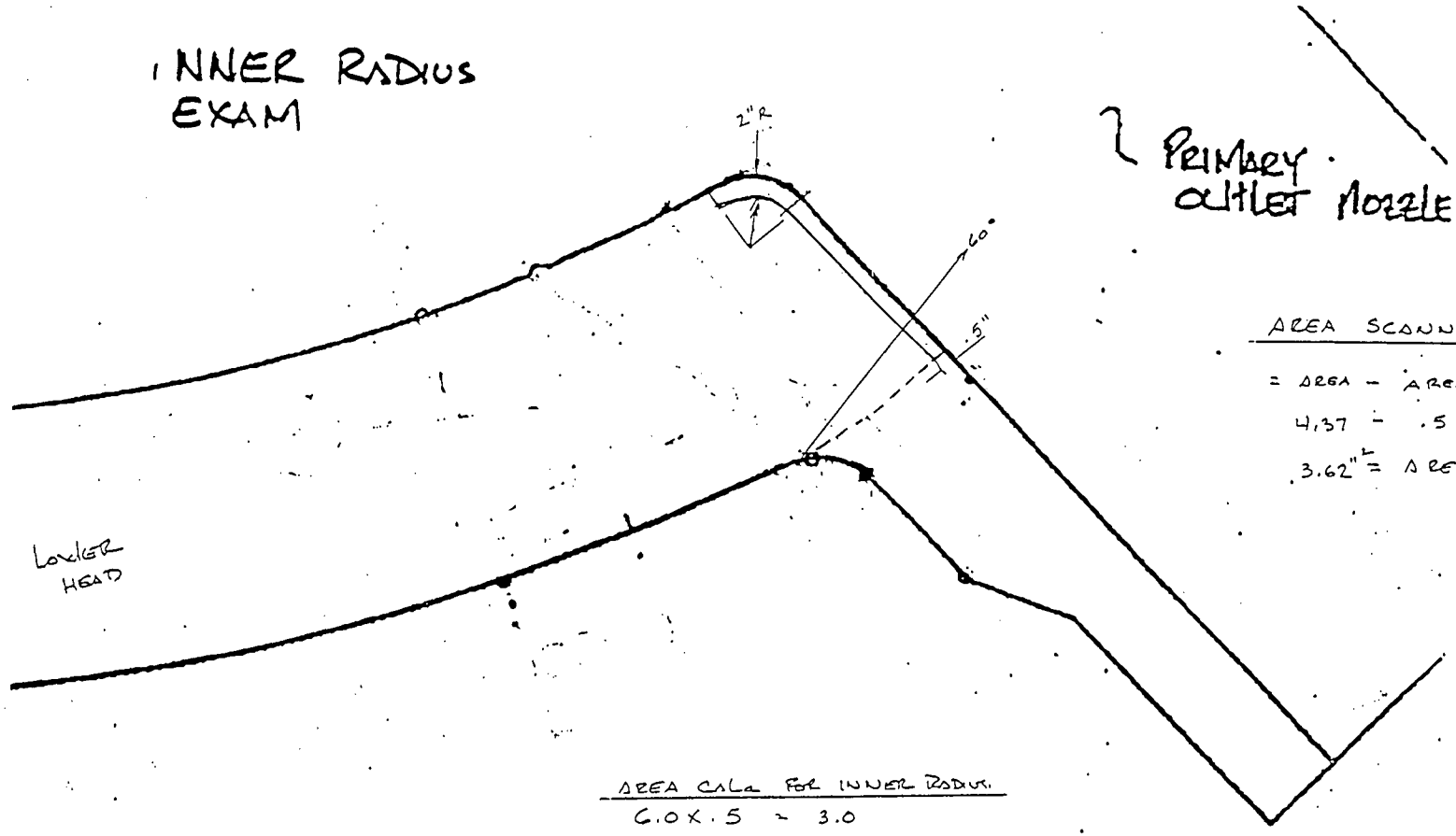


Figure 4-16. Stress Distribution Time = 9692 Seconds of Cooldown

INNER RADIUS EXAM



AREA SCANNED.

= AREA − AREA MISSED.

4.37 − .5 x 1.5

3.62" = AREA SCANNED.

AREA CALC FOR INNER RADIUS.

6.0 x .5 = 3.0

$\frac{\pi \times 2^2}{4} - \frac{\pi \times 1.5^2}{4} = 1.37$ sq in

total 4.37 sq in

TITLE: INNER RADIUS AREA CALC.

ITEM #: B03.140:003

PAGE 4 of 4

BY: [signature] LEVEL III

DATE: 11.21.95

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
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
Revision 1

Component/Weld ID: 3-SGB-WG50-2 | Item No: B03.140.003 | Remarks:

	SURFACE	BEAM DIRECTION	Remarks
☒ NO SCAN ☐ LIMITED SCAN	☐ 1 ☒ 2	☒ 1 ☐ 2 ☒ cw ☒ ccw	Due to Nozzle Configuration
FROM L _____ to L _____		INCHES FROM WO C/L to Beyond	
ANGLE: ☒ 0 ☒ 45 ☒ 60 ☐ Other _____		FROM 0 DEG to 360 DEG	
☐ NO SCAN ☒ LIMITED SCAN	☒ 1 ☐ 2	☐ 1 ☒ 2 ☒ cw ☒ ccw	Due to Support Skirt
FROM L 96" to L 24"		INCHES FROM WO C/L to 11"	
ANGLE: ☒ 0 ☒ 45 ☒ 60 ☐ Other _____		FROM ____ DEG to ____ DEG	
☐ NO SCAN ☐ 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 ☐ LIMITED SCAN	☐ 1 ☐ 2	☐ 1 ☐ 2 ☐ cw ☐ ccw	
FROM L _____ to L _____		INCHES FROM WO _____ to _____	
ANGLE: ☐ 0 ☐ 45 ☐ 60 ☐ Other _____		FROM ____ DEG to ____	

Prepared By: Larry Mauldin Level: III Date: 11/7/98 | Sketch(s) attached ☒ yes ☐ no | Sheet 2 of 4

Reviewed By: Jay A Eaton Date: 11/16/98 | Authorized Inspector: MBC Date: 11-25-98

DUKE POWER COMPANY

ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS

Exam Start: 0943	Form NDE-UT-2A	
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

Examiner: Larry Mauldin Level: III

Procedure: NDE-680 Rev: 1

FC: N/A

Calibration Sheet No: 9803092, 9803093

Scans:

45 ☐ ____ dB 70 ☐ ____ dB

45T ☐ ____ dB 70T ☒ 82 dB

60 ☐ ____ dB

60T ☒ 69 dB

Other: ____ dB

Pyrometer S/N: MCNDE 27017

Cal Due: 2/12/99

Configuration: Inner Radius

N/A Flow N/A

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
		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°														
NRI	70°														

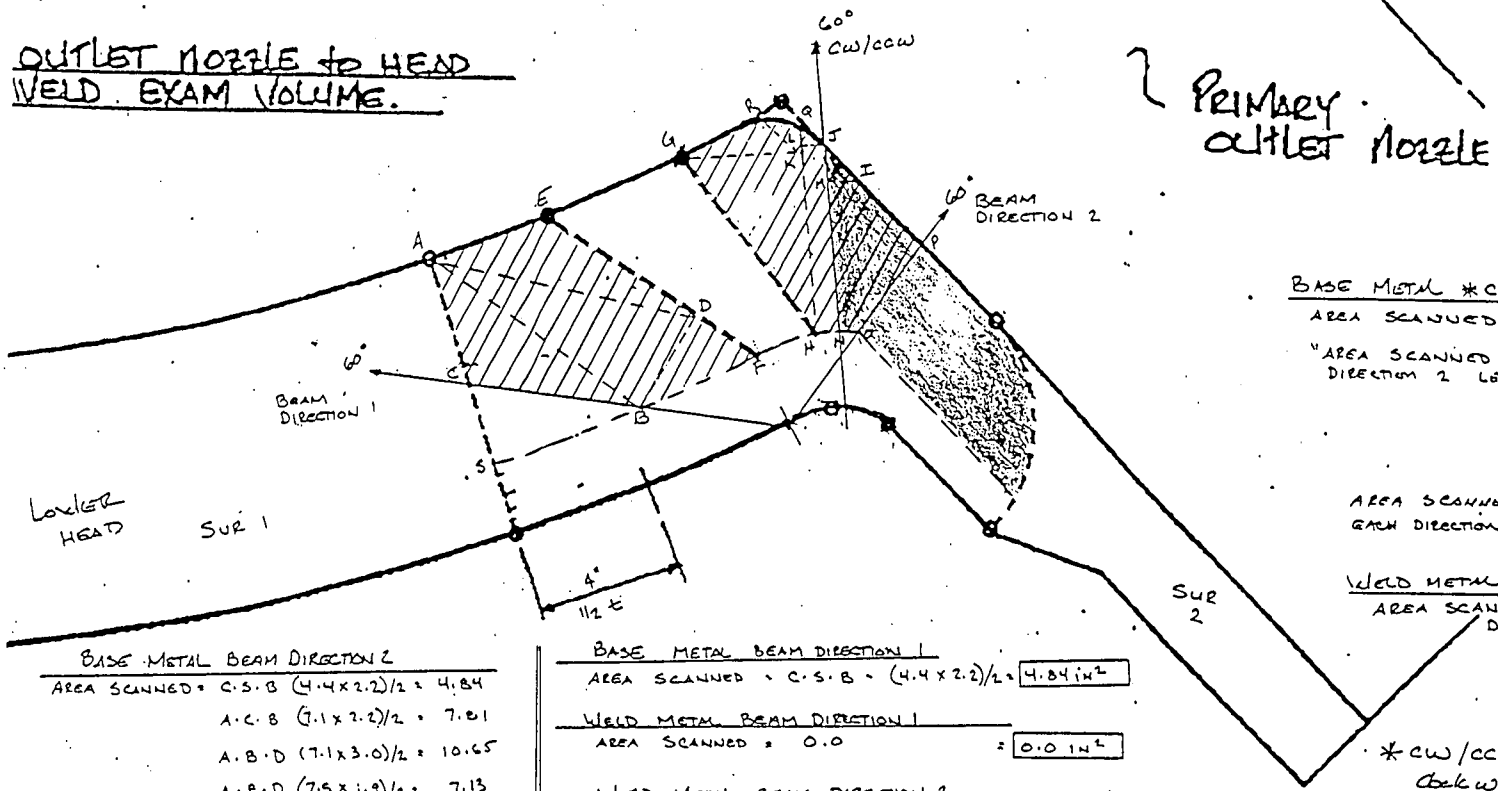
Remarks:

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

Sheet 1 of 4

Reviewed By:	Level:	Date:	Authorized Inspector:	Date:	Item No:
Jay A Eaton	II	11/16/98	MBC	11-25-98	B03.140.003

OUTLET NOZZLE to HEAD WELD EXAM VOLUME.



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·E·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·Q (1.5 x .6)/2 = .45
Q·L·J (.6 x .7)/2 = .21
L·J·H·N (.6 x 5.1) = 1.53
G·K·H (5.0 x 3.5)/2 = 8.75
M·I·N·O .70 x 4.2 = 2.94

BASE METAL BEAM DIRECTION 1

AREA SCANNED = C·S·B = (4.4 x 2.2)/2 = 4.84 IN²

WELD METAL BEAM DIRECTION 1

AREA SCANNED = 0.0 = 0.0 IN²

WELD METAL BEAM DIRECTION 2

AREA SCANNED = 17.33 17.33 IN²

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 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
EACH DIRECTION = 46.02 SQ IN

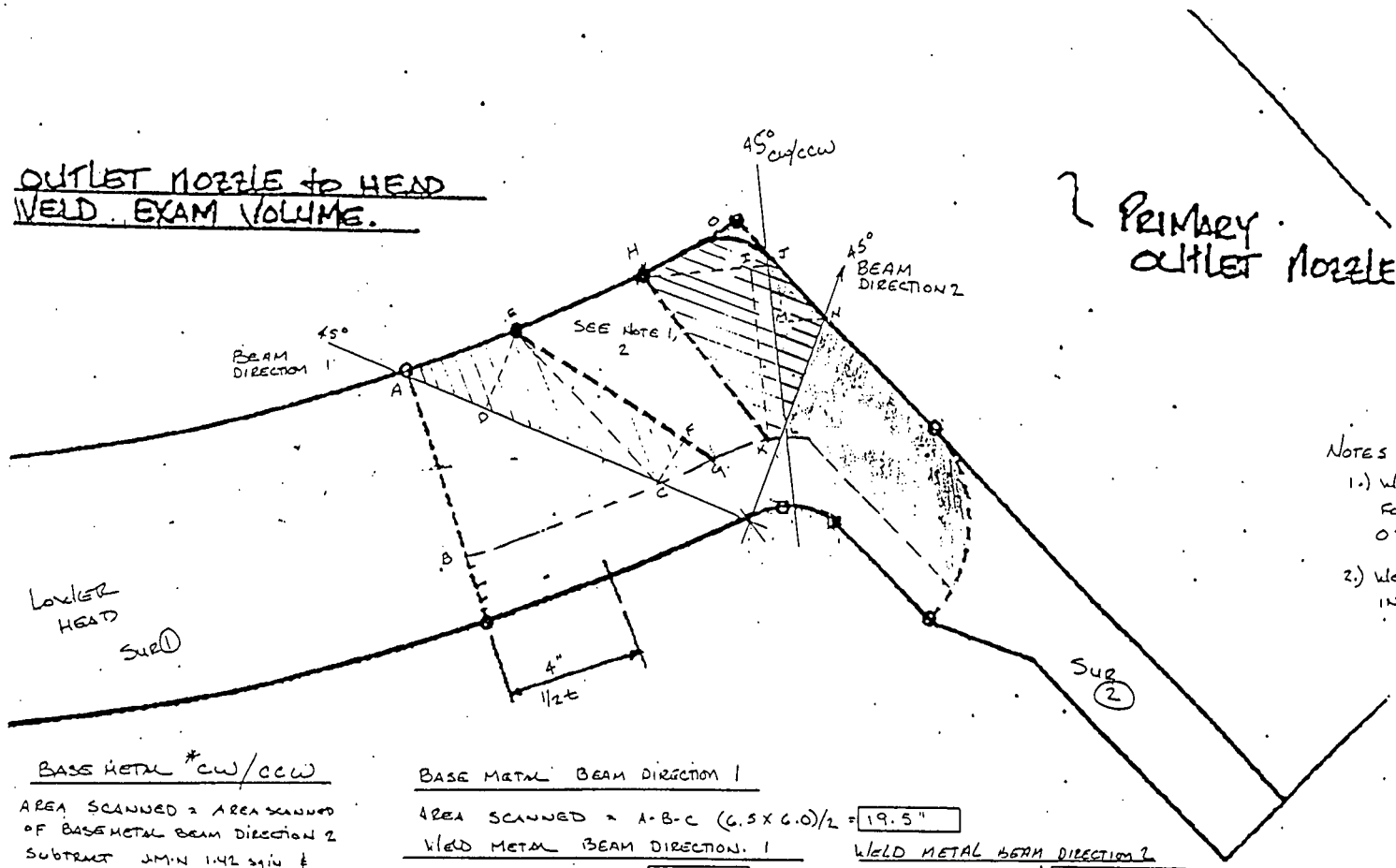
WELD METAL * CW/CCW

AREA SCANNED = 17.33 IN² EACH DIRECTION CW & CCW

* CW/CCW = CIRC SCAN Clockwise & Counter Clockwise

TITLE: 60° BASE & WELD METAL AREA CALC
ITEM*: B03.130.004
PAGE 11 of 11
BY: James W Stigen 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 RECIEVED 100% IN CW & CCW DIRECTIONS

BASE METAL *CW/CCW

AREA SCANNED = AREA SCANNED OF BASE METAL BEAM DIRECTION 2 SUBTRACT J-M-N 1.42 sq in & M-N-L 2.25 sq in

3.67 ±/52.20

AREA SCANNED = 52.20 − 3.67

EACH DIRECTION CW & CCW = 48.53 sq in

* CIRC SCANS clockwise counter-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"

WELD METAL BEAM DIRECTION 2

AREA SCANNED = 17.33 in Sq.

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 (6.0 x 1.5)/2 = 4.50
C-F-G (1.5 x 1.0)/2 = .75
H-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 3.5)/2 = 1.75
J-M-N (1.9 x 1.5)/2 = 1.42
M-N-L (1.5 x 3.0)/2 = 2.25

total: 52.20 Sq in.

TITLE: 45° WELD & BASE AREA EXM.

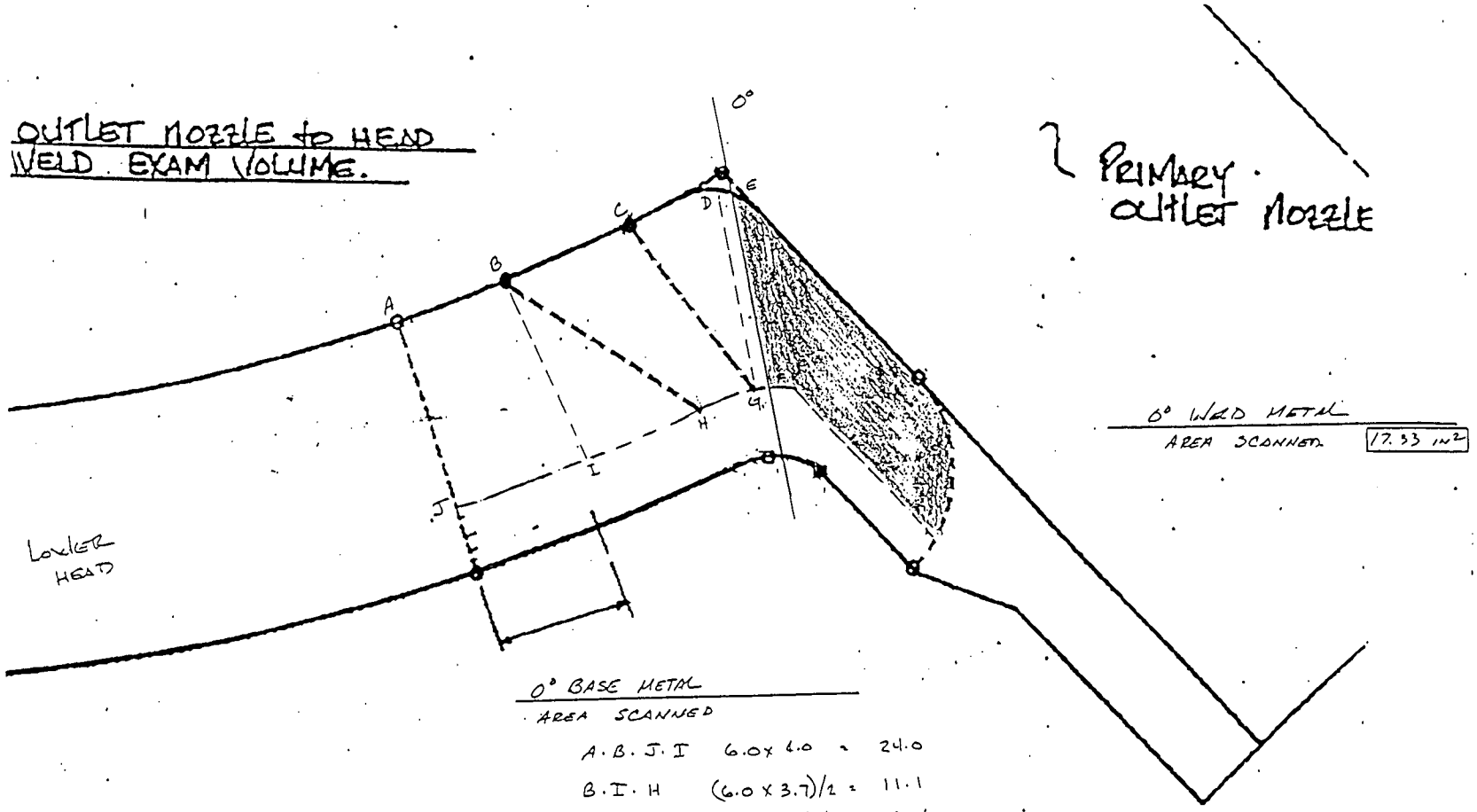
ITEM*: B03.130.004

PAGE 10 of 11

BY: James W. Sykes LEVEL III

DATE: 11.21.95

OUTLET NOZZLE to HEAD
WELD EXAM VOLUME.



0° WELD METAL
AREA SCANNED 17.33 in²

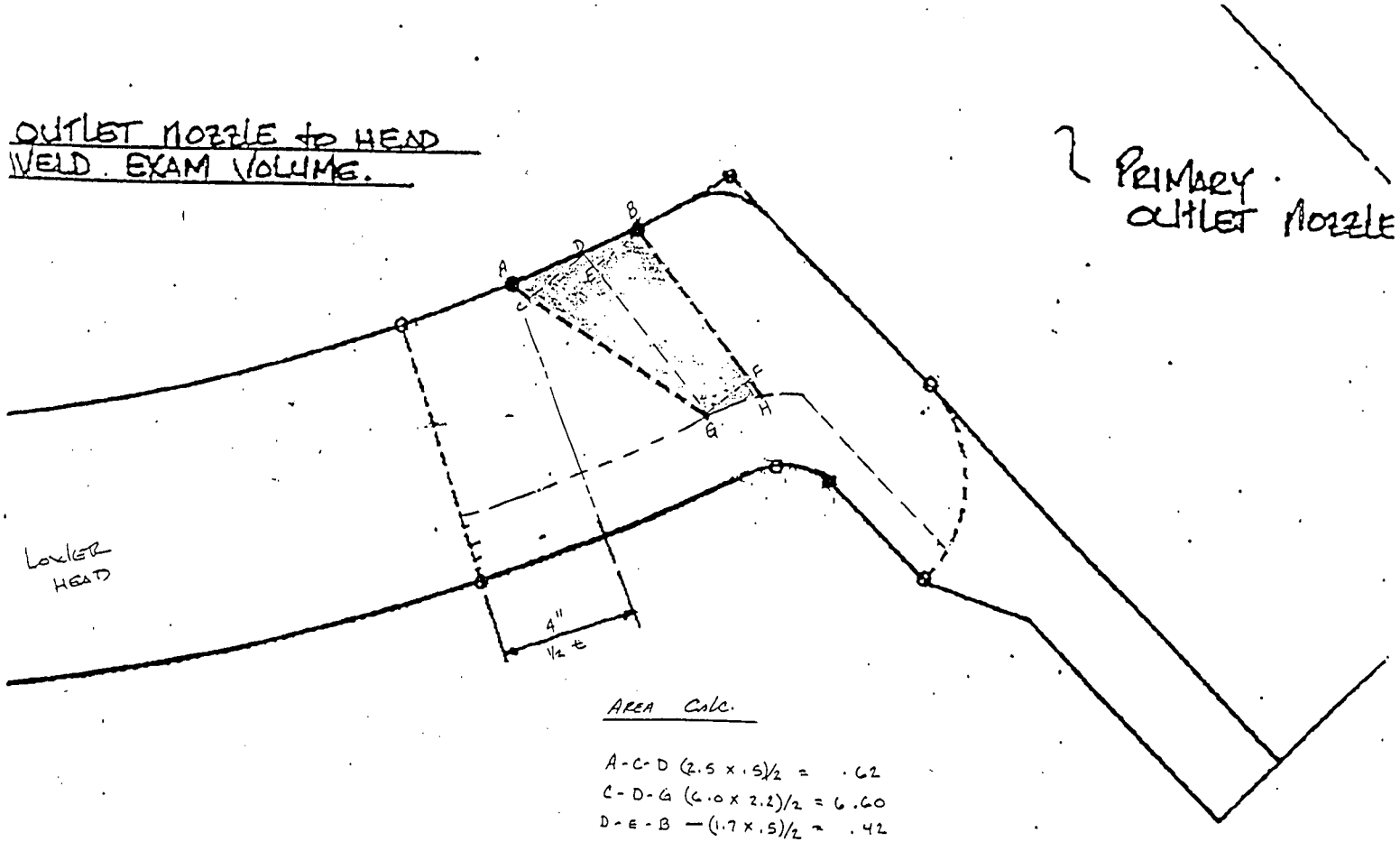
0° BASE METAL
AREA SCANNED

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

total = 44.68 in²

TITLE: 0° BASE & WELD METAL
ITEM #: B03.130.004
PAGE 9 of 11
BY: James W Stiglic LEVEL III
DATE: 11.21.95

OUTLET NOZZLE to HEAD
WELD. EXAM VOLUME.



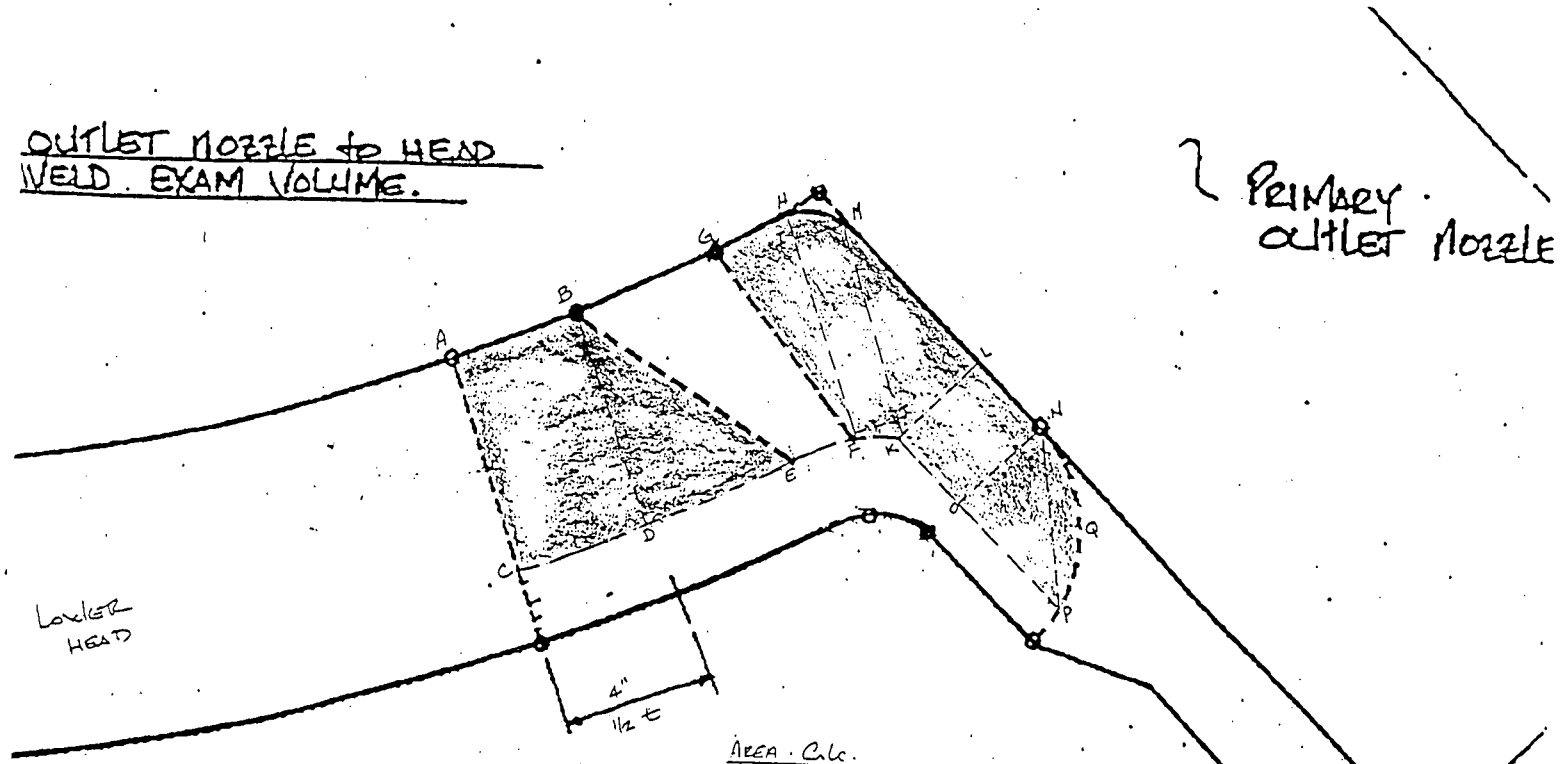
AREA CALC.

A-C-D (2.5 x .5)/2 = .62
C-D-G (6.0 x 2.2)/2 = 6.60
D-E-B — (1.7 x .5)/2 = .42
E-B-G-F - 5.4 x 1.7 = 9.18
F-G-H (1.7 x .6)/2 = .51

total = 17.33 sq in

TITLE: WELD METAL AREA CALC.
ITEM #: B03.130.004
PAGE 8 of 11
BY: [signature] LEVEL III
DATE: 11.21.95

OUTLET NOZZLE to HEAD
WELD. EXAM VOLUME.



AREA. Calc.

A-B-C-D	4.0 x 6.0 =	24.0
B-D-E	(6.0 x 4.2)/2 =	12.6
G-F-H	(6.0 x 2.0)/2 =	6.0
H-I-M	(1.4 x 1.0)/2 =	.70
I-M-F-J	1.4 x 5.3 =	7.42
M-K-L	(3.0 x 5.0)/2 =	7.50
K-L-O N	2.4 x 3.0 =	7.20
O-N-P	(3.0 x 3.9)/2 =	5.85
N-P-Q	(.80 x 5.0)/2 =	2.00
total		73.27 sq. IN

TITLE: BASE METAL AREA CALC.
ITEM #: B03.130.004
PAGE 7 of 11
BY: James W. Stryn LEVEL III
DATE: 11.21.95

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
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 Gary Moss	Level: II	Date: 11-17-98

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	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 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

☒ Base Metal ☒ Weld ☐ Near Surface ☐ Bolting ☐ 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: B03.130.004

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
☐ LIMITED SCAN
SURFACE: ☐ 1 ☒ 2
BEAM DIRECTION: ☒ 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

Remarks: Due to Nozzle Configuration

☐ NO SCAN
☒ LIMITED SCAN
SURFACE: ☒ 1 ☐ 2
BEAM DIRECTION: ☐ 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

Remarks: Due to Support Skirt

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

Remarks:

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

Remarks:

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: MBC Date: 11-25-98

DUKE POWER COMPANY

ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS

Exam Start: 0943	Exam Finish: 1016	Form NDE-UT-2A 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

Examiner: Larry Mauldin Level: III

Procedure: NDE-620 Rev: 5

FC: N/A

Calibration Sheet No: 9803091

Scans:

45 ☐ _____ dB 70 ☐ _____ dB

45T ☐ _____ dB 70T ☐ _____ dB

60 ☒ 69 dB

60T ☒ 69 dB

Other: _____ dB

Pyrometer S/N: MCNDE 27017

Cal Due: 2/12/99

Configuration: Nozzle to Head

S1 Flow S2

Head to Nozzle

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 ☒

Sheet 2 of 11

Reviewed By:	Level:	Date:	Authorized Inspector:	Date:	Item No:
Jay A Eaton	II	11/17/98	MBC	11-25-98	B03.130.004

DUKE POWER COMPANY

ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS

Exam Start: 0915 | Form NDE-UT-2A
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
Pyrometer S/N: MCNDE 27017
Cal Due: 2/12/99

Examiner: Gayle E. Houser GE Houser Level: II
Examiner: David Zimmerman David K. Zimmerman Level: II

Procedure: NDE-620 Rev: 5
NDE-640 1

FC: N/A
95-18&19

Calibration Sheet No:
9803089, 9803090

Scans:
45 ☒ 56 dB 70 ☐ ____ dB
45T ☒ 56 dB 70T ☐ ____ dB
60 ☐ ____ dB
60T ☐ ____ dB
Other: 0°-20.5 dB

Configuration: Nozzle to Head
S1 Flow S2
Head to Nozzle
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	0°														
NRI	45°														

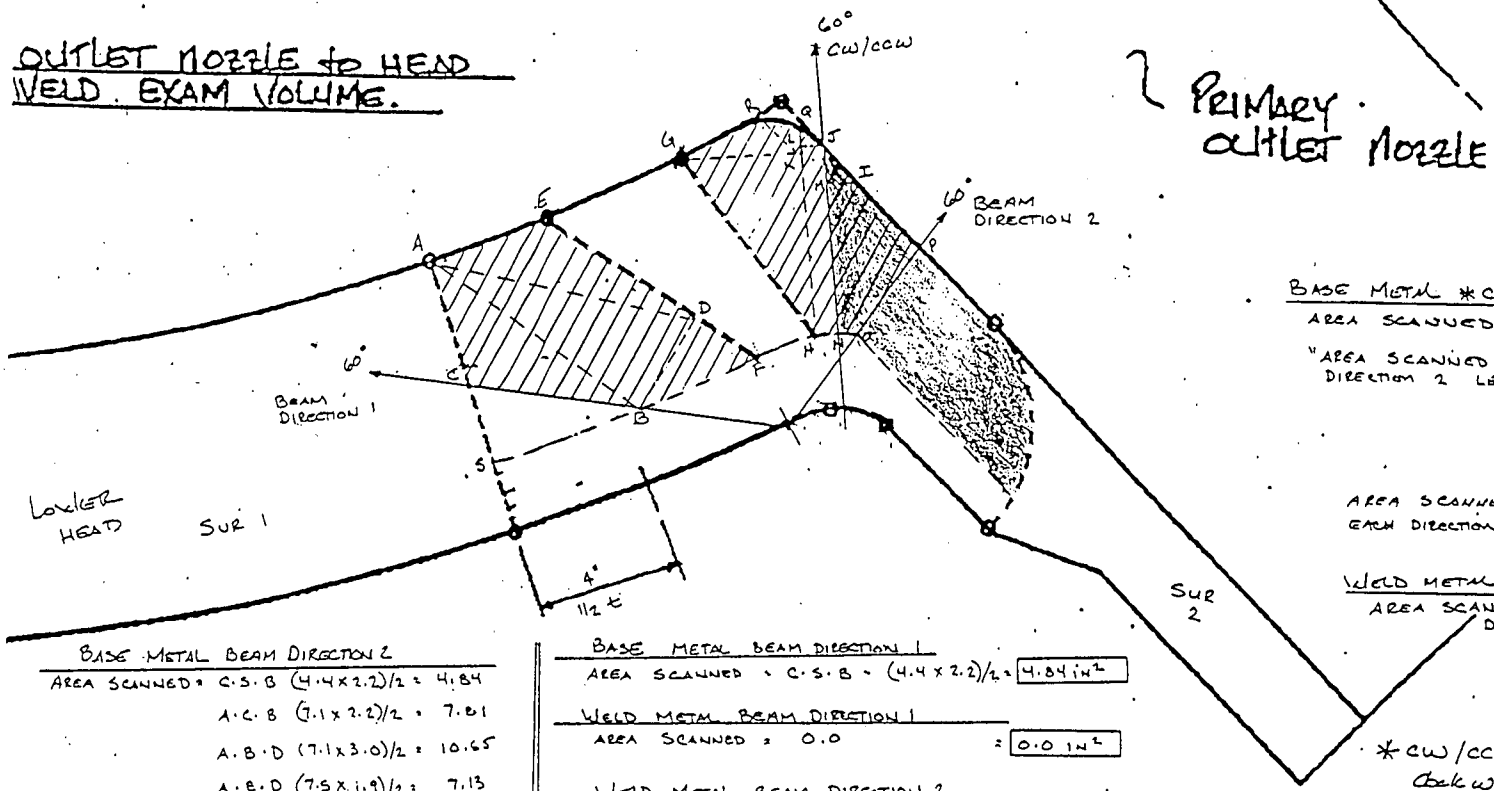
Remarks:

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

Sheet 1 of 11

Reviewed By: Jay A Eaton | Level: II | Date: 11/17/98
Authorized Inspector: MBC | Date: 11-25-98
Item No: B03.130.004

OUTLET NOZZLE to HEAD WELD EXAM VOLUME.



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

EACH DIRECTION = 46.02 SQ IN

WELD METAL * CW/CCW

AREA SCANNED = 17.33 IN² EACH DIRECTION CW & CCW

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·E·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·Q	(1.5 x .6)/2 =	.45
Q·L·J	(6 x .7)/2 =	.21
L·J·H·N	(6 x 5.1) =	1.53
G·K·H	(5.0 x 3.5)/2 =	8.75
M·I·N·O	.70 x 4.2 =	2.94

BASE METAL BEAM DIRECTION 1

AREA SCANNED = C·S·B = (4.4 x 2.2)/2 = 4.84 IN²

WELD METAL BEAM DIRECTION 1

AREA SCANNED = 0.0 = 0.0 IN²

WELD METAL BEAM DIRECTION 2

AREA SCANNED = 17.33 17.33 IN²

J·M·I (1.1 x .70)/2 = .39

I·O·P (4.2 x 1.7)/2 = 3.57

TOTAL = 52.92 IN²

* CW/CCW = CIRC SCAN Clockwise & Counter Clockwise

TITLE: 60° BASE & WELD METAL AREA CALC

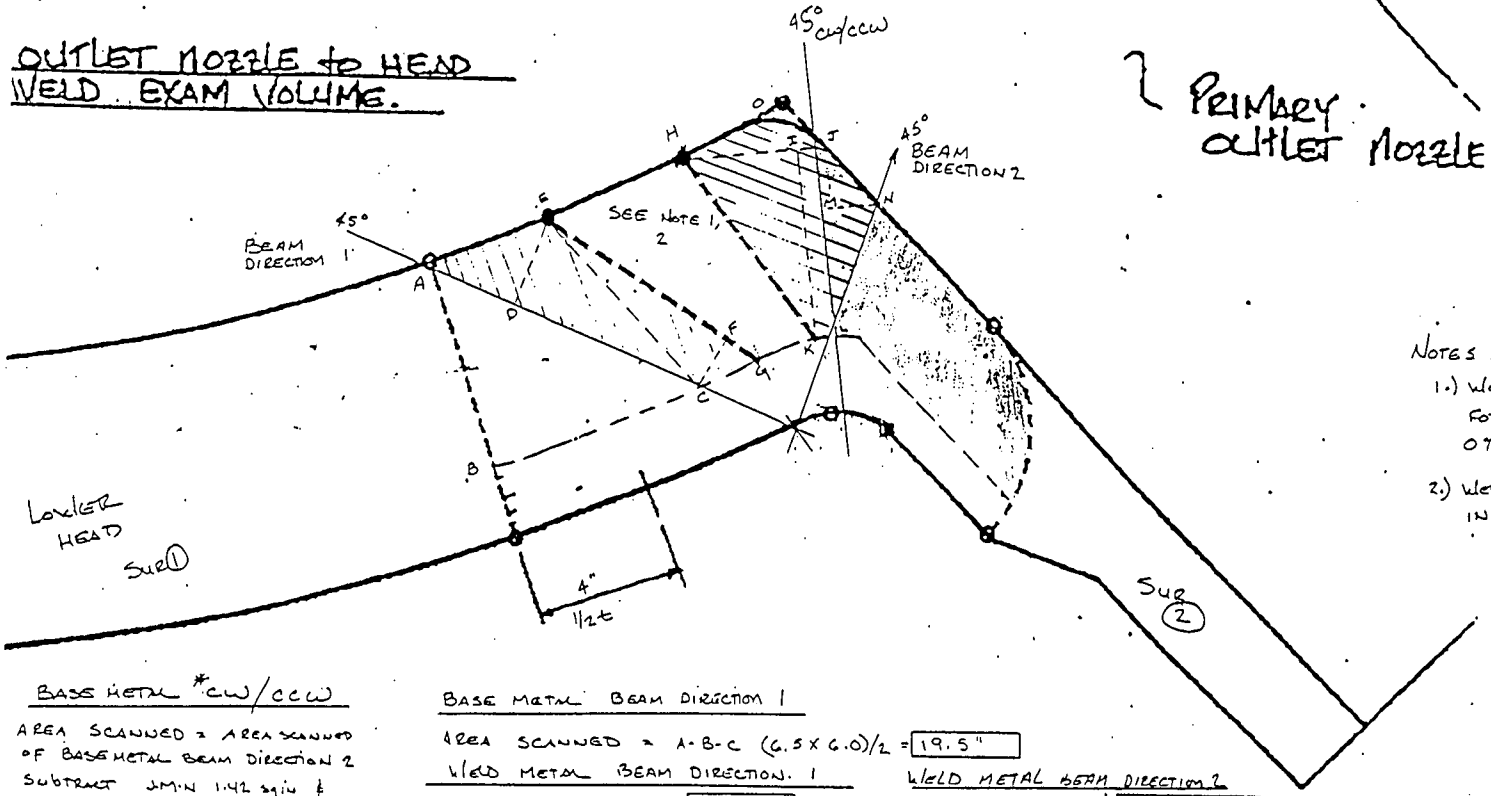
ITEM #: B03.130.003

PAGE 11 of 11

BY: James W Stigum LEVEL III

DATE: 11.21.95

OUTLET NOZZLE to HEAD WELD EXAM VOLUME.



NOTES:

1.) WELD AREA RECIEVED 100% FOR BEAM DIRECTION 2 & 0% FOR BEAM DIRECTION 1.

2.) WELD ALSO RECIEVED 100% IN CW & CCW DIRECTIONS

BASE METAL *CW/CCW

AREA SCANNED = AREA SCANNED OF BASE METAL BEAM DIRECTION 2 SUBTRACT J-M-N 1.42 sq in & M-N-L 2.25 sq in

3.67 ±/52.20

AREA SCANNED = 52.20 − 3.67

EACH DIRECTION = 48.53 sq in CW & CCW

* CIRC SCANS CLOCKWISE & COUNTER 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 (6.0 x 1.5)/2 = 4.50
C-F-G (1.5 x 1.0)/2 = .75
H-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 3.5)/2 = 1.75
J-M-N (1.9 x 1.5)/2 = 1.42
M-N-L (1.5 x 3.0)/2 = 2.25

total: 52.20 sq in.

WELD METAL BEAM DIRECTION 2

AREA SCANNED = 17.33 in sq.

TITLE: 45° WELD & BASE AREA EXM.

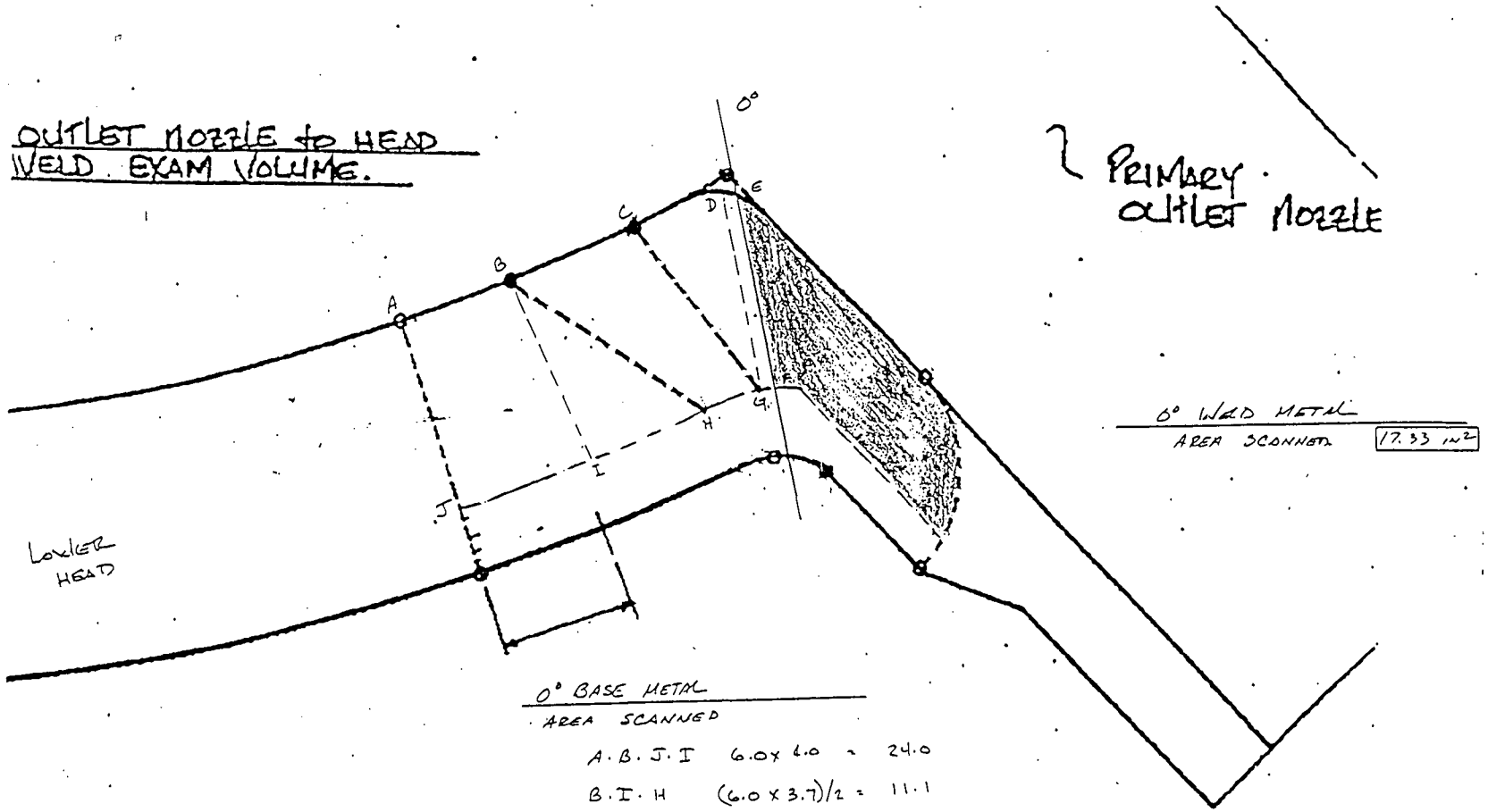
ITEM*: B03.130.003

PAGE 10 of 11

BY- James W Stiger LEVEL III

DATE: 11.21.95

OUTLET NOZZLE to HEAD
WELD EXAM VOLUME.

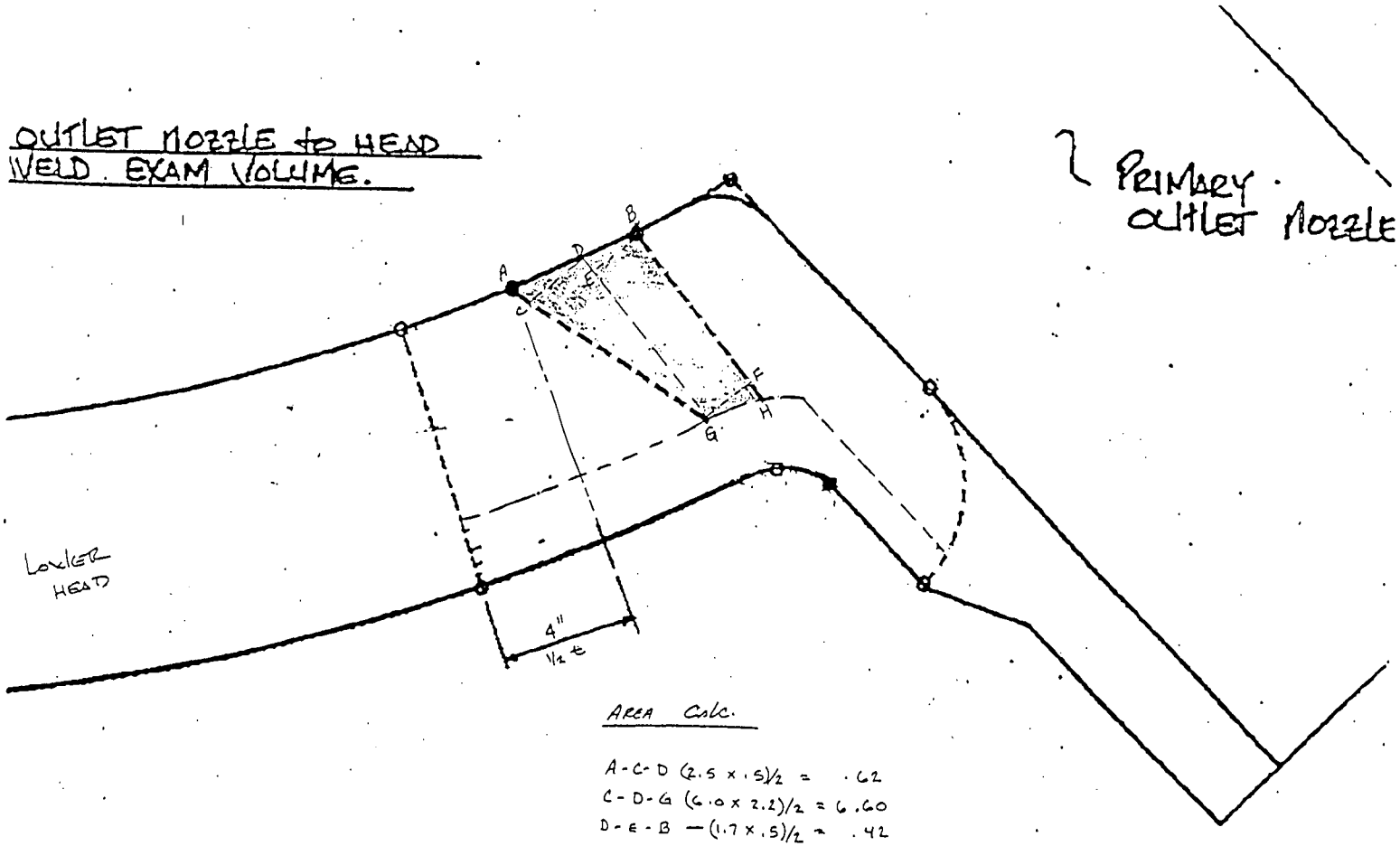


0° BASE METAL
AREA SCANNED

A.B.J.I	6.0 x 4.0 =	24.0
B.I.H	(6.0 x 3.7)/2 =	11.1
C.G.D	(6.0 x 2.8)/2 =	8.4
G.F.D.E	(5.9 x .40)/2 =	1.18
total =		44.68 IN²

TITLE: 0° BASE & WELD METAL
ITEM #: B03.130.003
PAGE 9 of 11
BY: James W. Stiger LEVEL III
DATE: 11.21.95

OUTLET NOZZLE to HEAD
WELD. EXAM VOLUME.



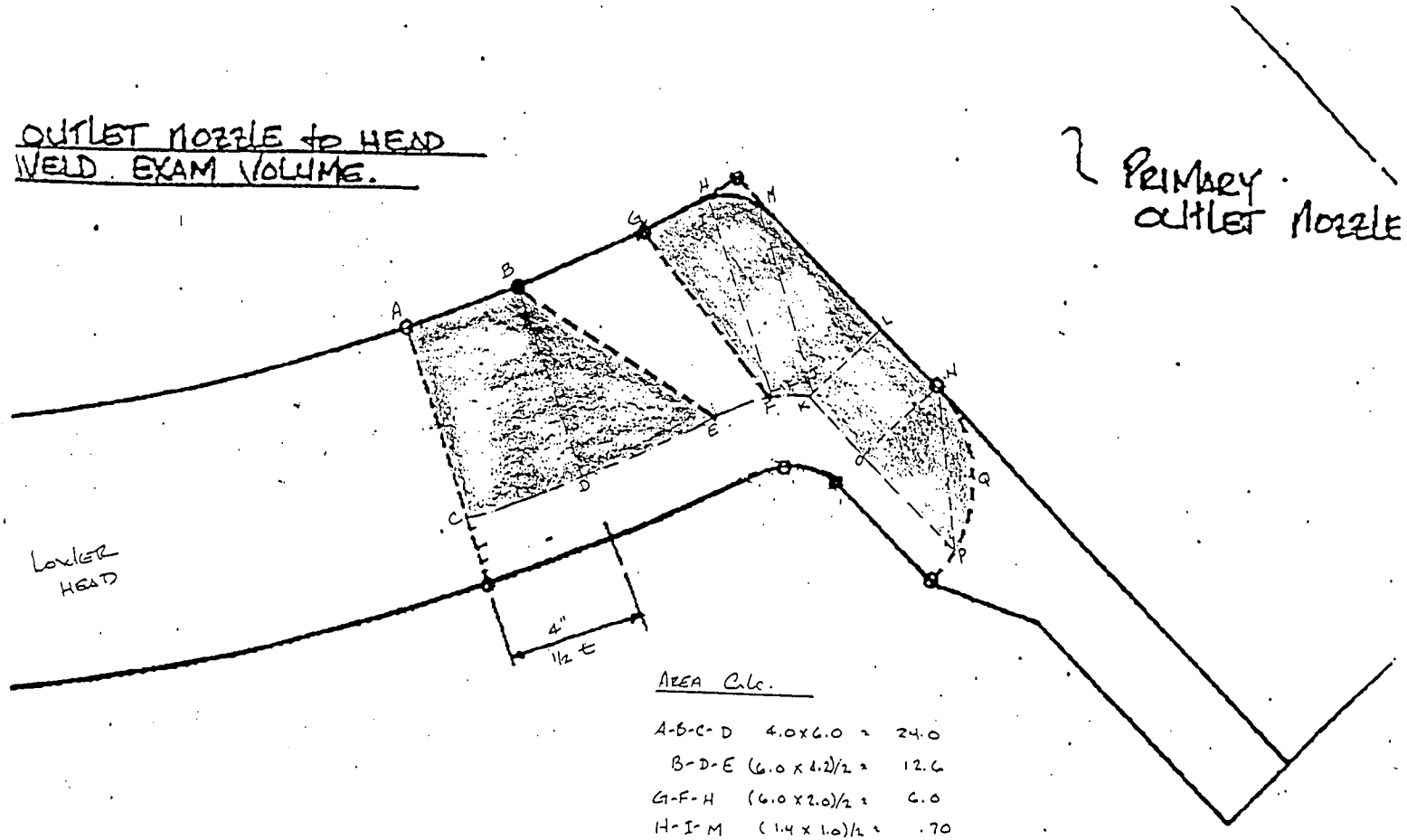
AREA Calc.

A-C-D (2.5 x .5)/2 = .62
C-D-G (6.0 x 2.2)/2 = 6.60
D-E-B — (1.7 x .5)/2 = .42
E-B-G-F - 5.4 x 1.7 = 9.18
F-G-H (1.7 x .6)/2 = .51

total = 17.33 sq in

TITLE: WELD METAL AREA CALC.
ITEM #: B03.130.003
PAGE 8 of 11
BY: James W Stigen LEVEL III
DATE: 11.21.95

OUTLET NOZZLE to HEAD
WELD. EXAM VOLUME.



AREA Calc.

A-B-C-D	4.0 x 6.0 =	24.0
B-D-E	(6.0 x 4.2)/2 =	12.6
G-F-H	(6.0 x 2.0)/2 =	6.0
H-I-M	(1.4 x 1.0)/2 =	.70
I-M-F-J	1.4 x 5.3 =	7.42
M-K-L	(3.0 x 5.0)/2 =	7.50
K-L-O N	2.4 x 3.0 =	7.20
O-N-P	(3.0 x 3.9)/2 =	5.85
N-P-Q	(.80 x 5.0)/2 =	2.00
total		73.27 sq. IN

TITLE: BASE METAL AREA Calc.
ITEM #: B03.130.003
PAGE 7 of 11
BY: James W. Sitzer LEVEL III
DATE: 11.21.95

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
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: B03.130.003

Prepared By: Jay A Eaton Level: II Date: 11/16/98

Reviewed By: Gary Moss Gary Moss Level: II Date: 11-17-98

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	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
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
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:

☒ NO SCAN
☐ LIMITED SCAN
SURFACE: ☐ 1 ☒ 2
BEAM DIRECTION: ☒ 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

Remarks: Due to Nozzle Configuration

☐ NO SCAN
☒ LIMITED SCAN
SURFACE: ☒ 1 ☐ 2
BEAM DIRECTION: ☐ 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

Remarks: Due to Support Skirt

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

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

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: MSC Date: 11-25-98

DUKE POWER COMPANY

ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS

Exam Start: 0943	Exam Finish: 1016	Form NDE-UT-2A 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

Examiner: Larry Mauldin Level: III

Procedure: NDE-620 Rev: 5

FC: N/A

Calibration Sheet No: 9803091

Scans:

45 ☐ ____ dB 70 ☐ ____ dB

45T ☐ ____ dB 70T ☐ ____ dB

60 ☒ 69 dB

60T ☒ 69 dB

Other: ____ dB

Pyrometer S/N: MCNDE 27017

Cal Due: 2/12/99

Configuration: Nozzle to Head

S1 Flow S2

Head to Nozzle

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 ☒

Sheet 2 of 11

Reviewed By: Jay A Eaton	Level: II	Date: 11/17/98	Authorized Inspector: MBC	Date: 11-25-98

Item No: B03.130.003

DUKE POWER COMPANY

ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS

Exam Start: 0915 | Form NDE-UT-2A
Exam Finish: 0959 | 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
Pyrometer S/N: MCNDE 27017
Cal Due: 2/12/99

Examiner: Gayle E. Houser Level: II
Examiner: David Zimmerman Level: II

Procedure: NDE-620 Rev: 5
NDE-640 1

FC: N/A
95-18&19

Calibration Sheet No: 9803089, 9803090

Scans:
45 ☒ 56 dB 70 ☐ ____ dB
45T ☒ 56 dB 70T ☐ ____ dB
60 ☐ ____ dB
60T ☐ ____ dB
Other: 0°-20.5 dB

Configuration: Nozzle to Head
S1 Flow S2
Head to Nozzle
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	45°														
NRI	0°														

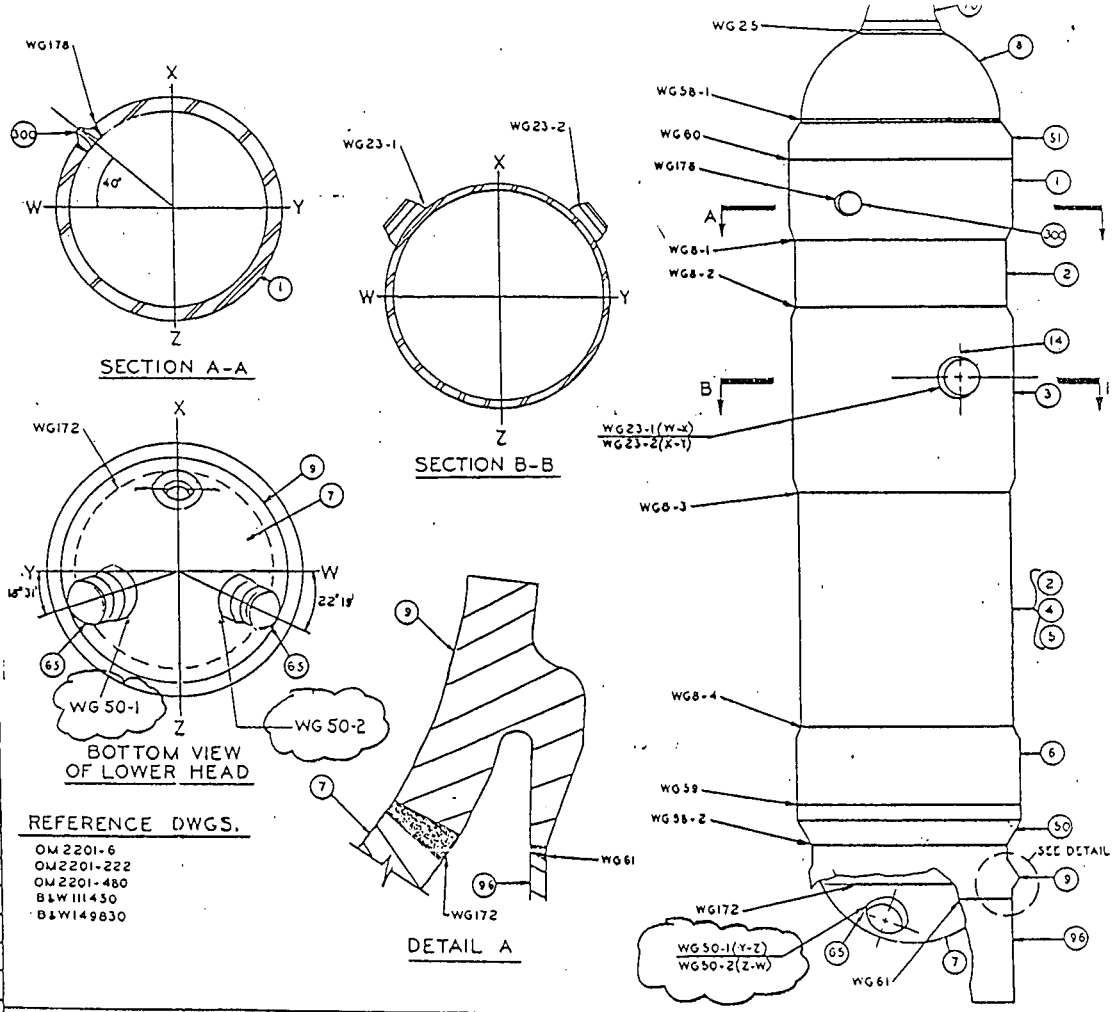
Remarks:

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

Sheet 1 of 11

Reviewed By: Jay A Eaton | Level: II | Date: 11/17/98
Authorized Inspector: MBC | Date: 11-25-98
Item No: B03.130.003

IDENT NO.	PIECE NO.	DIAM.	THICK	PC. NO	QTY	DESCRIPTION	MATL.
WG8-1	1 TO 2	138" I.D.	4.188 MIN.	1	1	SHELL SECTION	SA 516 GR.70
WG8-2	2 TO 3	138" I.D.	4.188 MIN.	2	2	SHELL SECTION	SA 516 GR.70
WG8-3	3 TO 2	138" I.D.	4.188 MIN.	3	1	SHELL SECTION	SA 516 GR.70
WG8-4	5 TO 6	138" I.D.	4.188 MIN.	4	1	SHELL SECTION	SA 516 GR.70
WG23-1	14 TO 3	29.00"	6.625 MIN.	5	1	SHELL SECTION	SA 516 GR.70
WG23-2	14 TO 3	29.00"	6.625 MIN.	6	1	SHELL SECTION	SA 516 GR.70
WG25	70 TO 8	48.63"	8.000 MIN.	7	1	LOWER HEAD	SA302 GR.B
WG50-1	65 TO 7	38.38"	8.000 MIN.	8	1	UPPER HEAD	SA302 GR.B
WG50-2	65 TO 7	38.38"	8.000 MIN.	9	1	SUPPORT SKIRT FORGING	SA508 CL 2
				14	2	STEAM OUTLET NOZZLE	SA508 CL 1
WG58-1	8 TO 51	119" I.D.	8.000 MIN.	50	1	LOWER TUBE SHEET	SA508 CL 2
WG58-2	9 TO 50	119" I.D.	8.000 MIN.	51	1	UPPER TUBE SHEET	SA508 CL 2
WG59	6 TO 50	138" I.D.	6.625 MIN.	65	2	28" PRIMARY OUTLET NOZZLE	SA508 CL 1
WG60	1 TO 51	138" I.D.	6.625 MIN.	70	1	36" PRIMARY INLET NOZZLE	SA508 CL 1
WG61	9 TO 96	135" I.D.	1.750"	96	1	SUPPORT SKIRT	SA533 GR.B
WG172	7 TO 9	102.75" I.D.	8.000 MIN.	300	1	AUX. FEEDWATER NOZZLE	SA508 CL 1
WG178	1 TO 300	14.25"	4.188 MIN.				



REFERENCE DWGS.

OM 2201-6
OM 2201-222
OM 2201-480
B&W 111430
B&W 149830

NOTES:

1. ALL I.D. NUMBERS SHALL BE PRECEDED BY "3SGA-".
2. PIECE NUMBERS ARE SHOWN IN CIRCLES.

NO.	REVISION	DRWN DATE	RVWD DATE	APPD DATE
1	PIECE NO. FOR WG58-1	TLT 11-26-89	JFP 11-27-89	WRH 11-29-89
0	ORIGINAL	WSB 2-1-82	TMH 2-1-82	JEC 2-18-82

TITLE
STEAM GENERATOR 'A'
WELD OUTLINE

DWG NO. 1SI-OCN3-003 R1

VII. Implementation Schedule:

Unit 3, Refueling Outage 17

Unit 1, Refueling Outage 19

Unit 2, Refueling Outage 17

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

Unit	ID Number	Item Number
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;

Unit	ID Number	Item Number
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

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

24. Mechanics Research Inc., MRI-C-0236, MRI-C-0243, "Final Stress Analysis Primary Coolant Pump Type RQV," prepared for Bingham Pump Co., Portland Oregon, March 26, 1968, SI File No. DUKE-20Q-203.

25. Mechanics Research Inc., MRI-C-2303, "Addenda II – Final Stress Analysis Primary Coolant Pump Type RQV (MRI-C-0236, MRI-C-0243)," September 4, 1969, SI File No. DUKE-20Q-204.

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."

30. ASME Boiler and Pressure Vessel Code, Section XI, 1989 Edition.

31. **pc-CRACK** for Windows Computer Software, Version 3.0, Structural Integrity Associates, March 1997.

32. Section XI Task Group for Piping Flaw Evaluation, ASME Code, "Evaluation of Flaws in Austenitic Steel Piping," Journal of Pressure Vessel Technology, Vol. 108, August 1986.

33. EPRI Report No. NP-5461, "Component Life Estimation: LWR Structural Material Degradation Mechanisms," September 1987, prepared by Structural Integrity Associates.

11. S. Bonnet, J. Bourgoin, J. Champredonde, D. Guttmann, and M. Guttmann, "Relationship Between Evolution of Mechanical Properties of Various Cast Duplex Stainless Steels and Metallurgical and Aging Parameters: An Outline of Current EDF Programs," Mater. Sci. and Technol., 6, 221-229 (1990).

12. P. H. Pumphrey and K. N. Akhurst, "Aging Kinetics of CF3 Cast Stainless Steel in Temperature Range 300-400 C," Mater. Sci. Technol., 6, 211-219 (1990).

13. G. Slama, P. Petrequin, and T. Mager, "Effect of Aging on Mechanical Properties of Austenitic Stainless Steel Castings and Welds," presented at SMiRT Post-Conference Seminar 6, Assuring Structural Integrity of Steel Reactor Pressure Boundary Components, August 29-30, 1983, Monterey, CA.

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.

15. P. McConnell and J. W. Sheckherd, Fracture Toughness Characterization of Thermally Embrittled Cast Duplex Stainless Steel, Report NP-5439, September 1987, Electric Power Research Institute, Palo Alto, CA.

16. O. K. Chopra, "Estimation of Mechanical Properties of Cast Stainless Steels During Thermal Aging in LWR Systems," NUREG/CP-0119, Vol. 1, pp. 151-178, Proceedings of the U.S. Nuclear Regulatory Commission, 19th Water Reactor Safety Information Meeting held at Bethesda, MD, October 28-30, 1991, published April 1992.

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).

18. Data Package for Mark No. 3RCP-3B1, Case No. 1, Transmitted from Bingham Pump Company to Babcock and Wilcox Power Generation Division, June 1, 1971, SI File No. DUKE-20Q-202.

19. ASTM E813 "Standard Test Method for J_{Ic}, A Measure of Fracture Toughness," American Society for Testing and Materials, Philadelphia, PA.

20. ASME Boiler and Pressure Vessel Code, Section III Appendices, 1989 Edition.

21. EPRI Report NP-4668, "Evaluation of the Toughness of Austenitic Stainless Steel Pipe Weldments," June 1986.

22. EPRI Report NP-4768, "Toughness of Austenitic Stainless Steel Pipe Welds," October 1986.

23. EPRI Report NP-4690-SR, "Evaluation of Flaws in Austenitic Steel Piping," July 1986.

6.0 REFERENCES

1. ASME Boiler and Pressure Vessel Code, Code Case N-481, "Alternate Examination Requirements for Cast Austenitic Pump Casings, Section XI, Division 1," March 5, 1990.

2. EPRI Report TR-100034, "Cast Austenitic Stainless Steel Sourcebook," prepared by EPRI and Structural Integrity Associates, October 1991.

3. "Safety Evaluation by the Office of the Nuclear Reactor Regulation Related to the Inservice Inspection (ISI) Program, Arkansas Power and Light Company, Arkansas Nuclear One, Unit 1, Docket No. 50-313," dated April 25, 1989. Attached to letter from Mr. J. A. Calvo (NRC) to Mr. T. G. Campbell (AP&L), "Reactor Coolant Pump Casing Weld Flaw Indications - Request for Relief from ASME Section XI Inspection Requirements, Arkansas Nuclear One, Unit 1 (TAC No. 64146)," dated April 25, 1989.

4. O. K. Chopra and H. M. Chung, Long-Term Embrittlement of Cast Duplex Stainless Steels in LWR Systems: Semiannual Report, April-September 1987, NUREG/CR-4744 Vol. 2, No. 2, ANL-89/6 (August 1989).

5. O. K. Chopra and H. M. Chung, Long-Term Embrittlement of Cast Duplex Stainless Steels in LWR Systems: Semiannual Report, October 1987-March 1988, NUREG/CR-4744 Vol. 3, No. 1, ANL-89/22 (February 1990).

6. O. K. Chopra and H. M. Chung, Long-Term Embrittlement of Cast Duplex Stainless Steels in LWR Systems: Semiannual Report, April-September 1988, NUREG/CR-4744 Vol. 3, No. 2, ANL-90/5 (August 1990).

7. O. K. Chopra and H. M. Chung, Long-Term Embrittlement of Cast Duplex Stainless Steels in LWR Systems: Semiannual Report October 1988-March 1989, NUREG/CR-4744, Vol. 4, No. 1, ANL-90/44 (May 1991).

8. O. K. Chopra, A. Sather, and L. Y. Bush, Long-Term Embrittlement of Cast Duplex Stainless Steels in LWR Systems: Semiannual Report April-September 1989, NUREG/CR-4744, Vol. 4, No. 2, ANL-90/49 (June 1991).

9. A. L. Hiser, Tensile and J-R Curve Characterization of Thermally Aged Cast Stainless Steels, NUREG/CR-5024, MEA-2229, Materials Engineering Associates, Inc. (September 1988).

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 provides 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 ksi $\sqrt{in}$ 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 ksi $\sqrt{in}$ compared to the allowable of 140.7 ksi $\sqrt{in}$.

- 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.

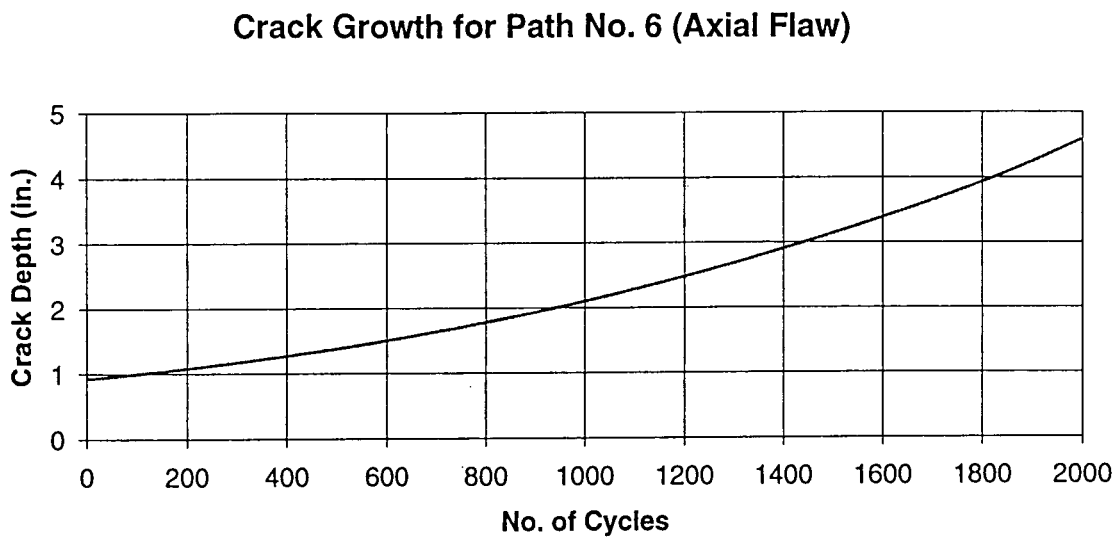


Figure 4-17. Results of Fatigue Crack Growth Analysis for Oconee Unit 3 Pump Casing

DUKE POWER COMPANY

ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS

Exam Start: 0942 | Form NDE-UT-2A
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
Pyrometer S/N: MCNDE 27017
Cal Due: 2/12/99

Examiner: Winfred C. Leeper Level: II
Examiner: Larry Mauldin Level: III

Procedure: NDE-680 Rev: 1

FC: N/A

Calibration Sheet No: 9803092, 9803093

Scans:
45 ☐ ____ dB 70 ☐ ____ dB
45T ☐ ____ dB 70T ☒ 82 dB
60 ☐ ____ dB
60T ☒ 69 dB
Other: ____ dB

Configuration: Inner Radius
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 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°														
NRI	70°														

Remarks:

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

Sheet 1 of 4

Reviewed By: Jay A Eaton | Level: II | Date: 11/16/98

Authorized Inspector: MBC | Date: 11-25-98

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:

	SURFACE	BEAM DIRECTION	Remarks
☒ NO SCAN ☐ LIMITED SCAN	☐ 1 ☒ 2	☒ 1 ☐ 2 ☒ cw ☒ ccw	Due to Nozzle Configuration
FROM L _____ to L _____		INCHES FROM WO C/L to Beyond	
ANGLE: ☒ 0 ☒ 45 ☒ 60 ☐ Other _____		FROM 0 DEG to 360 DEG	
☐ NO SCAN ☒ LIMITED SCAN	☒ 1 ☐ 2	☐ 1 ☒ 2 ☒ cw ☒ ccw	Due to Support Skirt
FROM L 96" to L 24"		INCHES FROM WO C/L to 11"	
ANGLE: ☒ 0 ☒ 45 ☒ 60 ☐ Other _____		FROM ____ DEG to ____ DEG	
☐ NO SCAN ☐ 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 ☐ LIMITED SCAN	☐ 1 ☐ 2	☐ 1 ☐ 2 ☐ cw ☐ ccw	
FROM L _____ to L _____		INCHES FROM WO _____ to _____	
ANGLE: ☐ 0 ☐ 45 ☐ 60 ☐ Other _____		FROM ____ DEG to ____	

Prepared By: Larry Mauldin Level: III Date: 11/7/98 | Sketch(s) attached ☒ yes ☐ no | Sheet 3 of 4

Reviewed By: Jay A Eaton Date: 11/16/98 | Authorized Inspector: MBC Date: 11-25-98

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
Area = 4.37" sq. in.	Volume = 124" x 4.37 sq. in. = 542 cu. in.

Coverage Calculations

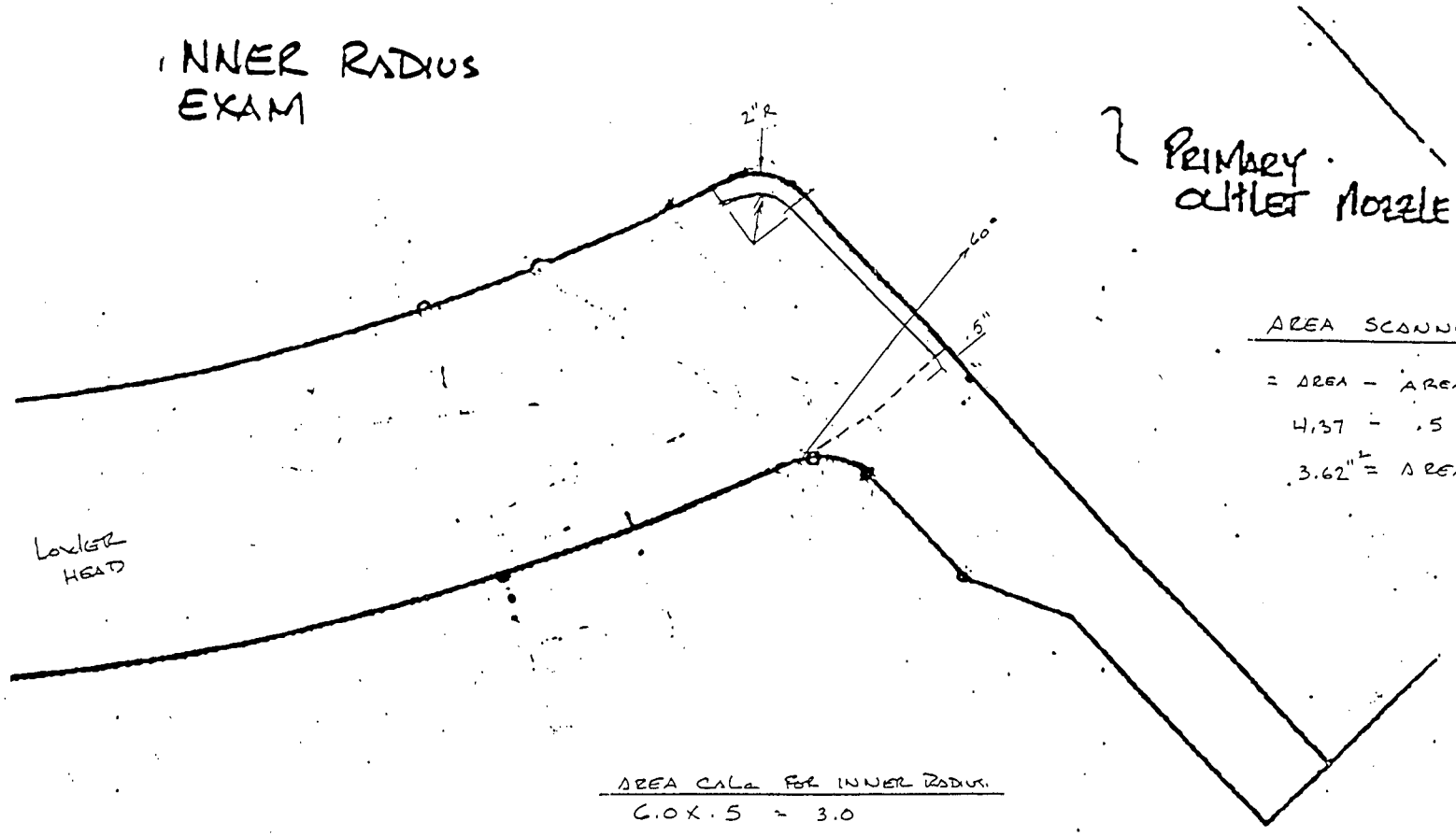
Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
1	60°	cw & ccw	3.62	66	239	542	44.10

Item No: B03.140.004

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

INNER RADIUS EXAM



AREA SCANNED.

= AREA − AREA MISSED.

4.37 − .5 × 1.5

3.62" = AREA SCANNED.

AREA CALC FOR INNER RADIUS.

6.0 × .5 = 3.0

$\frac{\pi \times 2^2}{4} - \frac{\pi \times 1.5^2}{4} = 1.37$ sq in

total 4.37 sq in

TITLE: INNER RADIUS AREA CALC.

ITEM #: B03.140:004

PAGE 4 of 4

BY: [signature] 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

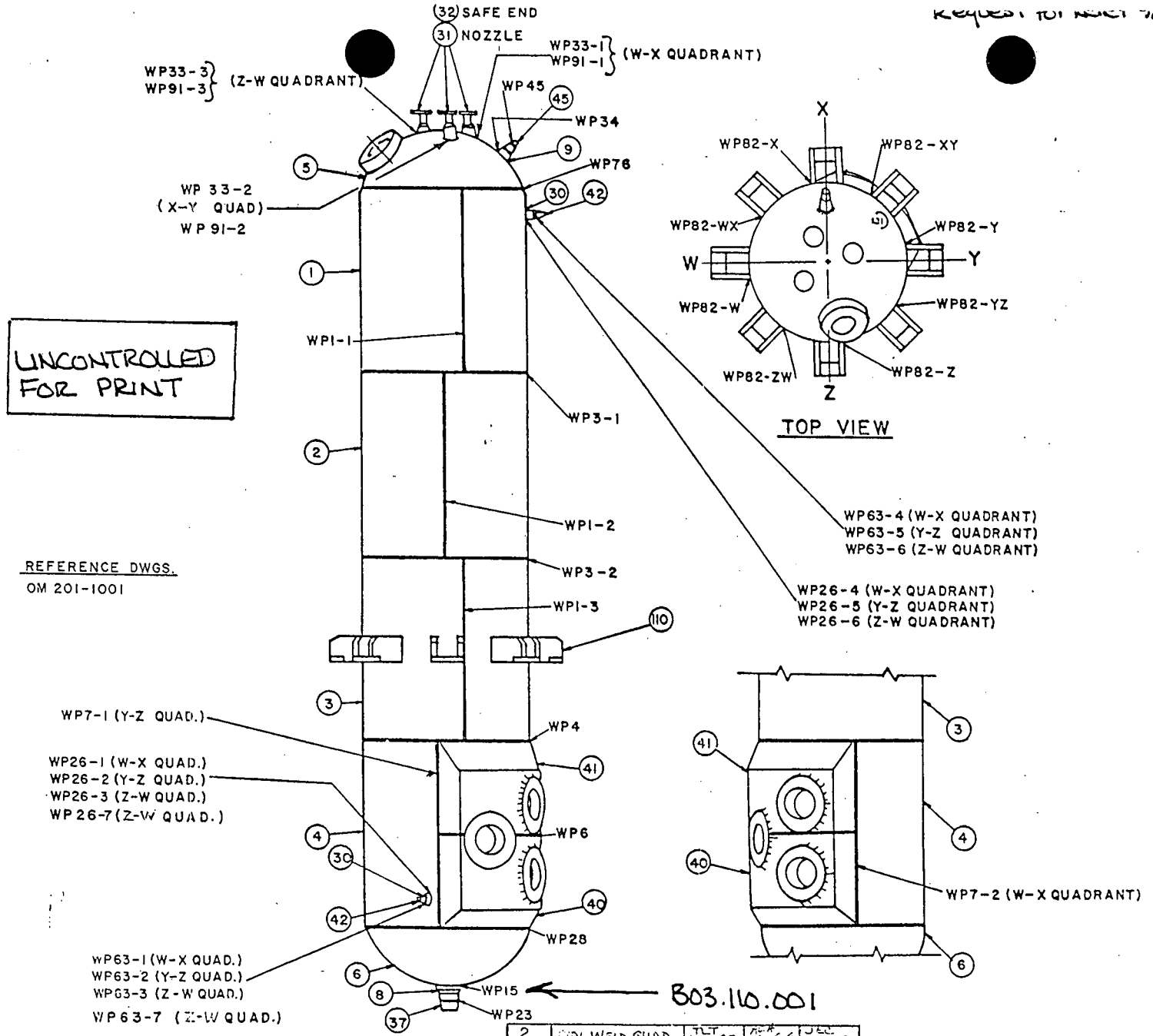
Request for Reject 5001

BILL OF MATERIAL

THICK.	PC. NO.	QTY.	DESCRIPTION	MATL.
88	1	1	UPPER SHELL COURSE	SA 212 GR. B
188	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				
.750				
1875				
1875				
1875				
1875				
1875				
1875				
.750				
.500				
.500				
.500				
.500				
.500				
.500				

WELD LIST (CONT.)

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



NOTES:

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

NO.	REVISION	DRWN	RVWD	APPD
2	REV. WELD QUAD.	JLT 12-1-80	[illegible]	[illegible]
1	Add. Ref. Dwgs.	AWS 7/23/81	HJH 7-23-81	JOB 7-23-81
0	ORIG.	AWS 6/29/81	TMN 11/2/81	CRC 11/2/81
		DATE	DATE	DATE

TITLE

PRESSURIZER WELD OUTLINE

DWG NO. ISI-C -002 REV. 2

DUKE POWER COMPANY

ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS

Exam Start: 1015	Form NDE-UT-2A	
Exam Finish: 1055	Revision 4	

Station: Oconee	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 Level: II

Examiner: James L. Panel Level: II

Procedure: NDE-620 Rev: 5
NDE-640 1

FC: N/A

Calibration Sheet No: 9701091, 9701092, 9701093

95-18&19

Scans:

45 ☒ 56 dB 70 ☐ ____ dB

45T ☒ 56 dB 70T ☐ ____ dB

60 ☒ 63 dB

60T ☒ 63 dB

Other: 0°-30.5 dB

Pyrometer S/N: MCNDE 27018

Cal Due: 2/14/98

Configuration: Nozzle to Pzr Head

S1 Flow S2

HEAD to NOZZLE

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	0°														
NRI	45°														
NRI	60°														

Remarks:

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

Sheet 1 of 13

Reviewed By:	Level:	Date:	Authorized Inspector:	Date:	Item No:
G G Bibb	III	10-28-97	MBC	11-6-97	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:

SURGE LINE NOZZLE

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

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

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

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

Prepared By: Jay Eaton   Level: II   Date: 10/24/97

Sketch(s) attached ☒ yes ☐ no   Sheet 2 of 13

Reviewed By: G G Bibb GGBibb   Date: 10-28-97

Authorized Inspector: Date: 11-6-97

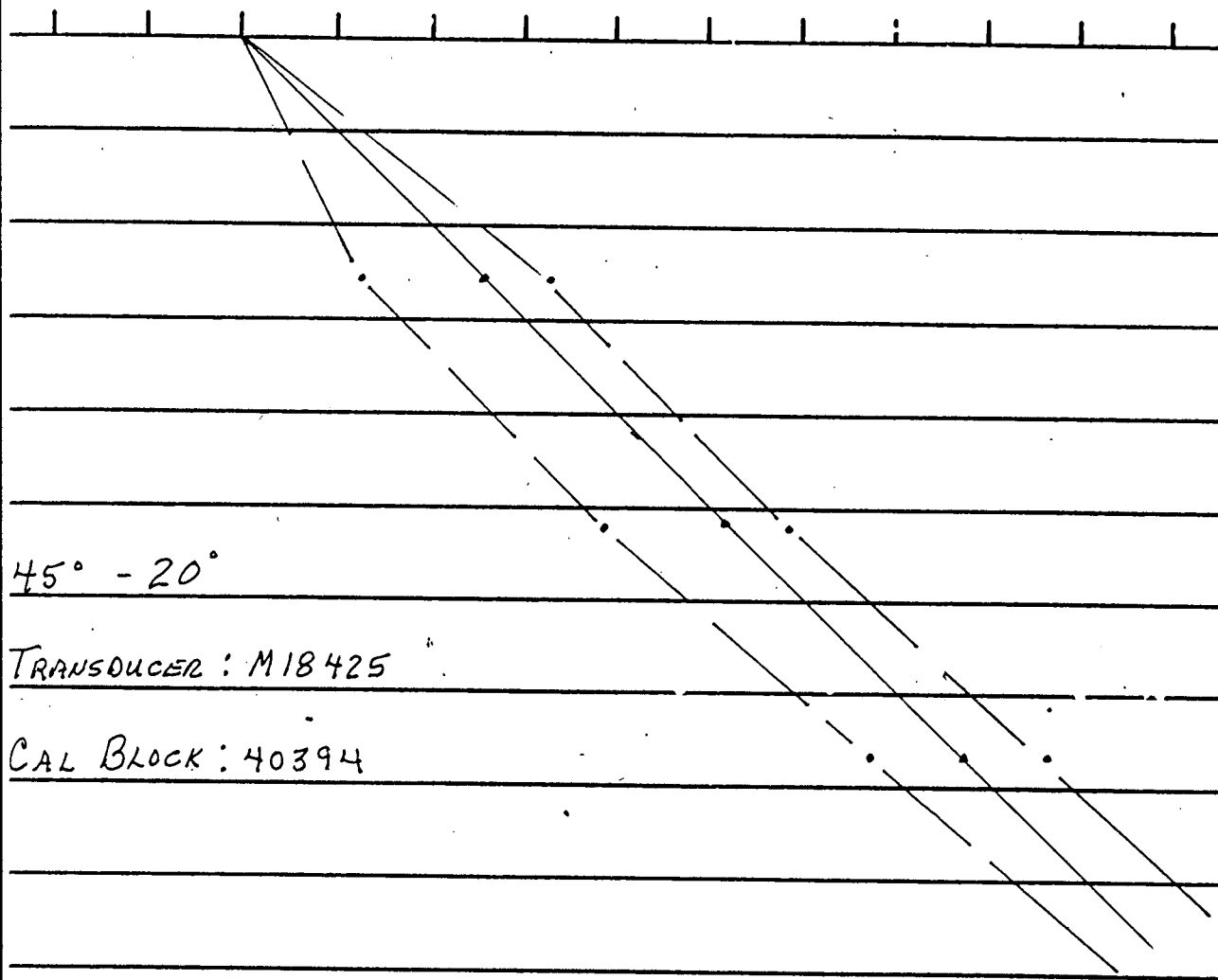
B03.110.001

DUKE POWER COMPANY

Ultrasonic Beam Spread Measurement Sheet

NDE-UT-6

Revision 1



1/4t	W1	.6	Mp1	1.45
	Wmax	1.1	MpMax	1.85
	W2	1.6	Mp2	2.18
1/2t	W1	2.05	Mp1	3.3
	Wmax	2.45	MpMax	3.71
	W2	2.85	Mp2	3.98
3/4t	W1	3.3	Mp1	5.21
	Wmax	3.7	MpMax	5.53
	W2	4.25	Mp2	5.86

45° - 20°

TRANSDUCER : M18425

CAL BLOCK : 40394

Calibration Sheet No: 9701092

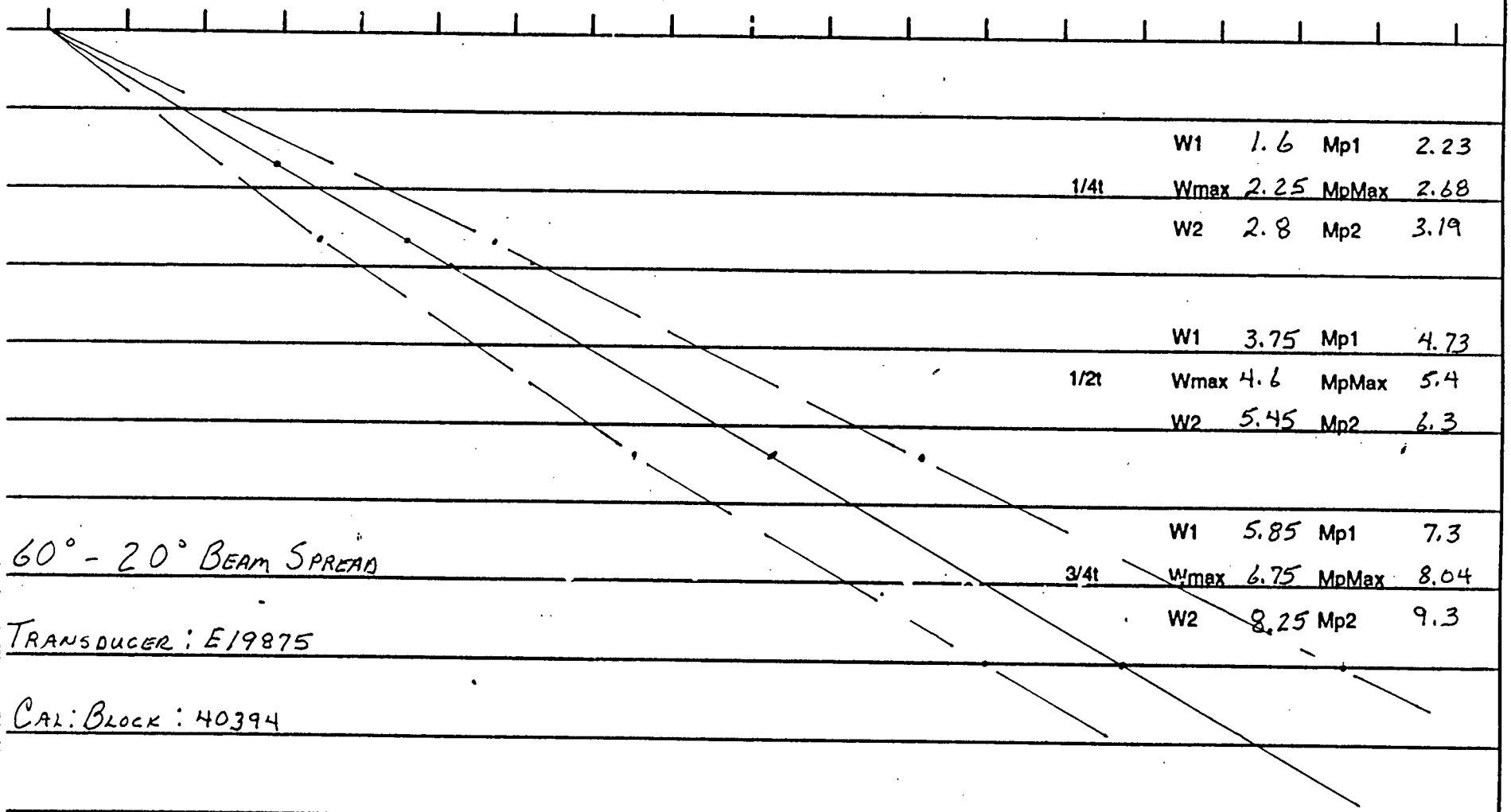
Examiner:	Level:	Date:	Reviewed By:	Level:	Date:	Authorized Inspector:	Date:
Gary Moss	II	10-24-97	HBebb	III	10-28-97	MOC	11-6-97

DUKE POWER COMPANY

Ultrasonic Beam Spread Measurement Sheet

NDE-UT-6

Revision 1



1/4t	W1	1.6	Mp1	2.23
	Wmax	2.25	MpMax	2.68
	W2	2.8	Mp2	3.19
1/2t	W1	3.75	Mp1	4.73
	Wmax	4.6	MpMax	5.4
	W2	5.45	Mp2	6.3
3/4t	W1	5.85	Mp1	7.3
	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:	Level:	Date:	Reviewed By:	Level:	Date:	Authorized Inspector:	Date:
Gary Moss	II	10-24-97	[illegible]	III	10-28-97	[illegible]	11-6-97

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
		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

☐ 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
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	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

☒ 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

DUKE POWER COMPANY

Limited Examination Coverage Worksheet

NDE-91-1

Revision 0

Examination Volume/Area Defined

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

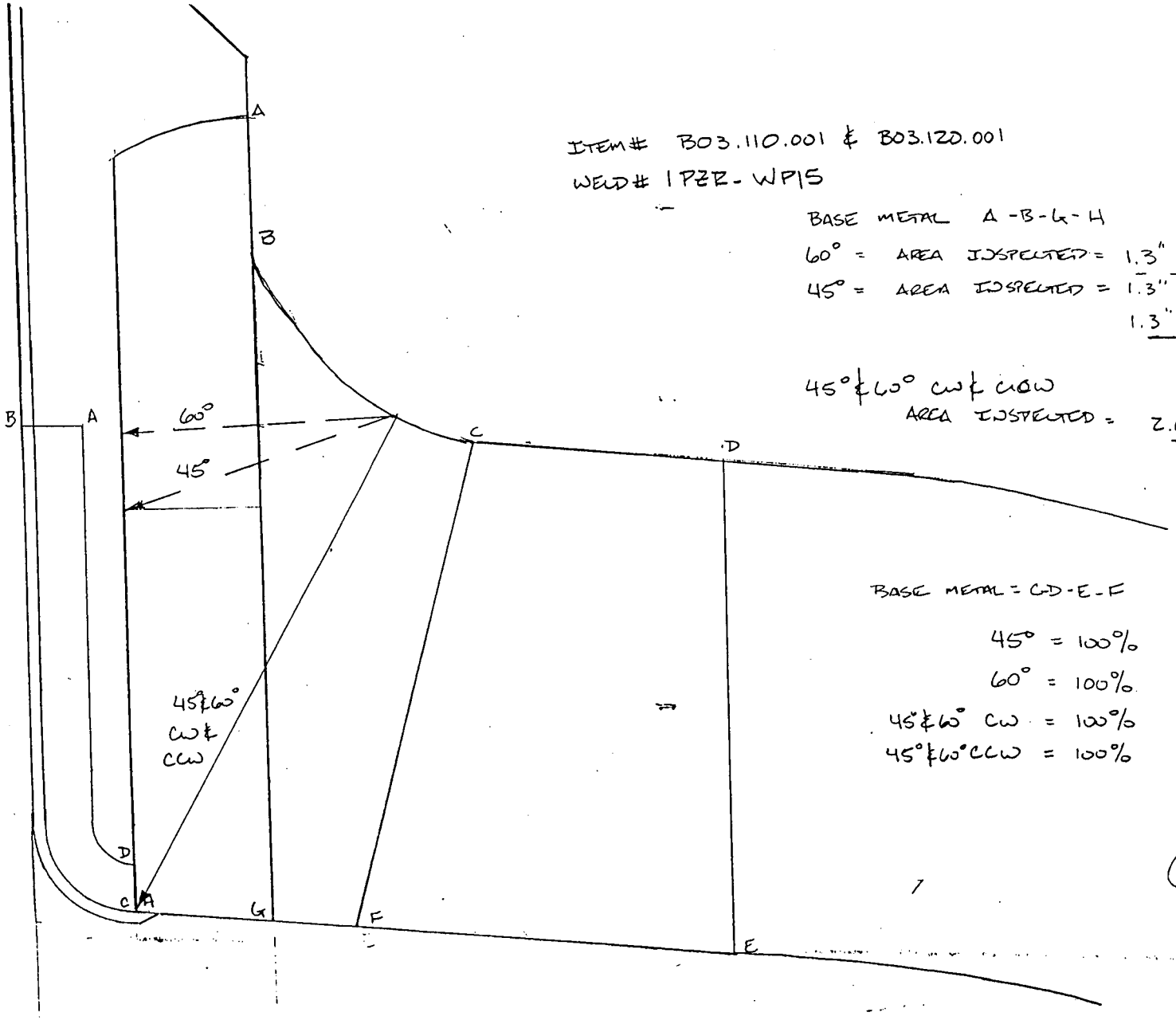
Area Calculation	Volume Calculation

Coverage Calculations

Scan #	Angle	Beam Direction	Area Examined (sq.in.)	Length Examined (in.)	Volume Examined (cu.in.)	Volume Required (cu.in.)	Percent Coverage
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# 1PZR-WP15

BASE METAL A-B-G-H

60° = AREA INSPECTED = 1.3" x 4.9" = 6.37 in²

45° = AREA INSPECTED = 1.3" x 4.0" = 5.2 in²

$\frac{1.3" \times .5"}{2}$ = 0.33 in²

45° TOTAL = 5.53 in²

45°&60° CW & CCW

AREA INSPECTED = $\frac{2.6" \times 1.3"}{2}$ = 1.69 in²

BASE METAL = C-D-E-F

45° = 100%

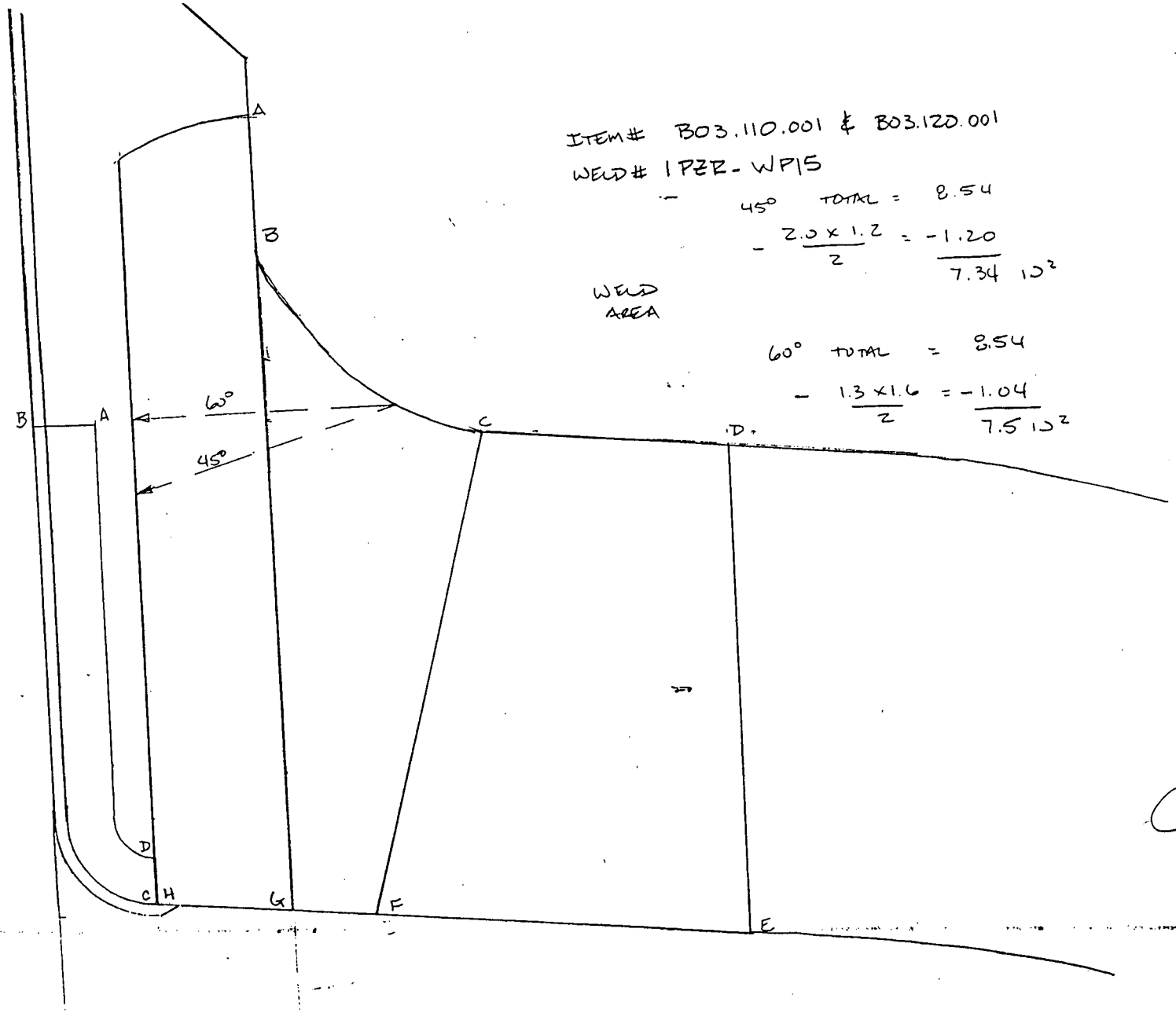
60° = 100%

45°&60° CW = 100%

45°&60° CCW = 100%

II 10/24/97

Sheet 9 of 13



ITEM# B03.110.001 & B03.120.001

WELD# 1PZR-WP15

45° TOTAL = 8.54

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

7.34 10^2

WELD AREA

60° TOTAL = 8.54

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

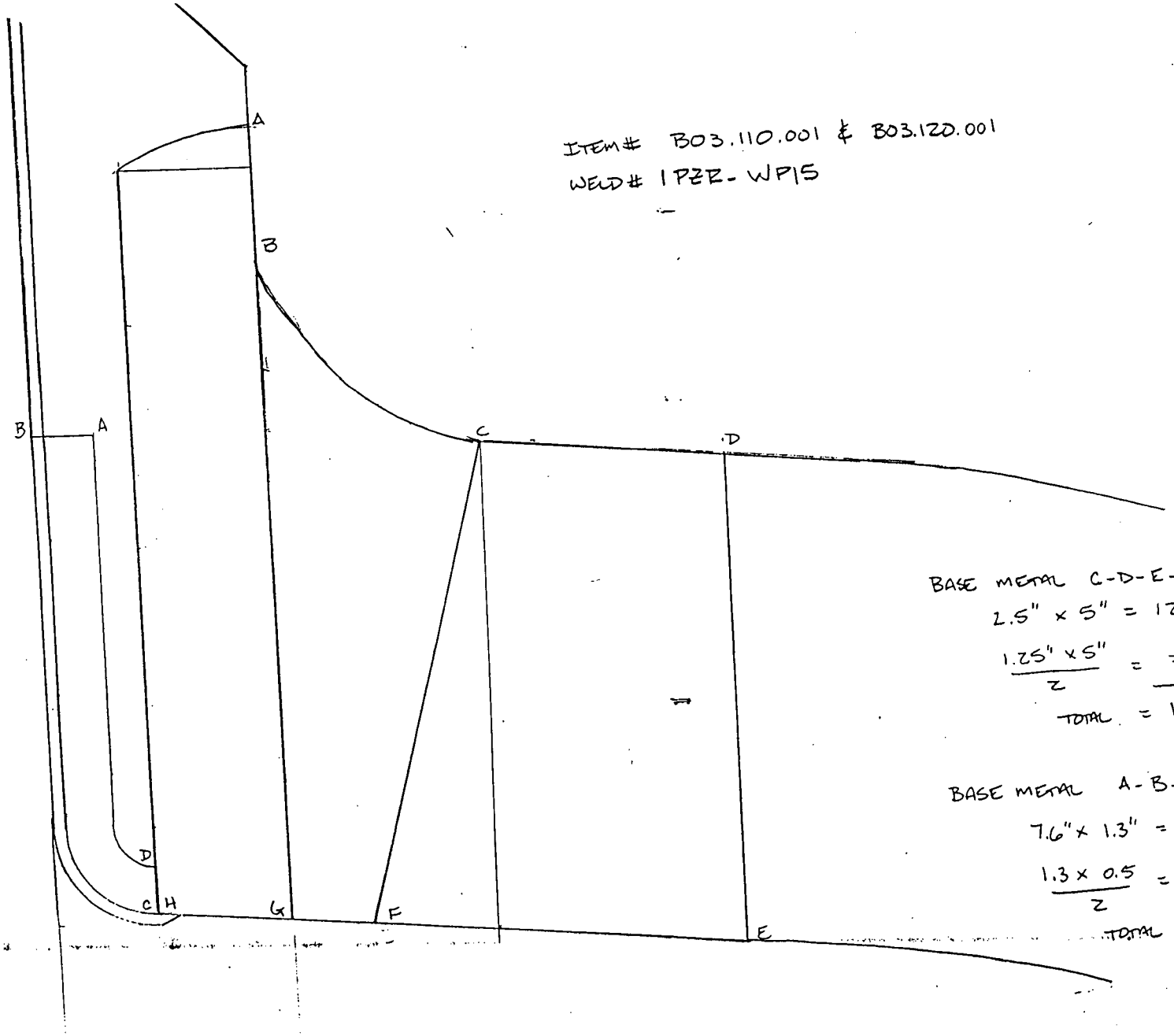
7.5 10^2

II 10/24/97

Sheet 10 of 13

ITEM# B03.110.001 & B03.120.001

WELD# 1PZR-WP15



II 10/24/97

BASE METAL C-D-E-F

$2.5'' \times 5'' = 12.5 \text{ in}^2$

$\frac{1.25'' \times 5''}{2} = 3.125 \text{ in}^2$

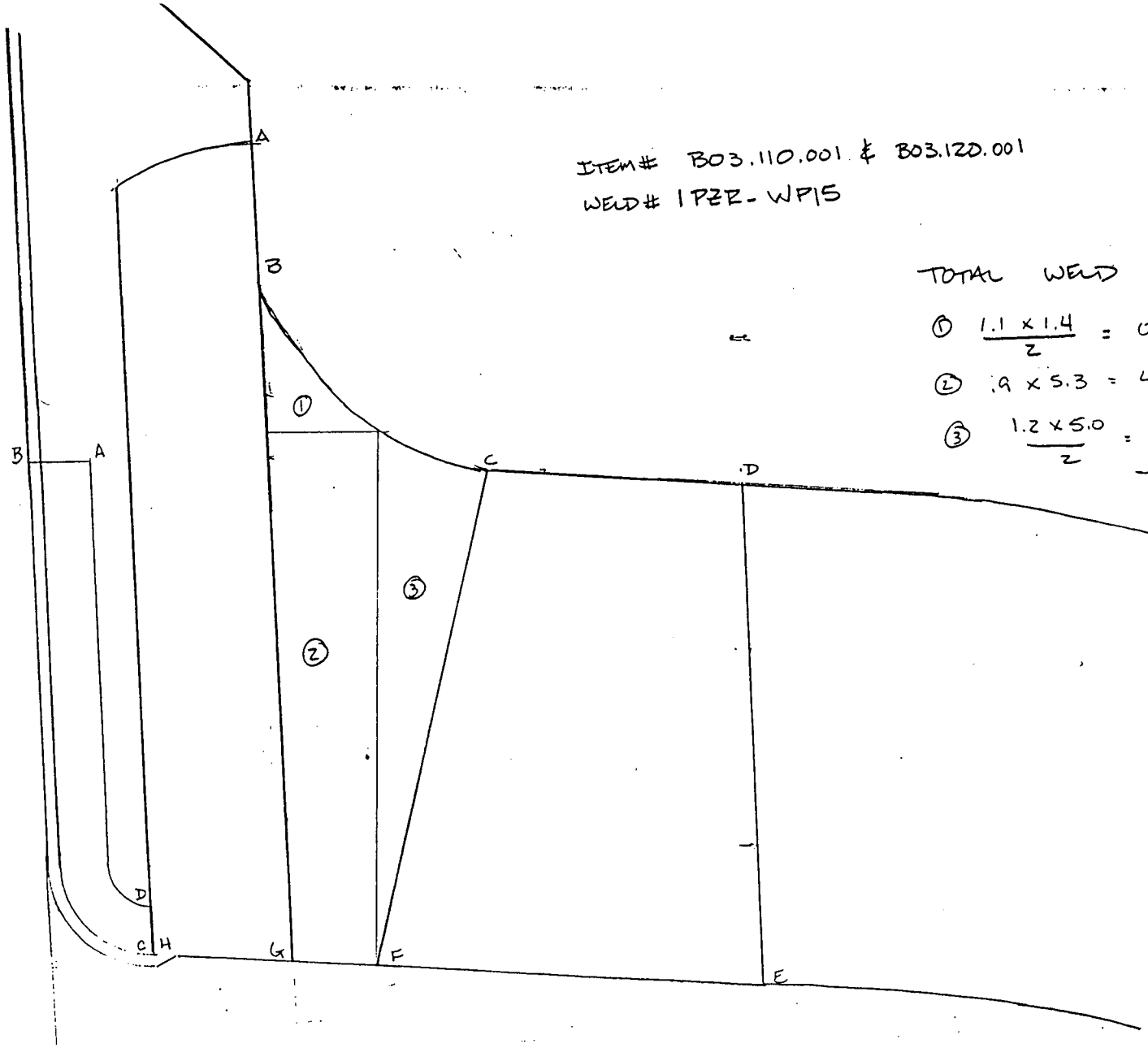
TOTAL $= 15.63 \text{ in}^2$

BASE METAL A-B-G-H

$7.6'' \times 1.3'' = 9.88 \text{ in}^2$

$\frac{1.3 \times 0.5}{2} = 0.33 \text{ in}^2$

TOTAL $= 10.21 \text{ in}^2$



ITEM# B03.110.001 & B03.120.001

WELD# 1PZR-WP15

TOTAL WELD

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

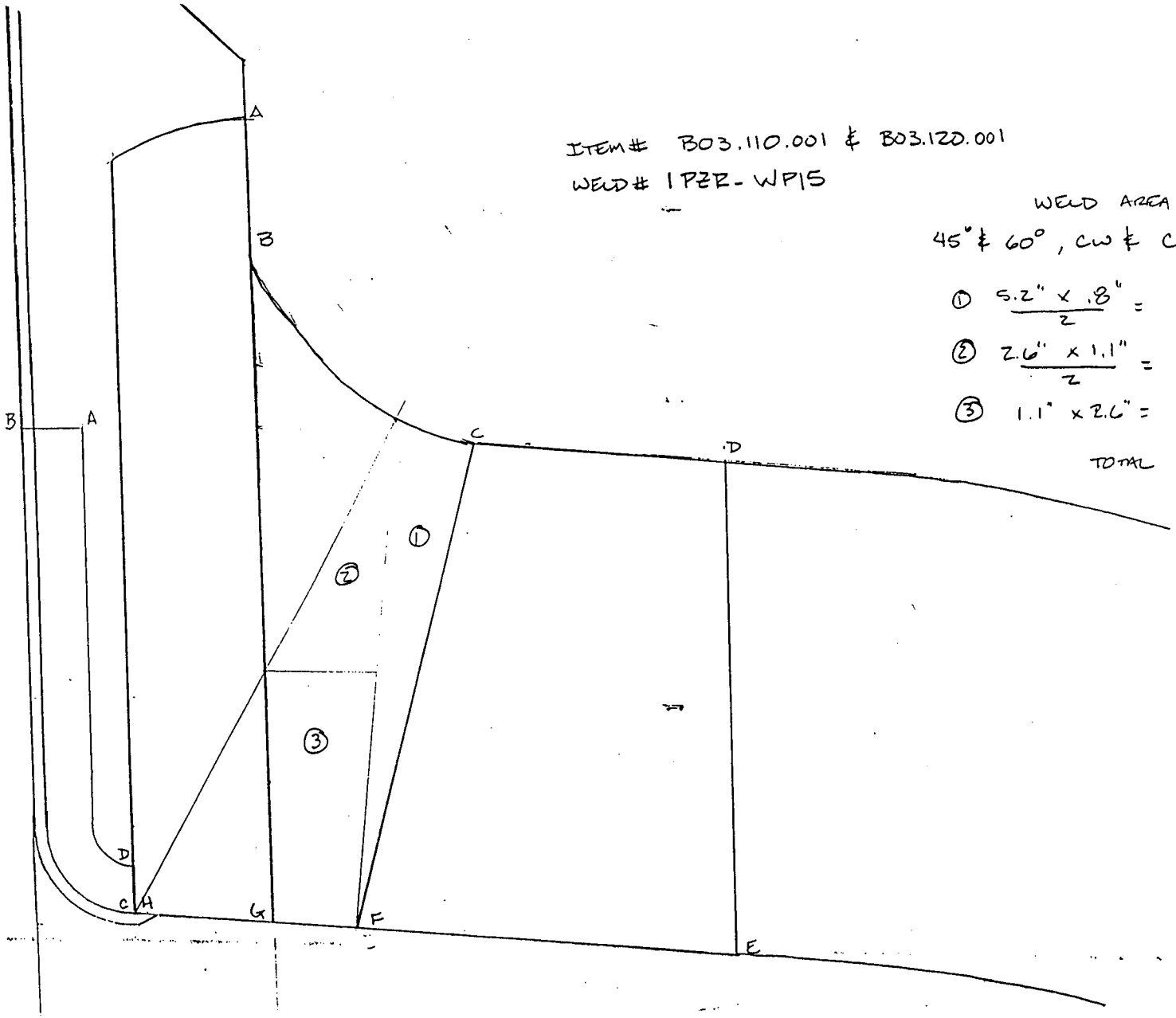
② $.9 \times 5.3 = 4.77 \text{ in}^2$

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

8.54 in^2

II 10/24/97

Sheet 12 of 13



ITEM# B03.110.001 & B03.120.001

WELD# 1PZR-WP15

WELD AREA

45° & 60°, CW & CCW

① $\frac{5.2'' \times .8''}{2}$ = 2.08 in²

② $\frac{2.6'' \times 1.1''}{2}$ = 1.43 in²

③ 1.1" x 2.6" = 2.86 in²

TOTAL 6.37 in²

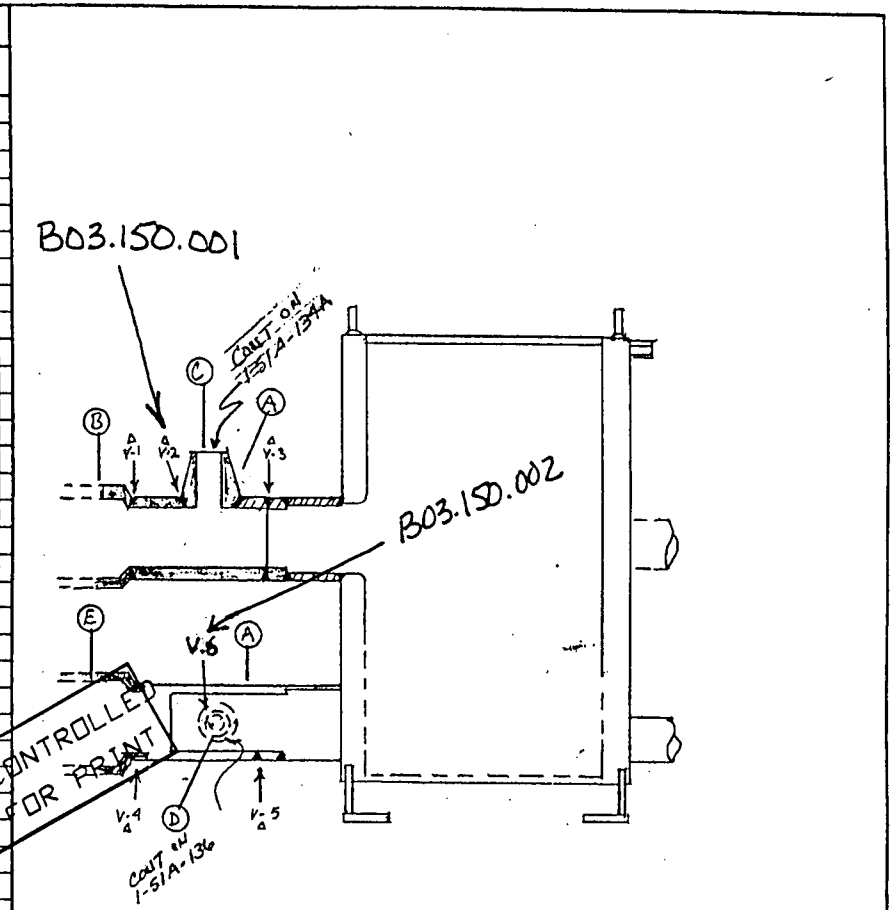
JJ 10/24/97

Request for Relief 0[illegible]-71

AB1028

BILL OF MATERIAL

MAT'L I.D.	QUANTITY	MATERIAL CLASS	MATERIAL TYPE	SPECIFICATION ASME OR ASTM	SPECIFICATION GRADE	DESCRIPTION	CONST.	SIZE	SCH.	LOT NO.
A			SS	SA182	F316L	Bar (Channel Nozzle)	FOR	—	—	
B			SS	A182	F316L	Chemical Connector	—	8"	.875	E29317-1-2
C			SS			Pipe (Inlet)	—	3"	160	
D			SS			Pipe (Outlet)	—	3"	160	
E			SS	SA182	F316L	Chemical Connector	—	8"	.875	E29439-1-1



V SEE Note 3 Δ SEE Note 9 ERN: 0X00 32RH

NOTES:

1. ALL WELD NUMBERS SHALL BE PRECEDED BY 1-51A-18792-1
2. LAST WELD NO. V6
3. REF. LAYOUT DWG OM 201-3107
4. REF. FLOW DWG OFD 101A-1.1, 2.1, 3.1
5. Cooler Constructed Per ASME Sect III Class 3
6. DESIGN TEMP: 600° DESIGN PRESS: 2500 PSIG
7. THE Drawing Number Will be the cooler Serial Number. All coolers will be designated as Unit 1. Please file in system 51A.
8. This cooler is currently located in cooler 1A

9. VENDOR WELDS:
W1: V.4 - HEAD TO SHELL WELDS
V-2, V.6 - NOZZLE TO VESSEL WELDS
V-3, V.5 - TUBE SHEET TO HEAD WELDS

UNIT 1
COOLER A

NO.	REVISION	DRAWN DATE	CHK'D DATE	MGR DATE
2	REVISE WORK ON REV 1 TO WO 95D87090	RCL 12-6-95		
1	REV TO ADD SH. TO BHE WO 95D86652 OE: 8535	RCL 11-16-95		
0	RCL REV OE: 8535 WO 95D01652	RCL 11-14-95		

QA CONDITION → ☒ 1 ☐ 2 ☐ 3 ☐ 4

DUKE POWER COMPANY
OCONEE NUCLEAR STATION UNIT

TITLE LETDOWN COOLER Serial Number 18792-1

SYS. 51A LINE NO. 4 DUKE CLASS X
CODE CLASS Sect III XI CLASS A
PIPING SPEC. NA
LOCATION Reactor Bldg L/D Cooler Rm.
DWG. NO. 18792-1 REV. NO. 2

DUKE POWER COMPANY

ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS

Exam Start: 1031 | Form NDE-UT-2A
Exam Finish: 1146 | Revision 4

Station: Oconee | 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 Richard B Childers Level: II
Examiner: James H. Resor James H. Resor Level: II

Pyrometer S/N: MCNDE 27018
Cal Due: 2/14/98

Procedure: NDE-630 Rev: 2 | FC: N/A

Calibration Sheet No:
9701053, 9701054, 9701056, 9701055

Scans:
45 ☒ 47.0 dB | 70 ☐ ____ dB
45T ☒ 44.0 dB | 70T ☐ ____ dB
60 ☒ 72.0 dB
60T ☐ ____ dB
Other: 45L=75 dB

Configuration: CIRC
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
		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			
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) ☒ 90% or greater coverage obtained: yes ☐ no ☒

Sheet 1 of 11

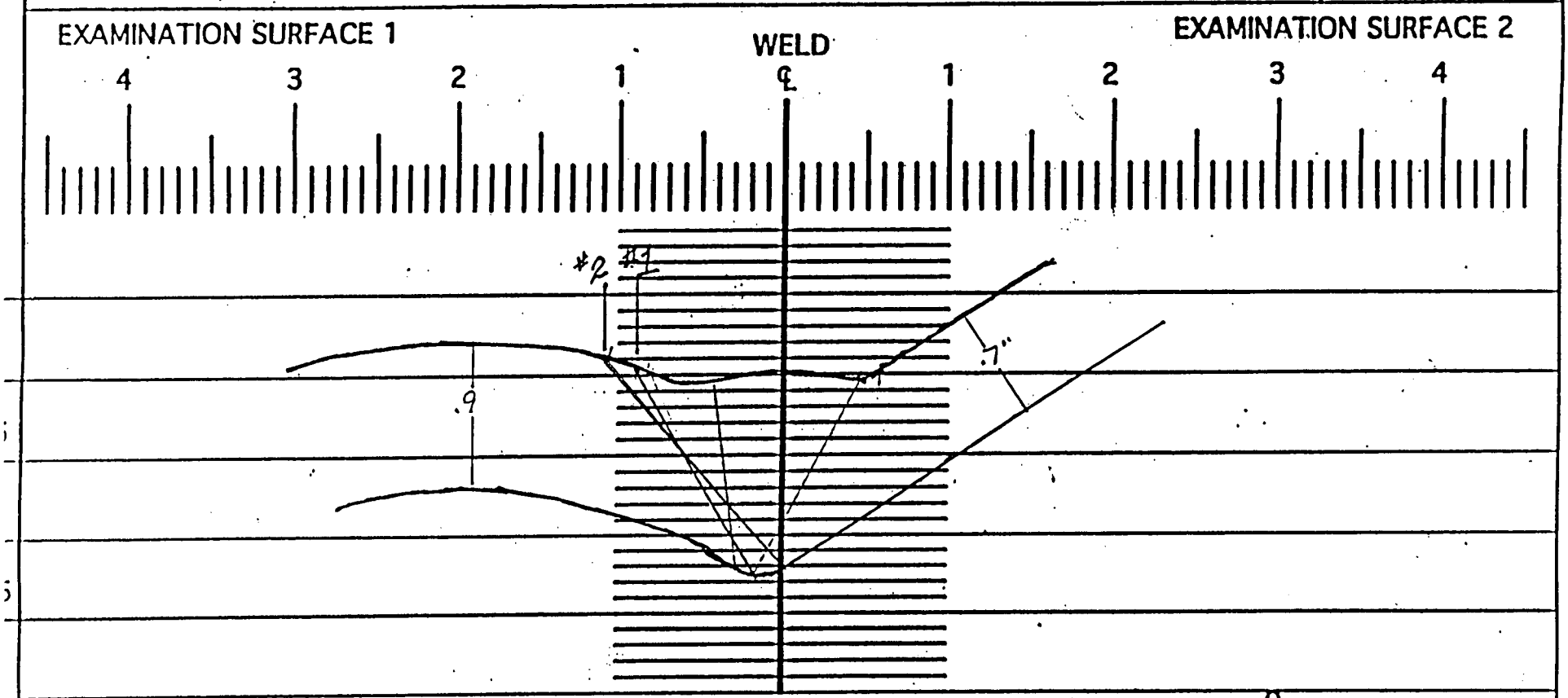
Reviewed By: G G Bibb GGBibb | Level: III | Date: 10-2-97

Authorized Inspector: MGC | Date: 10-2-97

Item No: B03.150.001

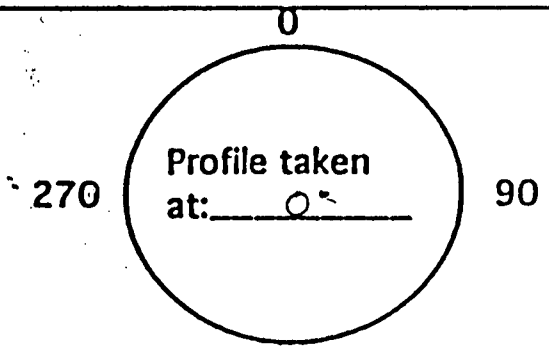
DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

NDE-UT-5
Revision 1



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

Remarks: B03.150.001



Item No: B03.150.001

Examiner: Richard B. Shelden	Level: II	Date: 9-29-97
Reviewed By: [illegible]	Level: III	Date: 10-2-97
Authorized Inspector: [illegible]		Date: 10-9-97

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: B03.150.001

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:	[redacted]	Sheet 3 of 11
Richard B. Childers Richard B Childers	II	9/29/97		
Reviewer:	Level:	Date:	Authorized Inspector:	Date:
G.G. BIBB GGBibb	III	10-2-97 ~~9/29/97~~ GGB 10-2-97	MBC	10-9-97

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

NDE-UT-5
Revision 1

EXAMINATION SURFACE 1 — WELD — EXAMINATION SURFACE 2

4 3 2 1 ℄ 1 2 3 4

BASE METAL

A-B-C $\frac{1.45 \times .65}{2} = .47125 = .47^2$ IN.

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

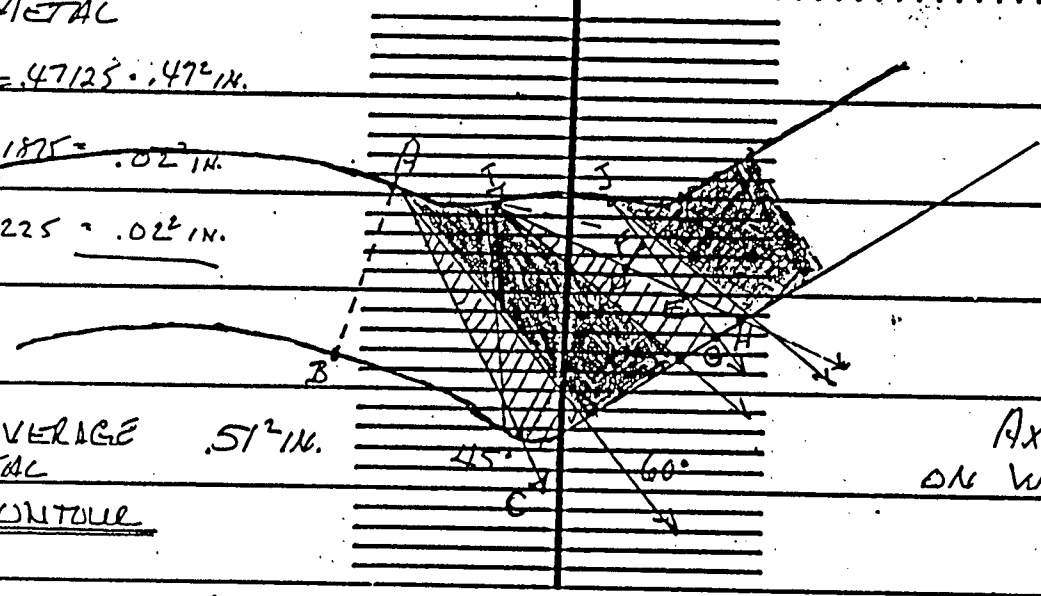
E-G-H $\frac{.3 \times .15}{2} = .0225 = .02^2$ IN.

WELD METAL

D-F-I = $\frac{.75 \times .15}{2} = .05625 = .06^2$ IN

F-I-J = $\frac{.75 \times .15}{2} = .05625 = .06^2$ IN.

$.12^2$ IN.



AXIAL SCAN COVERAGE ON BASE METAL $.51^2$ IN.
CIRC. CONTOUR

AXIAL SCAN COVERAGE ON WELD METAL $.12^2$ IN.

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

Remarks: B03.150.001

0 / 270 / 90 / 180

Profile taken at: 0°

Item No: B03.150.001

Examiner: Richard B. Gholden	Level: II	Date: 9-29-97
Reviewed By: [illegible]	Level: III	Date: 10-2-97
Authorized Inspector: MBC		Date: 10-9-97

Sheet 4 of 11

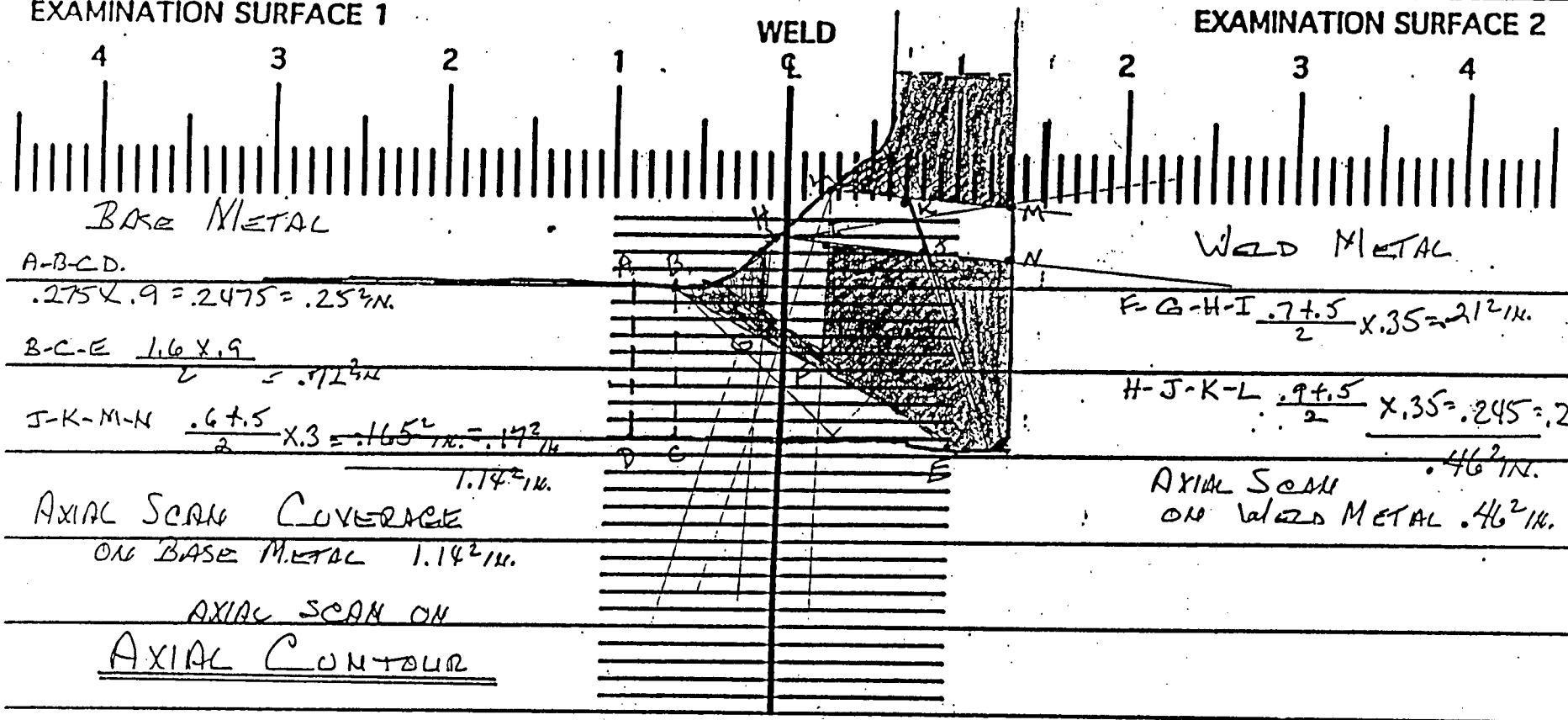
DUKE POWER COMPANY

UT PROFILE/PLOT SHEET

NDE-UT-5

Revision 1

EXAMINATION SURFACE 1 | WELD | EXAMINATION SURFACE 2



BASE METAL

A-B-C-D.

.275 X .9 = .2475 = .25 IN.

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

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

1.14 IN.

AXIAL SCAN COVERAGE ON BASE METAL 1.14 IN.

AXIAL SCAN ON AXIAL CONTOUR

WELD METAL

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

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

.46 IN.

AXIAL SCAN ON WELD METAL .46 IN.

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

Remarks: B03.150.001

Item No: B03.150.001

xaminer: Richard B. Childers	Level: II	Date: 9-29-97
eviewed By: J. Bibb	Level: III	Date: 10-2-97
uthorized Inspector: M.B.C.		Date: 10-9-97

0

270 Profile taken at: 0° 90

180

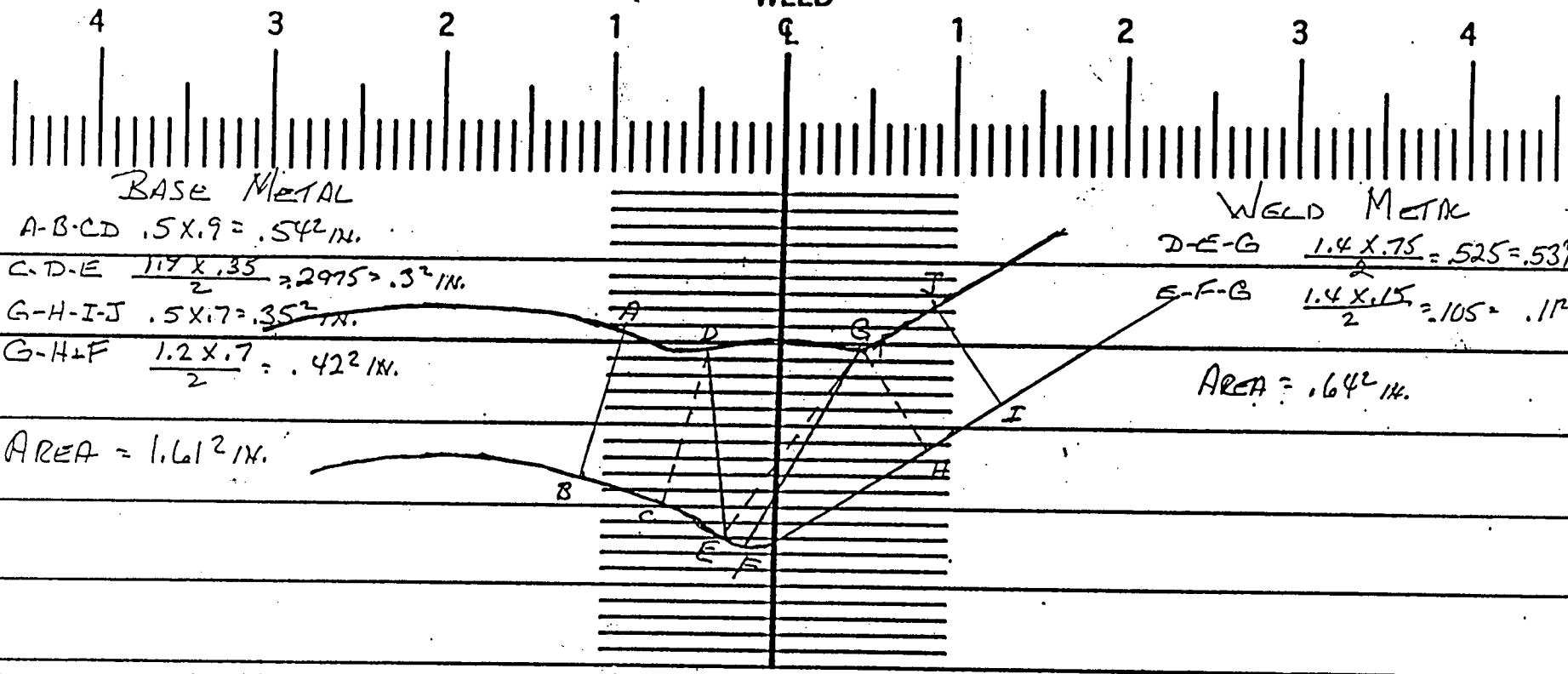
Sheet 5 of 11

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

NDE-UT-5

Revision 1

EXAMINATION SURFACE 1 — WELD — EXAMINATION SURFACE 2



BASE METAL

A-B-CD .5 X .9 = .54² IN.

C-D-E $\frac{1.7 \times .35}{2}$ = .2975 = .3² IN.

G-H-I-J .5 X .7 = .35² IN.

G-H-F $\frac{1.2 \times .7}{2}$ = .42² IN.

AREA = 1.61² IN.

WELD METAL

D-E-G $\frac{1.4 \times .75}{2}$ = .525 = .53² IN

E-F-G $\frac{1.4 \times .15}{2}$ = .105 = .1² IN

AREA = .64² IN.

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

Remarks: B03.150.001

Item No: B03.150.001

Examiner: Richard B Childers — Level: II — Date: 9-29-97

Reviewed By: [illegible] — Level: III — Date: 10-2-97

Authorized Inspector: [illegible] — Date: 10-9-97

0 / 270 / 90 / 180

Profile taken at: 0°

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	Volume Calculation
AXIAL CONTOUR 2.13² IN. CIRC. CONTOUR 1.61² IN. 3.74² IN. 3.74² IN. ÷ 2 = 1.87² IN. AVERAGE	LENGTH 14.5" 1.87² IN. X 14.5" = 27.115 = 27.12 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	.26² IN.				
AX	45/60	2	1.14² IN.				
			1.4² IN.				
		CIRC. CONTOUR					
CIRC.	45	CW/CCW	.09² IN.				
AX	45/60	2	.51² IN.				
			.6² IN.				
1.4+.6 ÷ 4		SCANS =	.5² IN.	14.5"	7.25 CU IN	27.12	26.73

Item No: B03.150.001

Prepared BY: Richard B. Childers Level: II Date: 9-29-97

Reviewed By: S.G. Bobb 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	Volume Calculation
AXIAL CONTOUR .64² IN. CIRC. CONTOUR 1.26² IN. 1.9² IN. 1.9² IN. ÷ 2 = .95² IN.	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	.94² IN.				
AX	45/60	2	.46² IN.				
			1.4² IN.				
	CIRC. CONTOUR						
CIRC.	45	CW/CCW	.25² IN.				
AX	45/60	2	.12² IN.				
			.37² IN.				
1.4² IN + .37² IN. ÷ 4 SCANS = .4425 = .44² IN				14.5	6.38³ IN.	13.78³ IN.	46.3

Item No: B03.150.001

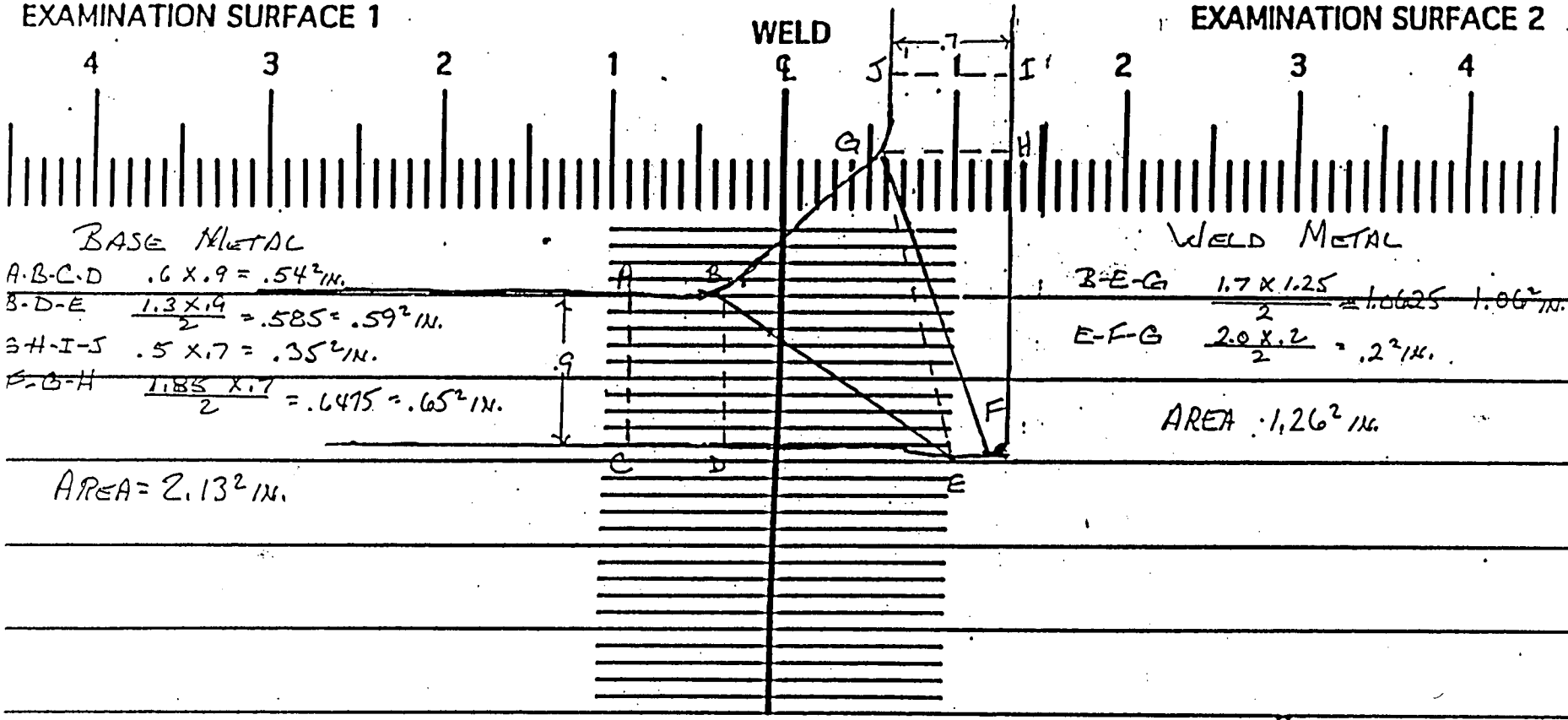
Prepared BY: Richard B Glidden Level: II Date: 9-29-97

Reviewed By: [illegible] Level: III Date: 10-2-97

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 .6 X .9 = .54² IN.

B-D-E $\frac{1.3 \times .9}{2}$ = .585 = .59² IN.

G-H-I-J .5 X .7 = .35² IN.

E-G-H $\frac{1.85 \times .7}{2}$ = .6475 = .65² IN.

AREA = 2.13² IN.

WELD METAL

B-E-G $\frac{1.7 \times 1.25}{2}$ = ~~1.0625~~ ~~1.06²~~ IN.

E-F-G $\frac{2.0 \times .2}{2}$ = .2² IN.

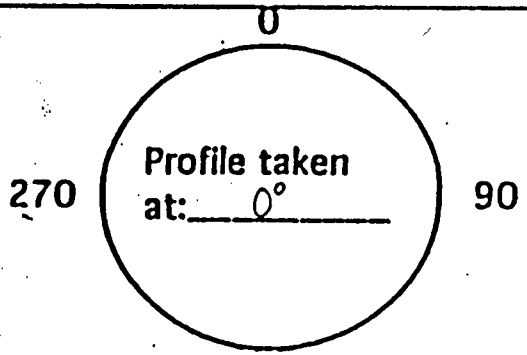
AREA = 1.26² IN.

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

Remarks: B03.150.001

Item No: B03.150.001

Examiner: Richard B. Childers	Level: II	Date: 9-29-97
Reviewed By: [illegible]	Level: III	Date: 10-2-97
Authorized Inspector: [illegible]		Date: 10-9-97

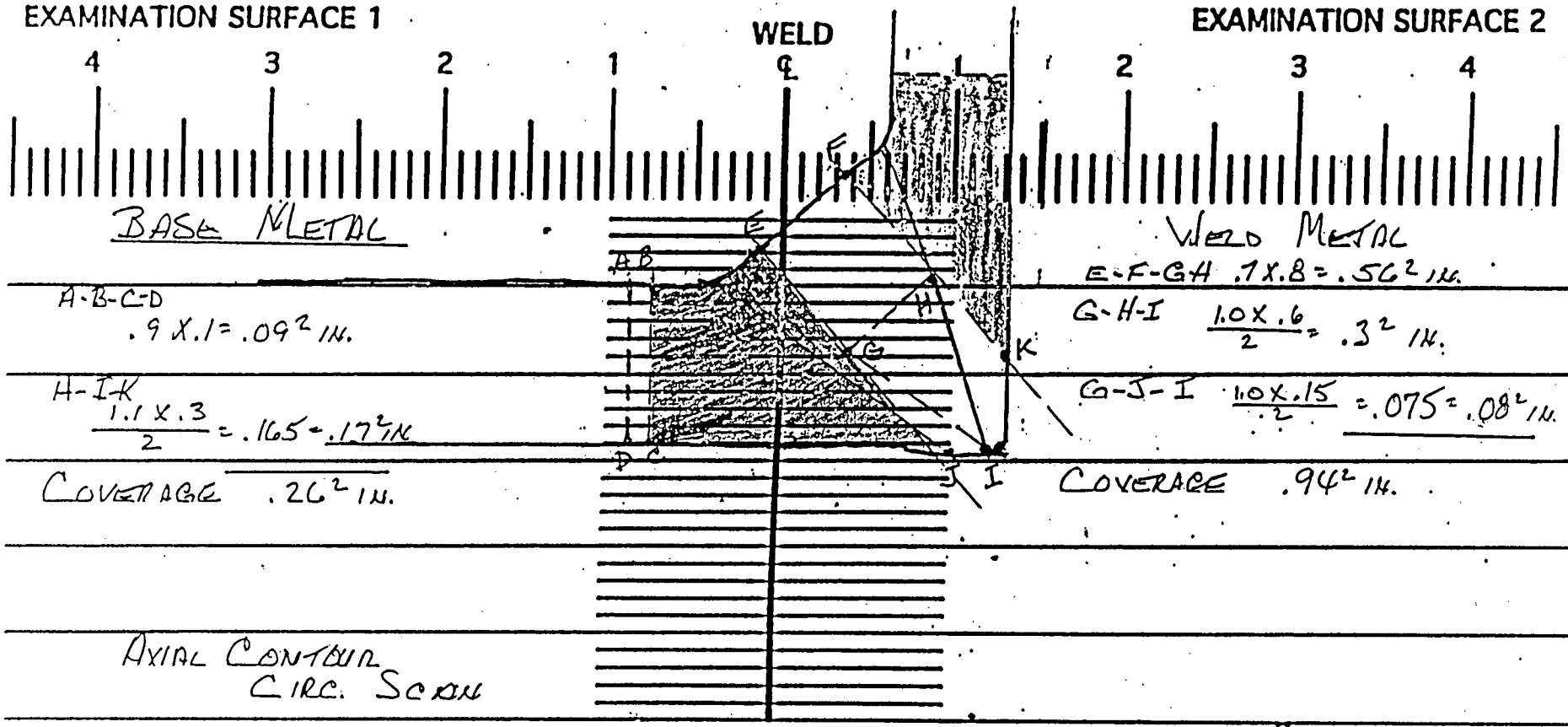


Sheet 9 of 11

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
.9 X .1 = .09² IN.

H-I-K
$\frac{1.1 \times .3}{2}$ = .165 = .17² IN

COVERAGE .26² IN.

WELD METAL

E-F-G-H .7 X .8 = .56² IN.

G-H-I $\frac{1.0 \times .6}{2}$ = .3² IN.

G-J-I $\frac{1.0 \times .15}{2}$ = .075 = .08² IN.

COVERAGE .94² IN.

AXIAL CONTOUR
CIRC. SCAN

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

Remarks: B03.150.001

Item No: B03.150.001

Examiner: Richard B. Childers	Level: II	Date: 9-29-97
Reviewed By: [illegible]	Level: III	Date: 10-2-97
Authorized Inspector: [illegible]		Date: 10-9-97

0
270 Profile taken at: 0° 90
180

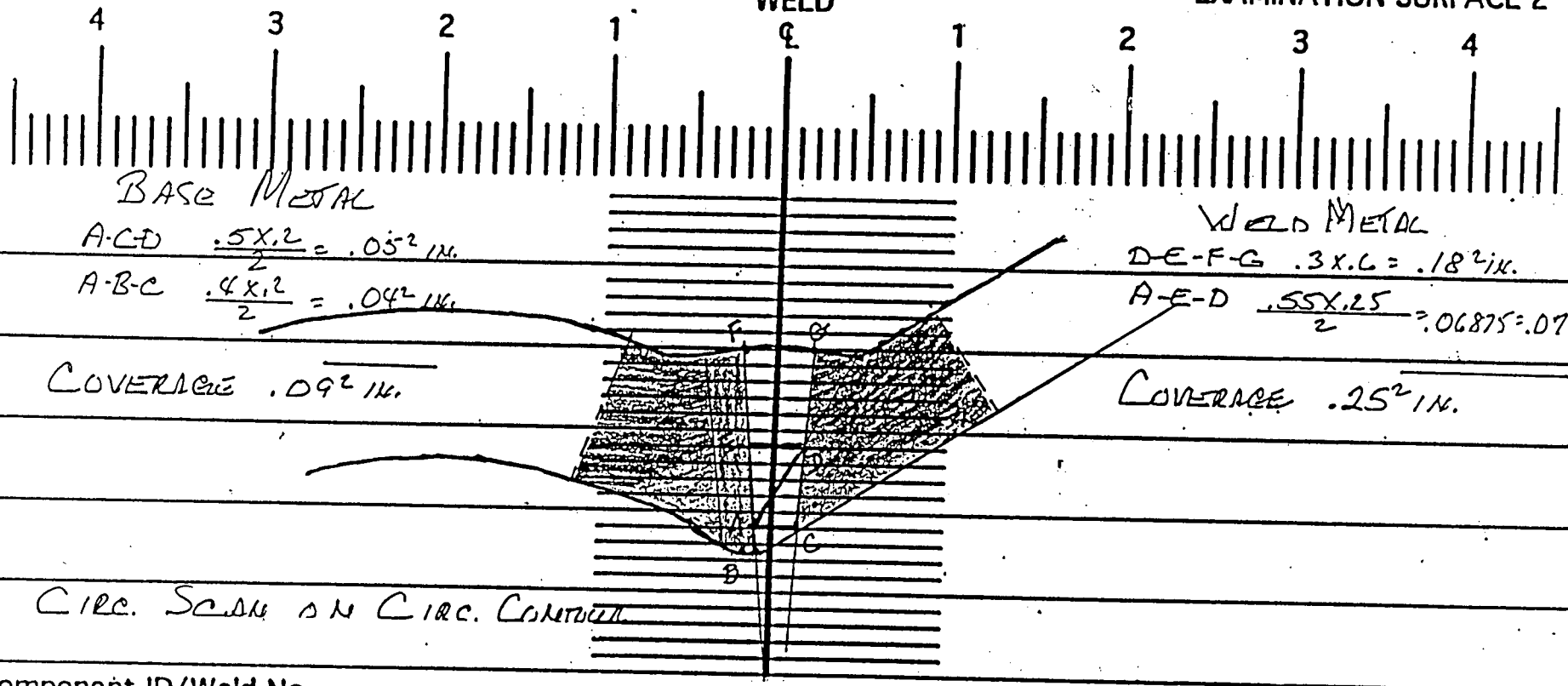
Sheet 10 of 11

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

NDE-UT-5

Revision 1

EXAMINATION SURFACE 1 — WELD — EXAMINATION SURFACE 2



BASE METAL

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

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

COVERAGE $.09^2$ IN.

WELD METAL

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

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

COVERAGE $.25^2$ IN.

CIRC. SCAN ON CIRC. CONTOUR

Component ID/Weld No.

Remarks:

Profile taken at: 0°

0 / 90 / 180 / -270

Item No: B03.150.001

Examiner: Richard B Glidden	Level: II	Date: 9-29-97
Reviewed By: [illegible]	Level: III	Date: 10-2-97
Authorized Inspector: [illegible]		Date: 10-9-97

Sheet 11 of 11

DUKE POWER COMPANY

ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS

Exam Start: 1031	Form NDE-UT-2A	
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 Level: II

Examiner: James H. Reso Level: II

Procedure: NDE-630 Rev: 2

FC: N/A

Calibration Sheet No: 9701053, 9701054, 9701056, 9701055

Scans:

45 ☒ 47.0 dB 70 ☐ ____ dB

45T ☒ 44.0 dB 70T ☐ ____ dB

60 ☒ 72.0 dB

60T ☐ ____ dB

Other: 45L=75 dB

Pyrometer S/N: MCNDE 27018

Cal Due: 2/14/98

Configuration: CIRC

S1 Flow S2

NOZZLE to C.BODY

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			
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) ☒ 90% or greater coverage obtained: yes ☐ no ☒

Sheet 1 of 11

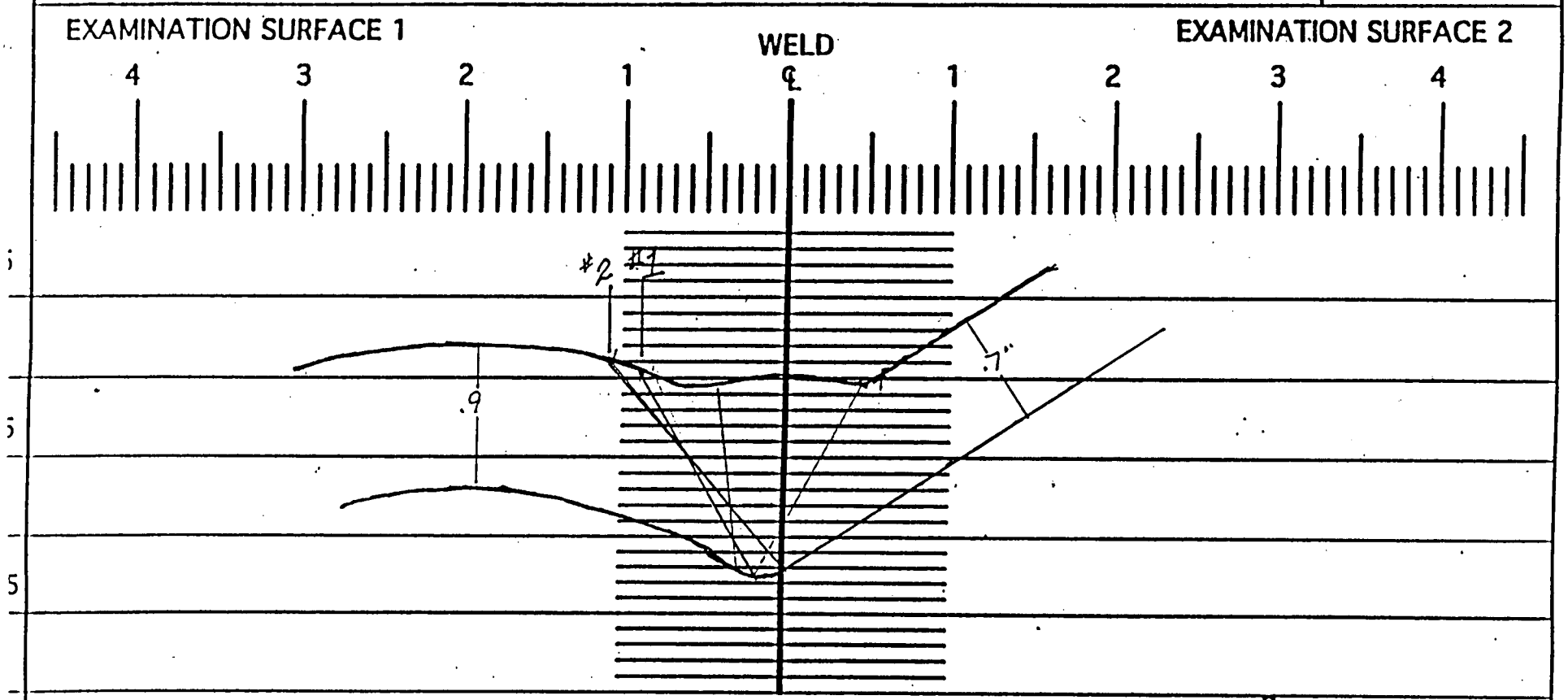
Reviewed By:	Level:	Date:	Authorized Inspector:	Date:	Item No:
G G Bibb	III	10-2-97		10-9-97	B03.150.002

DUKE POWER COMPANY

UT PROFILE/PLOT SHEET

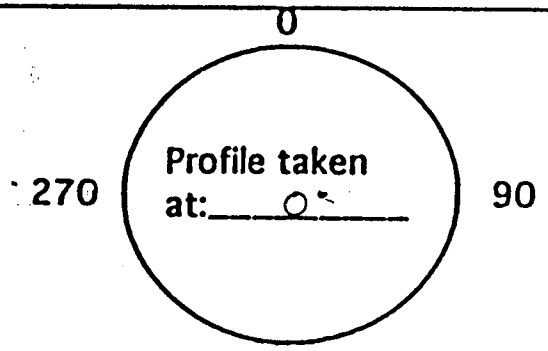
NDE-UT-5

Revision 1



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: [illegible]	Level: III	Date: 10-2-97
Authorized Inspector: [illegible]		Date: 10-9-97

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:	[redacted]	Sheet 3 of 11
Richard B. Childers Richard B. Childers	II	9/29/97		
Reviewer:	Level:	Date:	Authorized Inspector:	Date:
G.G. BIBB GG Bibb	III	~~9/29/97~~ 10-2-97 GGB 10-2-97	[illegible]	10-9-97

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

NDE-UT-5
Revision 1

EXAMINATION SURFACE 1 — WELD — EXAMINATION SURFACE 2

4 3 2 1 ℄ 1 2 3 4

BASE METAL

A-B-C $\frac{1.45 \times .65}{2} = .47125 = .47^2$ IN.

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

E-G-H $\frac{.3 \times .15}{2} = .0225 = .02^2$ IN.

AXIAL SCAN COVERAGE ON BASE METAL $.51^2$ IN.

CIRC. CONTOUR

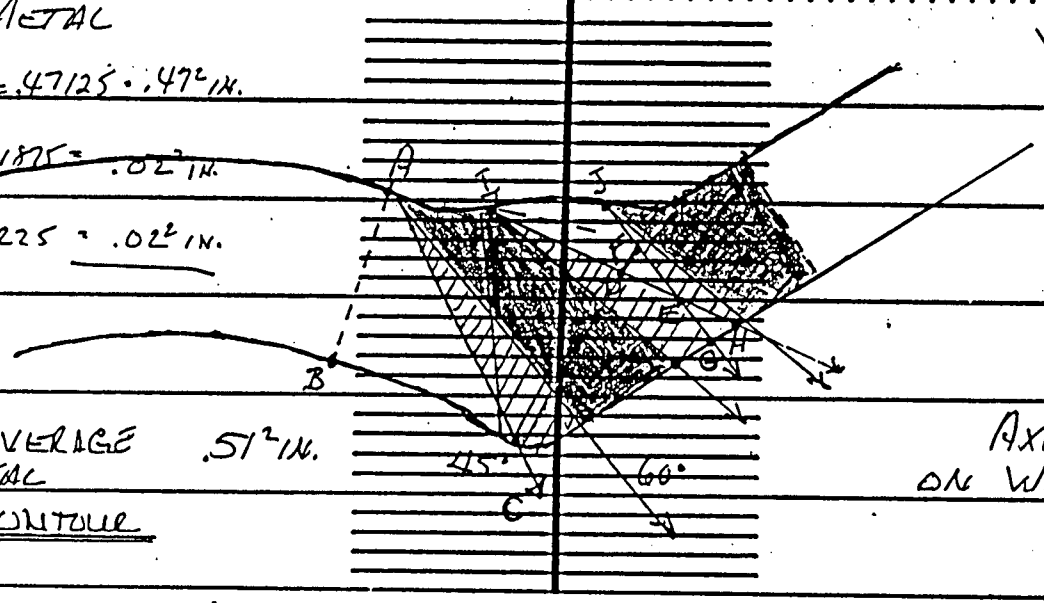
WELD METAL

D-F-I = $\frac{.75 \times .15}{2} = .05625 = .06^2$ IN

F-I-J = $\frac{.75 \times .15}{2} = .05625 = .06^2$ IN.

$.12^2$ IN.

AXIAL SCAN COVERAGE ON WELD METAL $.12^2$ 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: [illegible] — Level: III — Date: 10-2-97

Authorized Inspector: [illegible] — Date: 10-9-97

0 / 270 / 90 / 180

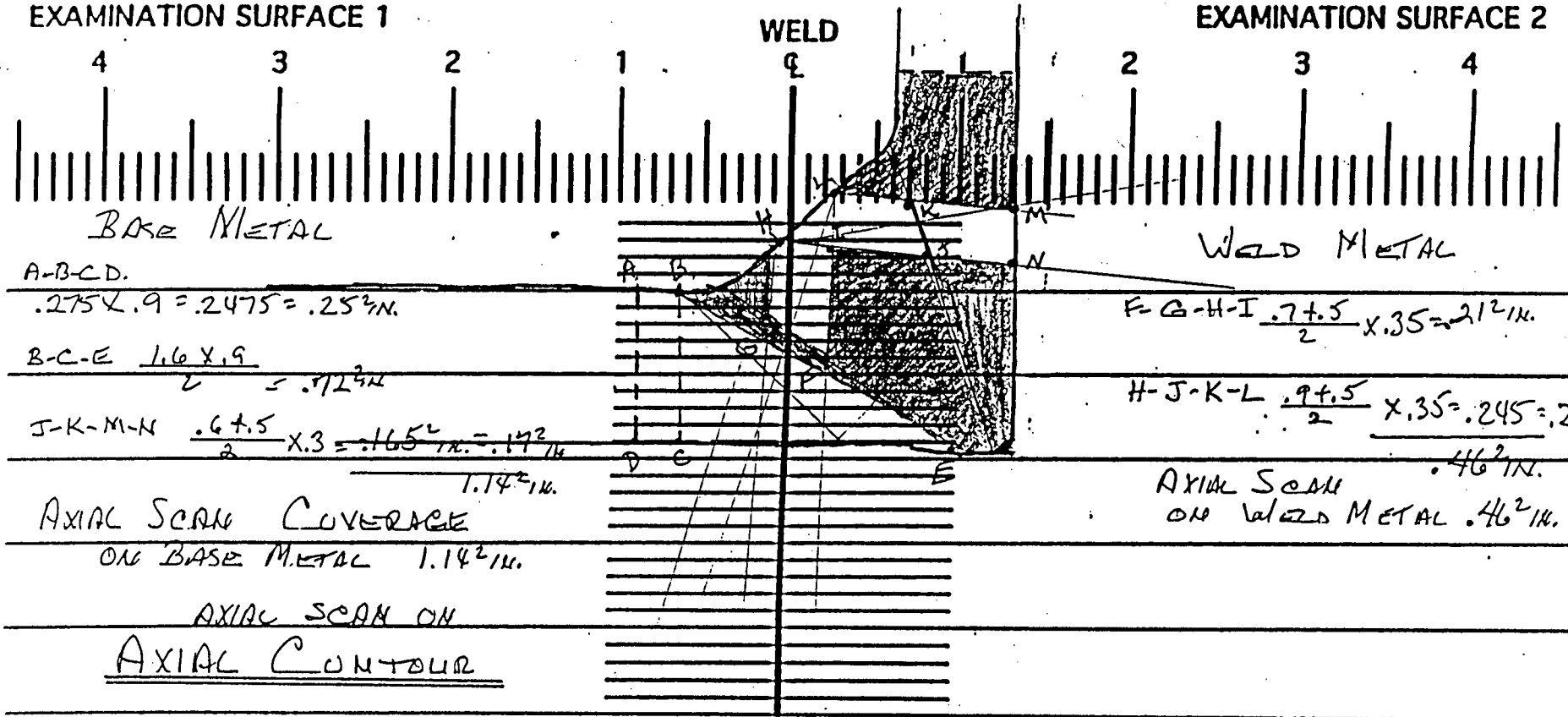
Profile taken at: 0°

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 X .9 = .2475 = .25 ²/IN.

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

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

1.14 ²/IN.

AXIAL SCAN COVERAGE ON BASE METAL 1.14 ²/IN.

AXIAL SCAN ON AXIAL CONTOUR

WELD METAL

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

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

.46 ²/IN.

AXIAL SCAN ON WELD METAL .46 ²/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: [illegible] | Level: III | Date: 10-2-97

Authorized Inspector: [illegible] | Date: 10-9-97

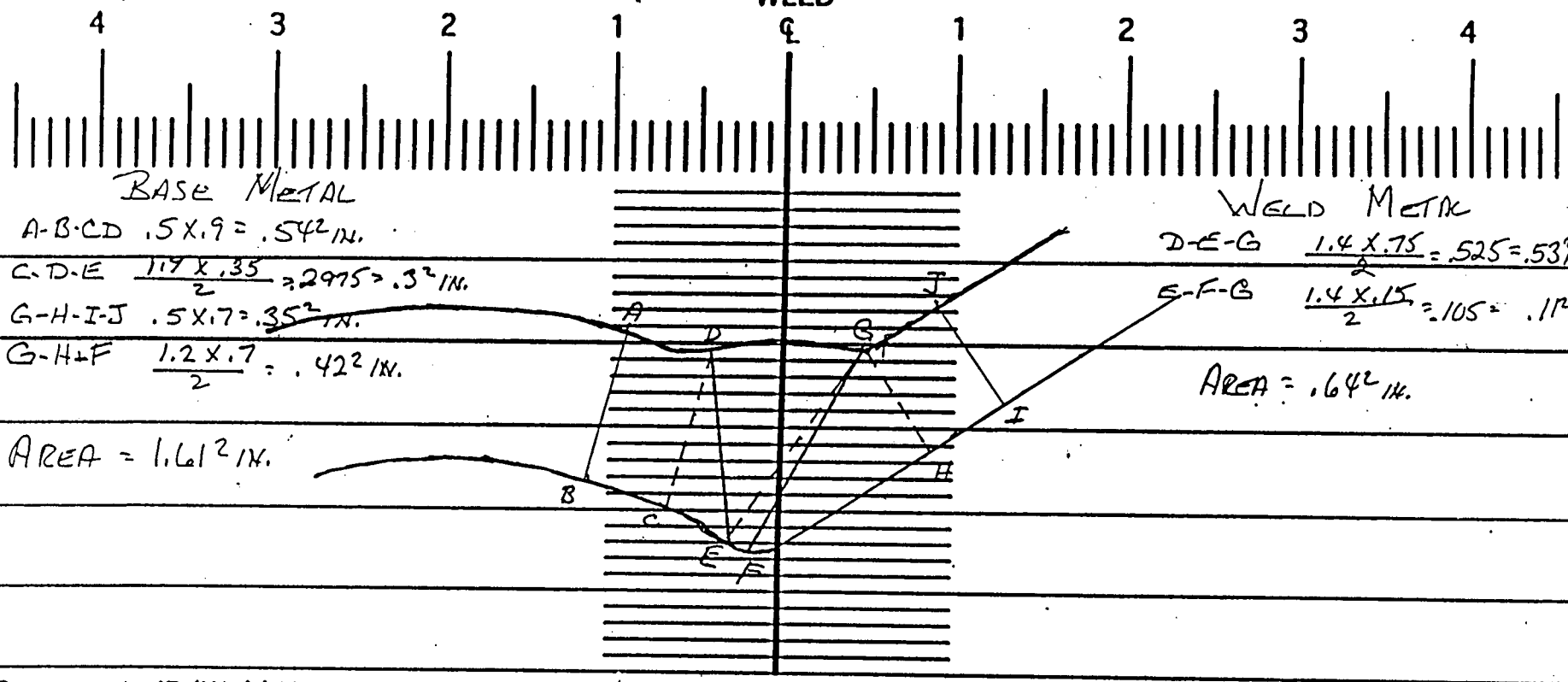
0
270 Profile taken at: 0° 90
180

Sheet 5 of 11

DUKE POWER COMPANY
UT PROFILE/PLOT SHEET

NDE-UT-5
Revision 1

EXAMINATION SURFACE 1 — WELD — EXAMINATION SURFACE 2



BASE METAL

A-B-CD .5 X .9 = .54² IN.

C-D-E $\frac{1.7 \times .35}{2}$ = .2975 = .3² IN.

G-H-I-J .5 X .7 = .35² IN.

G-H-F $\frac{1.2 \times .7}{2}$ = .42² IN.

AREA = 1.61² IN.

WELD METAL

D-E-G $\frac{1.4 \times .75}{2}$ = .525 = .53² IN

E-F-G $\frac{1.4 \times .15}{2}$ = .105 = .1² IN

AREA = .64² IN.

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

Remarks: B03.150.002

Item No: B03.150.002

Examiner: Richard B. Childers — Level: II — Date: 9-29-97

Reviewed By: [illegible] — Level: III — Date: 10-2-97

Authorized Inspector: [illegible] — Date: 10-9-97

0 / 270 / 90 / 180

Profile taken at: 0°

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	Volume Calculation
AXIAL CONTOUR 2.13² IN. CIRC. CONTOUR 1.61² IN. 3.74² IN. 3.74² IN. ÷ 2 = 1.87² IN. AVERAGE	LENGTH 14.5" 1.87² IN. X 14.5" = 27.115 = 27.12 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	.26² IN.				
AX	45/60	2	1.14² IN.				
			1.4² IN.				
		CIRC CONTOUR					
CIRC.	45	CW/CCW	.09² IN.				
AX	45/60	2	.51² IN.				
			.6² IN.				
1.4+.6 ÷ 4		SCANS =	.5² 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: [illegible] 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	Volume Calculation
AXIAL CONTOUR .64² IN. CIRC. CONTOUR 1.26² IN. 1.9² IN. 1.9² IN. ÷ 2 = .95² IN.	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	.94² IN.				
AX	45/60	2	.46² IN.				
			1.4² IN.				
	CIRC. CONTOUR						
CIRC.	45	CW/CCW	.25² IN.				
AX	45/60	2	.12² IN.				
			.37² IN.				
1.4² IN + .37² IN. ÷ 4 SCANS = .4425 = .44² IN				14.5	6.38³ IN.	13.78³ IN.	46.3

Item No: B03.150.002

Prepared BY: Richard B Childers Level: II Date: 9-29-97

Reviewed By: [illegible] Level: III Date: 10-2-97

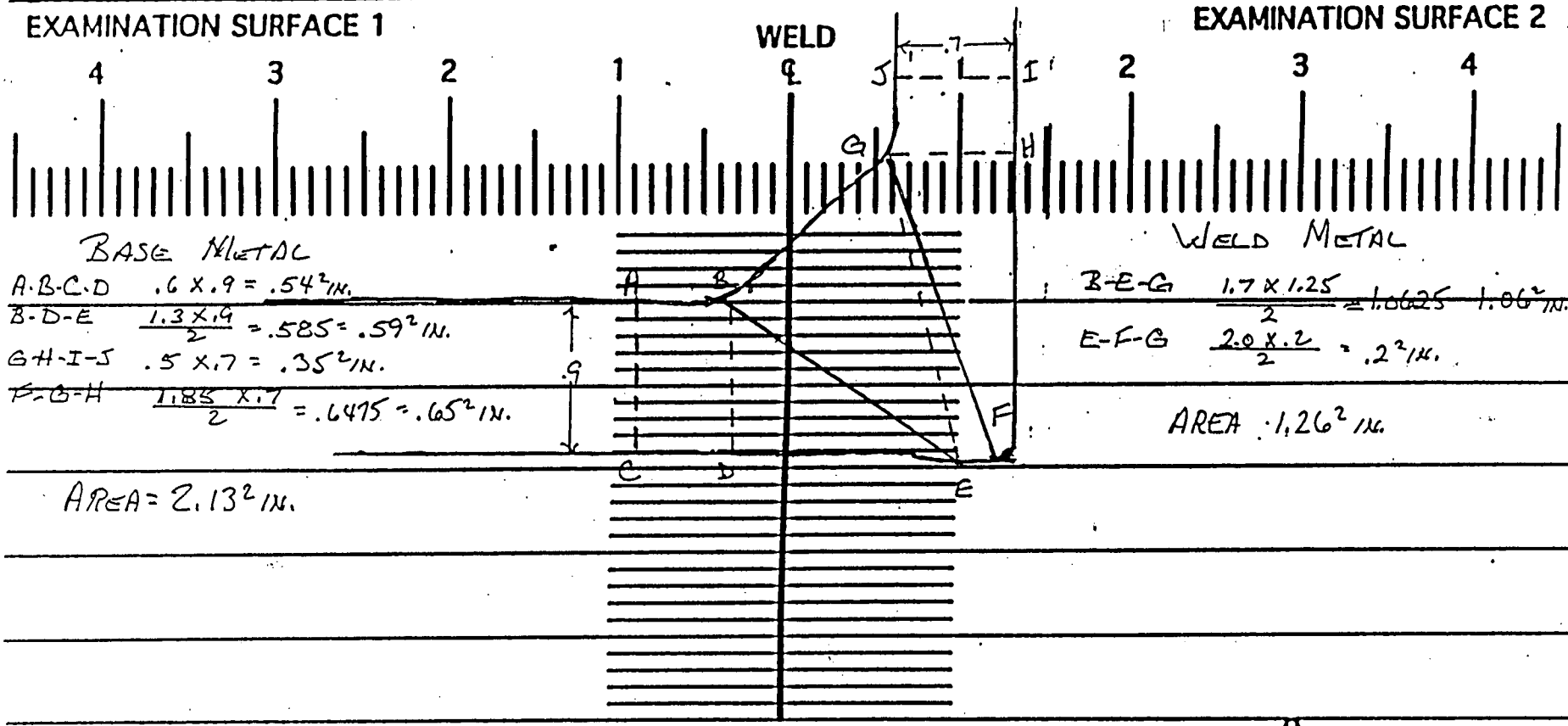
DUKE POWER COMPANY

UT PROFILE/PLOT SHEET

NDE-UT-5

Revision 1

EXAMINATION SURFACE 1 | WELD | EXAMINATION SURFACE 2



BASE METAL

A-B-C-D .6 X .9 = .54² IN.

B-D-E $\frac{1.3 \times .9}{2}$ = .585 = .59² IN.

G-H-I-J .5 X .7 = .35² IN.

~~F-G-H~~ $\frac{1.85 \times .7}{2}$ = .6475 = .65² IN.

AREA = 2.13² IN.

WELD METAL

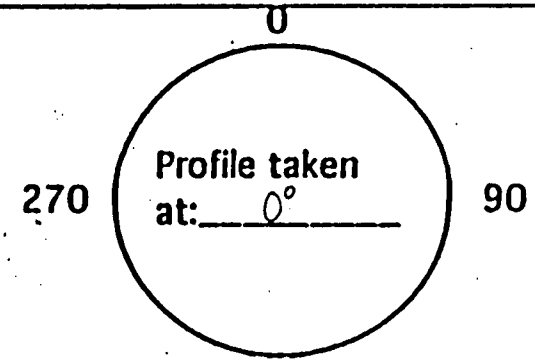
B-E-G $\frac{1.7 \times 1.25}{2}$ = ~~1.0625~~ ~~1.06² IN.~~

E-F-G $\frac{2.0 \times .2}{2}$ = .2² IN.

AREA 1.26² IN.

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

Remarks: B03.150.002



Item No: B03.150.002

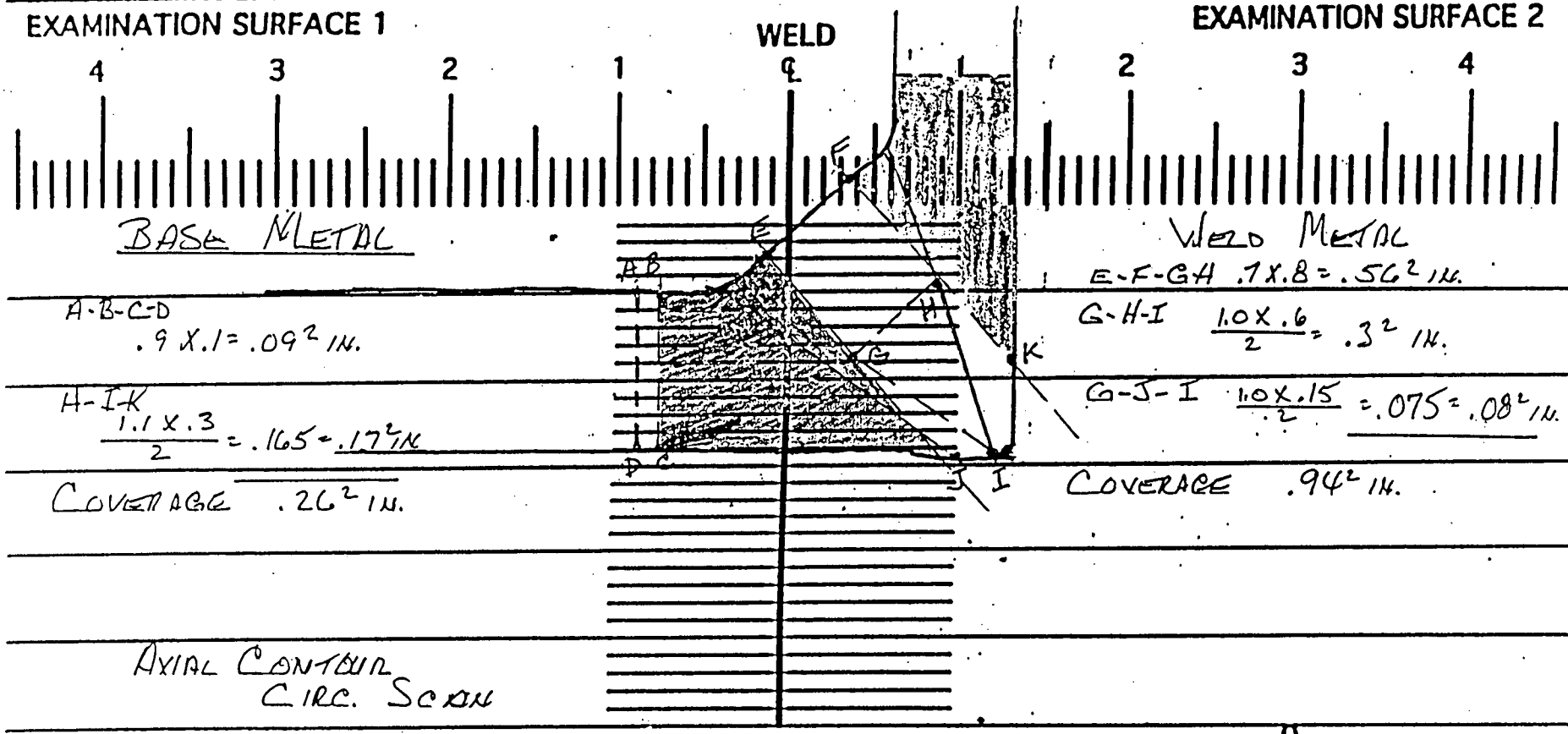
Examiner: Richard B. Childers	Level: II	Date: 9-29-97
Reviewed By: [illegible]	Level: III	Date: 10-2-97
Authorized Inspector: MBC		Date: 10-9-97

Sheet 9 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
.9 X .1 = .09² IN.

H-I-K
$\frac{1.1 \times .3}{2}$ = .165 = .17² IN

COVERAGE .26² IN.

WELD METAL

E-F-G-H .7 X .8 = .56² IN.

G-H-I $\frac{1.0 \times .6}{2}$ = .3² IN.

G-J-I $\frac{1.0 \times .15}{2}$ = .075 = .08² IN.

COVERAGE .94² IN.

AXIAL CONTOUR
CIRC. SCAN

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

Remarks: B03.150.002

Item No: B03.150.002

Examiner: Richard B. Childers | Level: II | Date: 9-29-97

Reviewed By: [illegible] | Level: III | Date: 10-2-97

Authorized Inspector: [illegible] | Date: 10-9-97

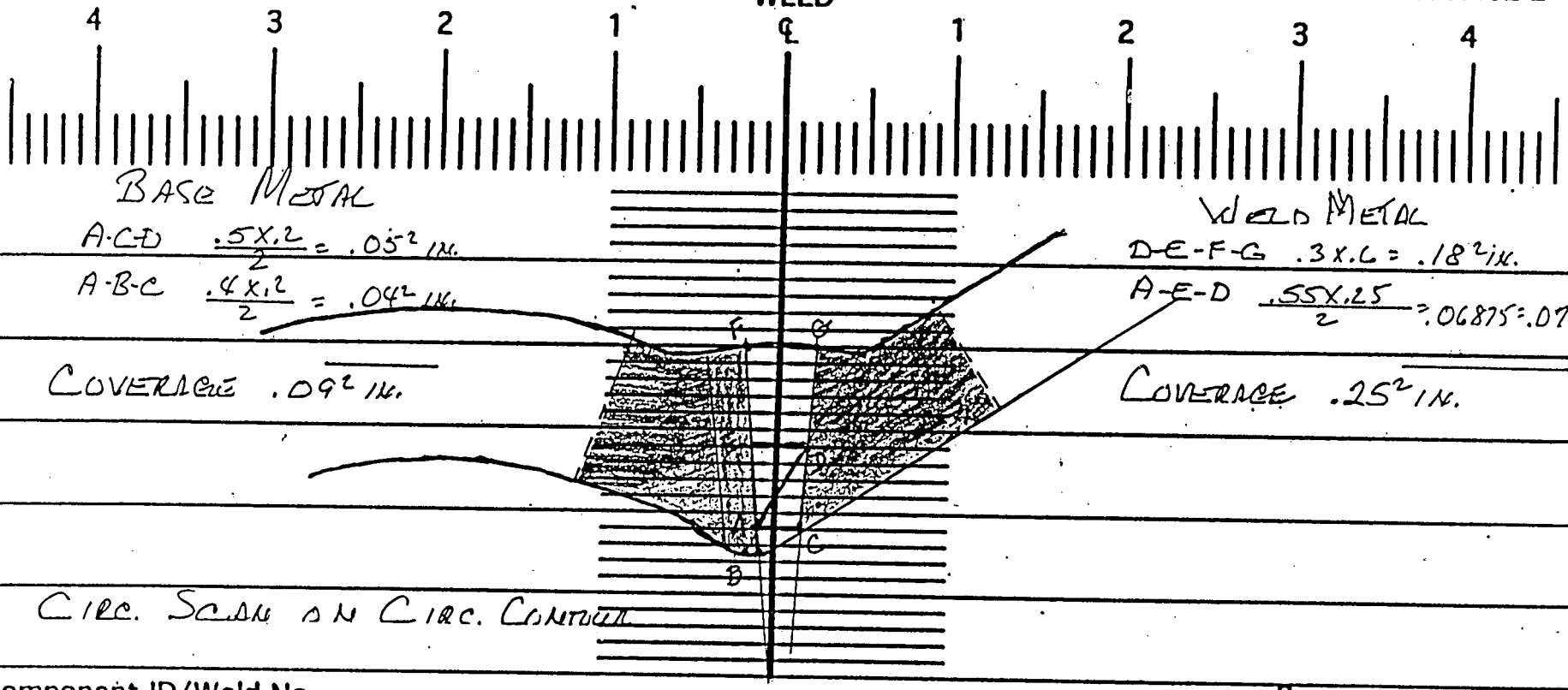
0
270 Profile taken at: 0° 90
180

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 $\frac{.5 \times .2}{2} = .05^2$ IN.

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

COVERAGE $.09^2$ IN.

WELD METAL

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

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

COVERAGE $.25^2$ IN.

CIRC. SCAN ON CIRC. CONTOUR

Component ID/Weld No. LDCA-OUT-V6

Remarks: B03.150.002

Item No: B03.150.002

Examiner: Richard B Childers | Level: II | Date: 9-29-97

Reviewed By: [illegible] | Level: III | Date: 10-2-97

Authorized Inspector: MBC | Date: 10-9-97

0 / 270 / 90 / 180

Profile taken at: 0°

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

Unit	ID Number	Item Number
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

Unit	ID Number	Item Number
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 Raine Date 7/14/98

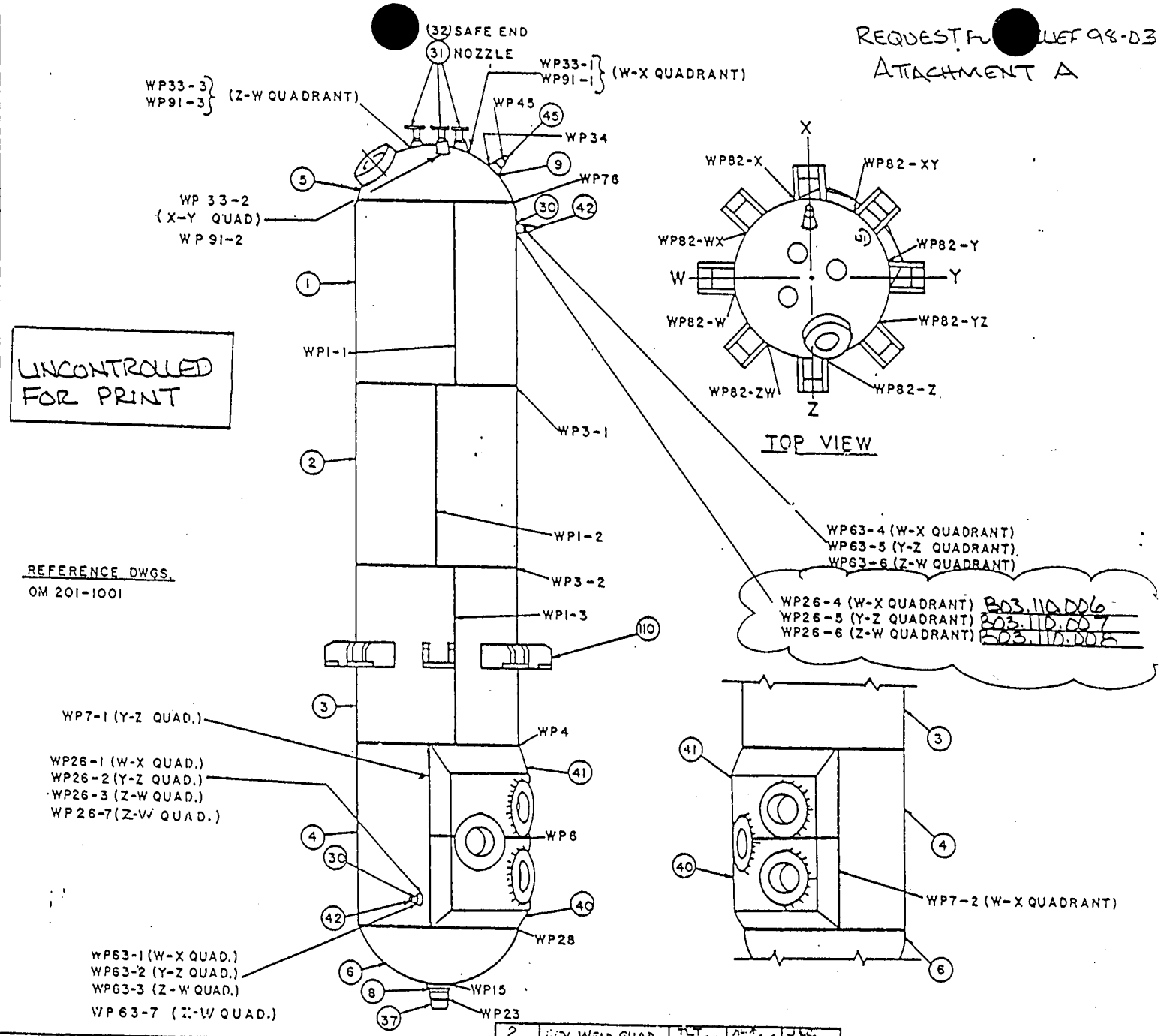
Reviewed By R. Kevin Rhyne Date 7/27/98

REQUEST FO[redacted]LIEF 98-03
ATTACHMENT A

THICK.	PC. NO.	QTY	DESCRIPTION	MATL.
188	1	1	UPPER SHELL COURSE	SA 212 GR. B
188	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				
750				
875				
875				
875				
875				
875				
875				
875				
750				
500				
500				
500				
500				
500				
500				

WELD LIST (CONT.)

I.D. NO.	PC. NO.	DIAM.	THICK.
WP91-1	31 TO 32	2 1/2"NPS	1.000
WP91-2	31 TO 32	2 1/2"NPS	1.000
WP91-3	31 TO 32	2 1/2"NPS	1.000
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 "1PRZ-"
2. PIECE NUMBERS ARE SHOWN IN CIRCLES.

NO.	REVISION	DRWN	RVWD	APPD
2	REV. WELD QUAD.	TTH 12-7-90	[illegible]	[illegible]
1	Add. Ref. Dwgs.	AWS 7/23/81	HJH 7-23-81	JOB 7-23-81
0	ORIG.	AWS 11/21/81	TTH 11/21/81	CAC 11/21/81

TITLE
PRESSURIZER WELD OUTLINE

DWG NO.

REV.

Request for Relief 98-
Page 1 of 33
Attachment B

DUKE POWER COMPANY

ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS

Exam Start: 1101 | Form NDE-UT-2A
Exam Finish: 1151 | Revision 4

Station: Oconee | 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
Examiner: David Zimmerman Level: II

Pyrometer S/N: MCNDE 27021
Cal Due: 7/27/98

Procedure: NDE-620 Rev: 5
NDE-640 1

FC: N/A

Calibration Sheet No:
9802043, 9802044, 9802046

Scans:
45 ☒ 54 dB 70 ☐ ____ dB
45T ☒ 54 dB 70T ☐ ____ dB
60 ☒ 70.5 dB
60T ☒ 70.5 dB
Other: 0°-26 dB

Configuration: Nozzle to Shell
N/A Flow N/A
S2 to S1
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	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: MBC 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
☒ LIMITED SCAN
SURFACE: ☒ 1 ☐ 2
BEAM DIRECTION: ☐ 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

Remarks: DUE TO LOWER HEAD WELD

☒ NO SCAN
☐ LIMITED SCAN
SURFACE: ☒ 1 ☐ 2
BEAM DIRECTION: ☐ 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

Remarks: NOZZLE CONFIGURATION

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

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

Prepared By: David L. Zoo 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

☒ Base Metal ☒ Weld ☐ Near Surface ☐ Bolting ☐ 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: David K. [illegible]	Level: II	Date: 3/24/98	
Reviewed By: Gary Moss	Level: II	Date: 3-26-98	

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
B,D,E,F= 6.188/2(.75 + 2.3) = 9.43 B,F,G = 2.3 X 1.0/2 = 1.15 9.4 SQ. IN. + 1.2 SQ. IN. = 10.6 SQ. IN.	10.6 SQ. IN. X 28" = 296.8 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°	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: Paul K. [illegible] Level: II Date: 3/24/98

Reviewed By: Gary Moss Level: II Date: 3-26-98

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
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: David K. [illegible] Level: II Date: 3/24/98

Reviewed By: Gary Moss Level: II Date: 3-26-98

EXAM AREAS

OCONEE [illegible]ING / SAMPLING NOZZLE

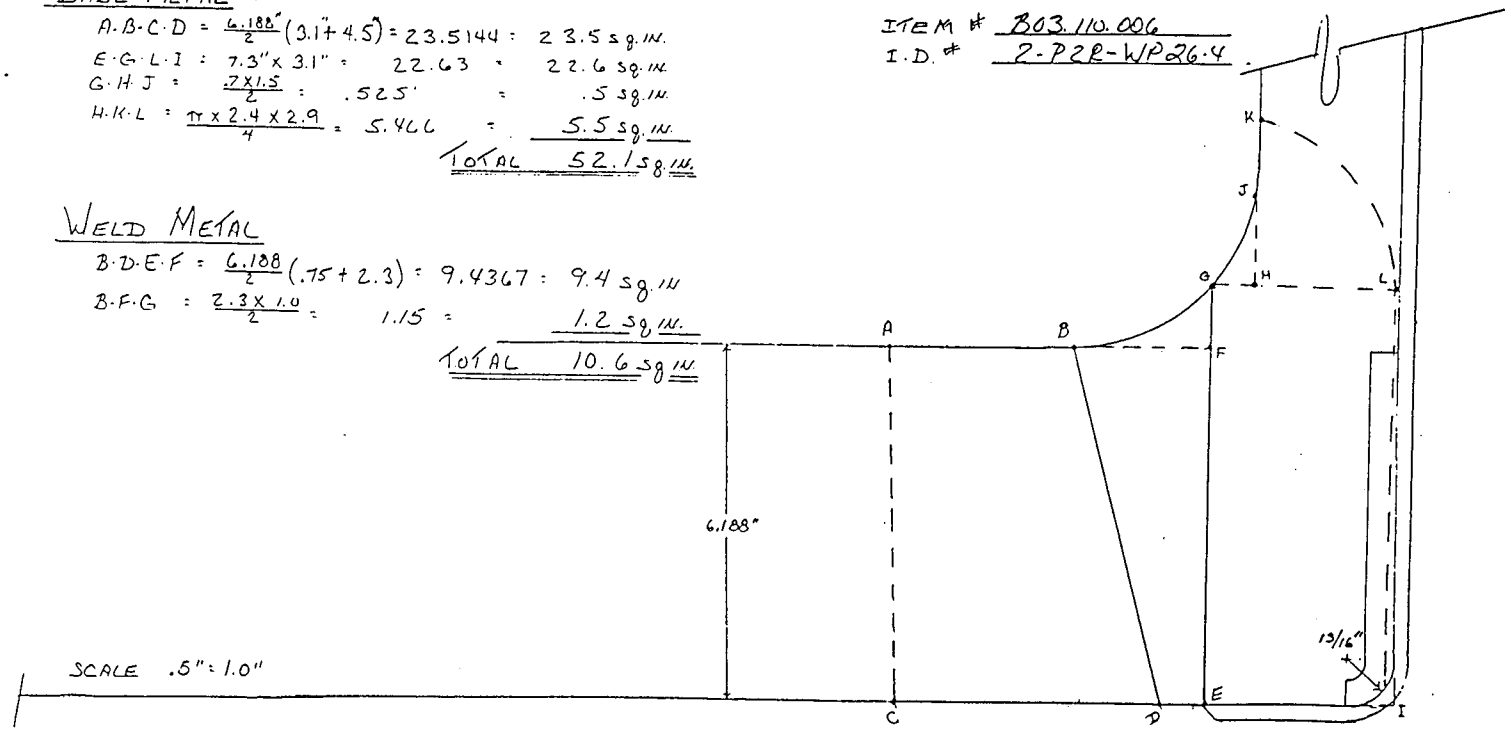
ITEM # B03.110.006
I.D. # 2-PZR-WP26.4

BASE METAL

A·B·C·D = $\frac{6.188''}{2}(3.1'' + 4.5'') = 23.5144$: 23.5 sq. in.
E·G·L·I : 7.3" x 3.1" = 22.63 : 22.6 sq. in.
G·H·J = $\frac{.7 \times 1.5}{2}$ = .525 = .5 sq. in.
H·K·L = $\frac{\pi \times 2.4 \times 2.9}{4}$ = 5.466 = 5.5 sq. in.
TOTAL 52.1 sq. in.

WELD METAL

B·D·E·F = $\frac{6.188}{2}(.75 + 2.3) = 9.4367$: 9.4 sq. in
B·F·G = $\frac{2.3 \times 1.0}{2}$ = 1.15 = 1.2 sq. in.
TOTAL 10.6 sq. in



SCALE .5" = 1.0"

Pg 6 of 11

Request For Relief 98-03
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Attachment B

OCONEE SENSING/SAMPLING NOZZLE

ITEM # B03.110.006
I.D. # 2-PZR-WP26.4

INSPECTED AREAS

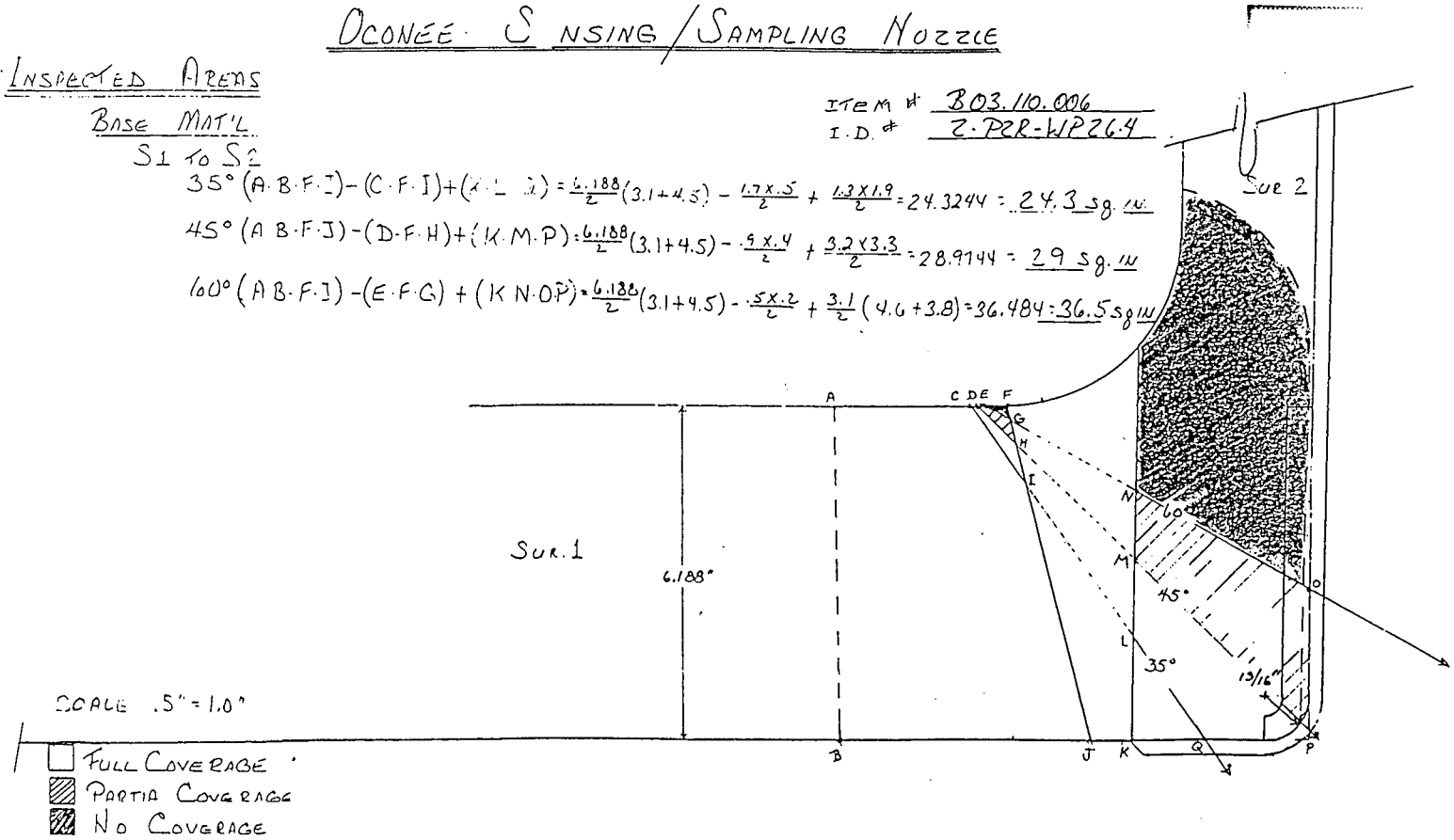
BASE MAT'L

S1 to S2

35° (A·B·F·J) − (C·F·I) + (K·L·J) = $\frac{6.188}{2}(3.1+4.5) - \frac{1.7 \times .5}{2} + \frac{1.3 \times 1.9}{2} = 24.3244 = 24.3$ sq. in.

45° (A·B·F·J) − (D·F·H) + (K·M·P) = $\frac{6.188}{2}(3.1+4.5) - \frac{.9 \times .4}{2} + \frac{3.2 \times 3.3}{2} = 28.9744 = 29$ sq. in

60° (A·B·F·J) − (E·F·G) + (K·N·O·P) = $\frac{6.188}{2}(3.1+4.5) - \frac{.5 \times .2}{2} + \frac{3.1}{2}(4.6+3.8) = 36.484 = 36.5$ sq in



SCALE .5" = 1.0"

- Full Coverage
- Partial Coverage
- No Coverage

Pg 7 of 11

Request For Relief 98-03
Page 7 of 33
Attachment B

OCONEE SENSING / SAMPLING NOZZLE

ITEM # B03.110.006
I.D. # 2-PZR-V/P26-4

INSPECTED AREAS

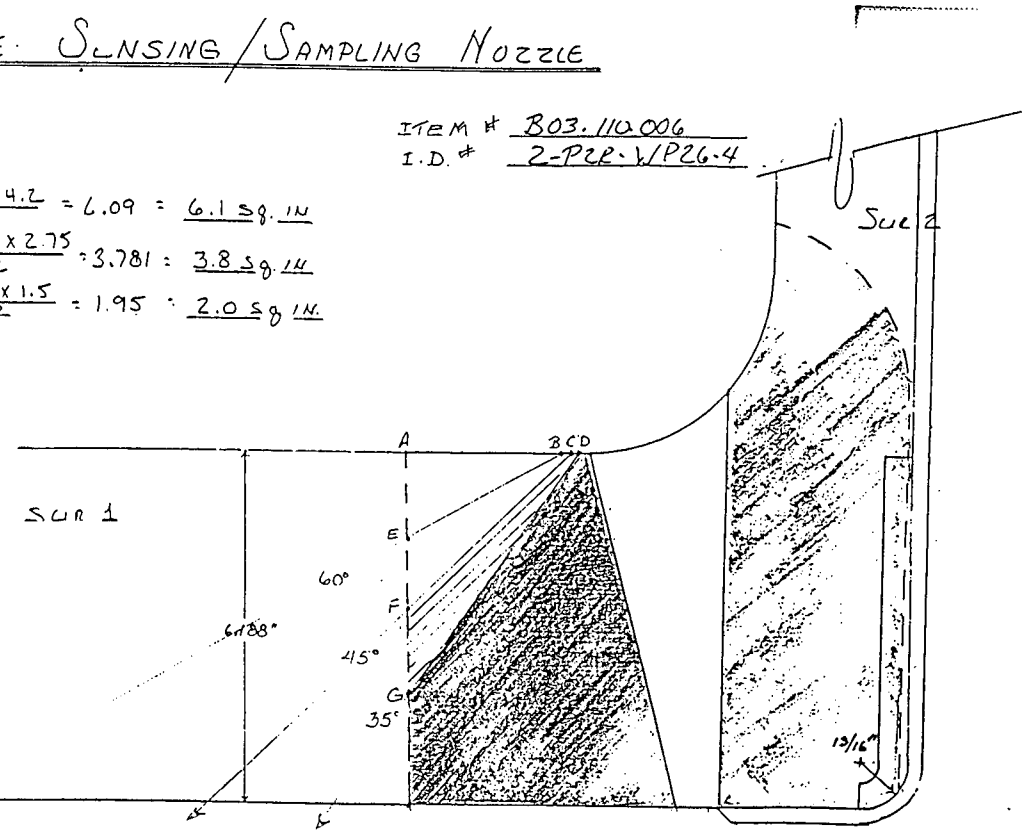
BASE MAT'L

S2 TO S1

35° A·D·G = $\frac{2.9 \times 4.2}{2}$ = 6.09 = 6.1 sq. IN

45° A·C·F = $\frac{2.75 \times 2.75}{2}$ = 3.781 = 3.8 sq. IN

60° A·B·E = $\frac{2.6 \times 1.5}{2}$ = 1.95 = 2.0 sq IN.



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

ITEM # B03.110.006
I.D. # 2-PZR-W/PZ6-4

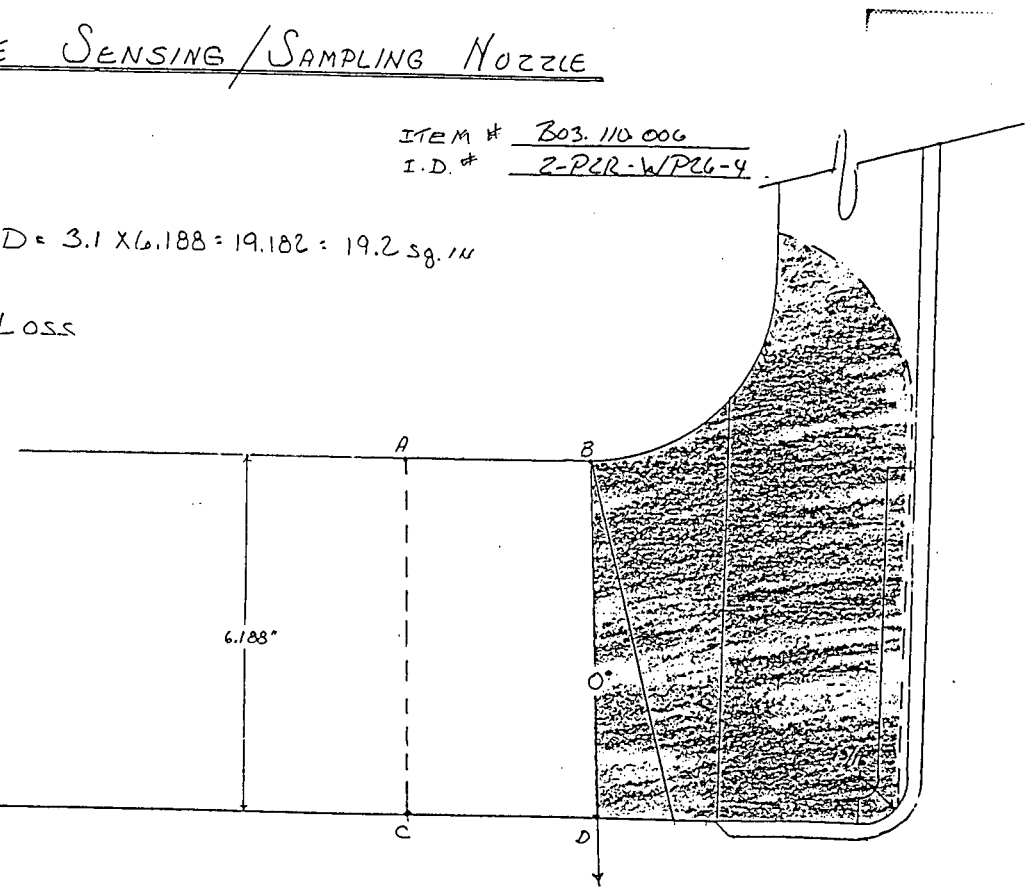
INSPECTED AREA:

BASE MAT'L

0° A·B·C·D = 3.1 X 6.188 = 19.182 = 19.2 sq. in

WELD MAT'L

TOTAL LOSS



SCALE: .5" = 1.0"

FULL COVERAGE
PARTIAL COVERAGE
NO COVERAGE

A. 9 of 11

Request For Relief 98-03
Page 9 of 33
Attachment B

OCONEE SENSING/SAMPLING NOZZLE

ITEM # B03.110.006
I.D. # 2.PZR.WP26-4

INSPECTED AREAS:

BASE MAT'L

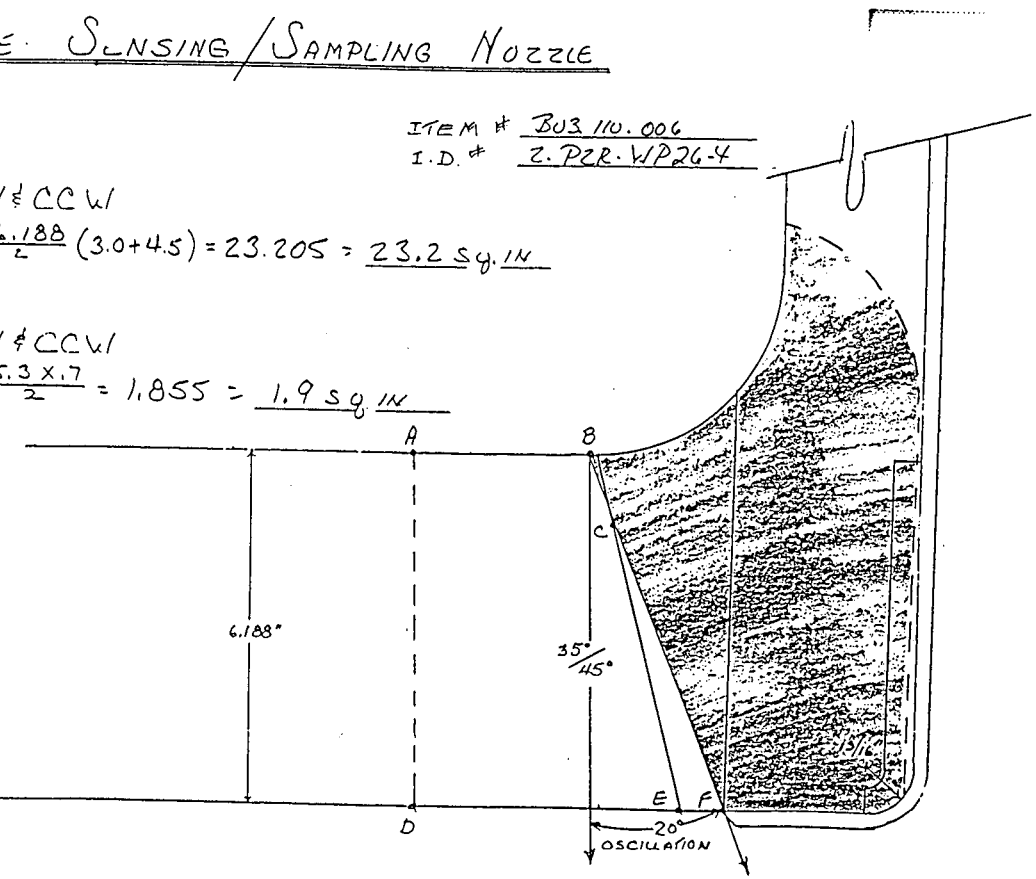
35° & 45° CW & CCW

$A \cdot B \cdot D \cdot E = \frac{6.188}{2}(3.0+4.5) = 23.205 = \underline{23.2 \text{ sq. IN}}$

WELD MAT'L

35° & 45° CW & CCW

$C \cdot E \cdot F = \frac{5.3 \times .7}{2} = 1.855 = \underline{1.9 \text{ sq. IN}}$



SCALE .5" = 1.0"

- FULL COVERAGE
- PARTIAL COVERAGE
- NO COVERAGE

OCONEE SENSING/SAMPLING NOZZLE

INSPECTED ITEMS:

WELD MAT'L

ITEM # B03.110.006
I.D. # 2-PZR-WP26-4

S1 TO S2

35° CDF + DEF = $\frac{4.8 \times 1.2}{2} + \frac{.9 \times .75}{2} = 3.217 = \underline{3.2}$ sq. IN

45° BDG + DEG = $\frac{5.6 \times 1.5}{2} + \frac{3.3 \times .75}{2} = 5.437 = \underline{5.4}$ sq. IN

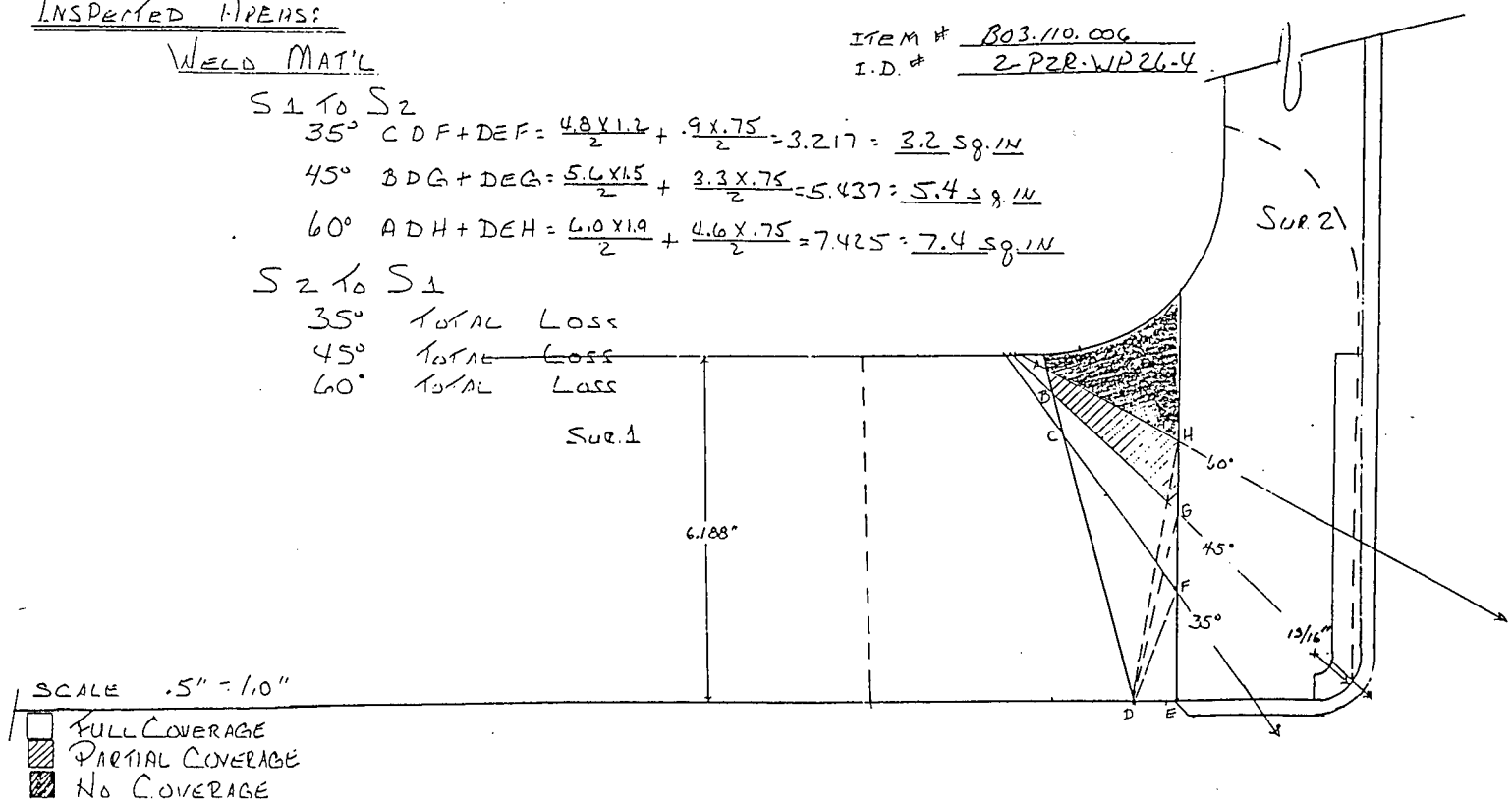
60° ADH + DEH = $\frac{6.0 \times 1.9}{2} + \frac{4.6 \times .75}{2} = 7.425 = \underline{7.4}$ sq. IN

S2 TO S1

35° TOTAL LOSS

45° TOTAL LOSS

60° TOTAL LOSS



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 | Exam Finish: 1204 | Form NDE-UT-2A | Revision 4

Station: Oconee | 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

Examiner: David Zimmerman Level: II

Pyrometer S/N: MCNDE 27021

Cal Due: 7/27/98

Procedure: NDE-620 Rev: ~~5~~

NDE-640 1

FC: N/A

Calibration Sheet No: 9802043, 9802044, 9802046

Scans:

45 ☒ 54 dB 70 ☐ ____ dB

45T ☒ 54 dB 70T ☐ ____ dB

60 ☒ 70.5 dB

60T ☒ 70.5 dB

Other: 0°-26 dB

Configuration: Nozzle to Shell

N/A Flow N/A

S2 to S1

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	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 A Moss Level: II Date: 3-26-98

Authorized Inspector: MOC Date: 3-31-98

Item No: B03.110.007

Request For Relief 98-03
Page 12 of 33, Attachment B

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
☒ LIMITED SCAN
SURFACE ☒ 1 ☐ 2
BEAM DIRECTION ☐ 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
☐ LIMITED SCAN
SURFACE ☒ 1 ☐ 2
BEAM DIRECTION ☐ 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
☐ LIMITED SCAN
SURFACE ☐ 1 ☐ 2
BEAM DIRECTION ☐ 1 ☐ 2 ☐ cw ☐ ccw
FROM L to L
INCHES FROM WO to
ANGLE: ☐ 0 ☐ 45 ☐ 60 ☐ Other
FROM DEG to DEG

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

Prepared By: David K[illegible] Level: II Date: 3/24/98 Sketch(s) attached ☒ yes ☐ no Sheet 2 of 11

Reviewed By: Gary [illegible] Date: 3-26-98 Authorized Inspector: [illegible] Date: 3-31-98

Request For Relief 98-03
Page 13 of 33, Attached B

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
B,D,E,F= 6.188/2(.75 + 2.3) = 9.43 B,F,G = 2.3 X 1.0/2 = 1.15 9.4 SQ. IN. + 1.2 SQ. IN. = 10.6 SQ. IN.	10.6 SQ. IN. X 28" = 296.8 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°	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: David C. [illegible] Level: II Date: 3/24/98

Reviewed By: Gary Moss Level: III Date: 3-26-98

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
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: David K. [illegible] Level: II Date: 3/24/98

Reviewed By: Gary T. Moss Level: III Date: 3-26-98

Request For Relief 98-03
Page 16 of 33, Attachment B

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
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: David K. [illegible] Level: II Date: 3/24/98

Reviewed By: Gary [illegible] Level: IV Date: 3.26.98

EXAM AREAS — OCONEE S. NG / SAMPLING NOZZLE

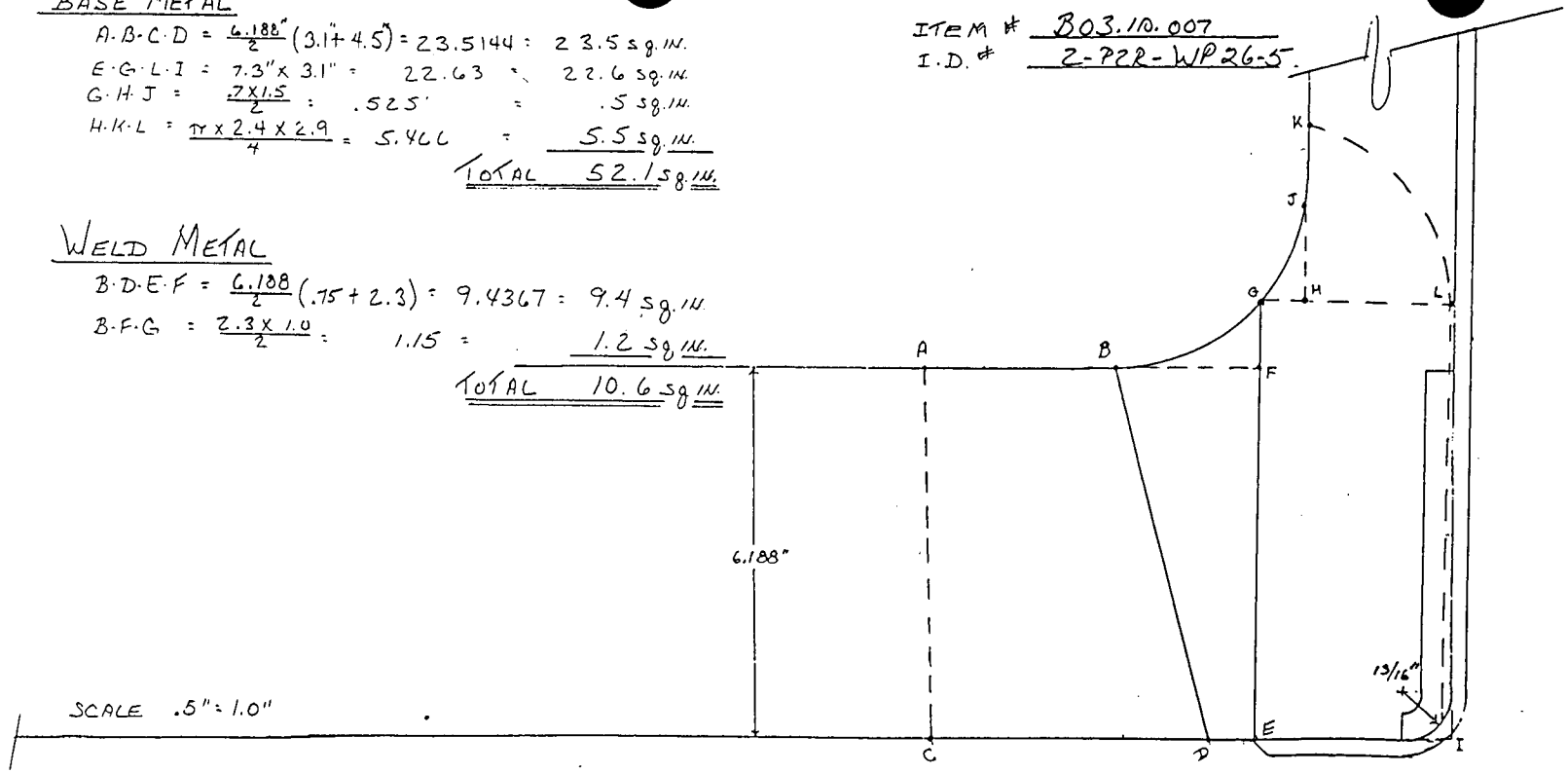
ITEM # B03.10.007
I.D. # 2-PZR-WP26-5

BASE METAL

A·B·C·D = $\frac{6.188''}{2}(3.1'' + 4.5'') = 23.5144$: 23.5 sq. in.
E·G·L·I = 7.3" x 3.1" = 22.63 : 22.6 sq. in.
G·H·J = $\frac{.7 \times 1.5}{2}$: .525 = .5 sq. in.
H·K·L = $\frac{\pi \times 2.4 \times 2.9}{4}$ = 5.466 = 5.5 sq. in.
TOTAL 52.1 sq. in.

WELD METAL

B·D·E·F = $\frac{6.188}{2}(.75 + 2.3) = 9.4367$: 9.4 sq. in.
B·F·G = $\frac{2.3 \times 1.0}{2}$: 1.15 = 1.2 sq. in.
TOTAL 10.6 sq. in.



SCALE .5" = 1.0"

Pg 6 of 11

Request For Relief 98-03
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Attachment B

OCONEE C[illegible]NG / SAMPLING NOZZLE

ITEM # B03.110.007
I.D. # 2-PZR-WP26.5

INSPECTED AREAS

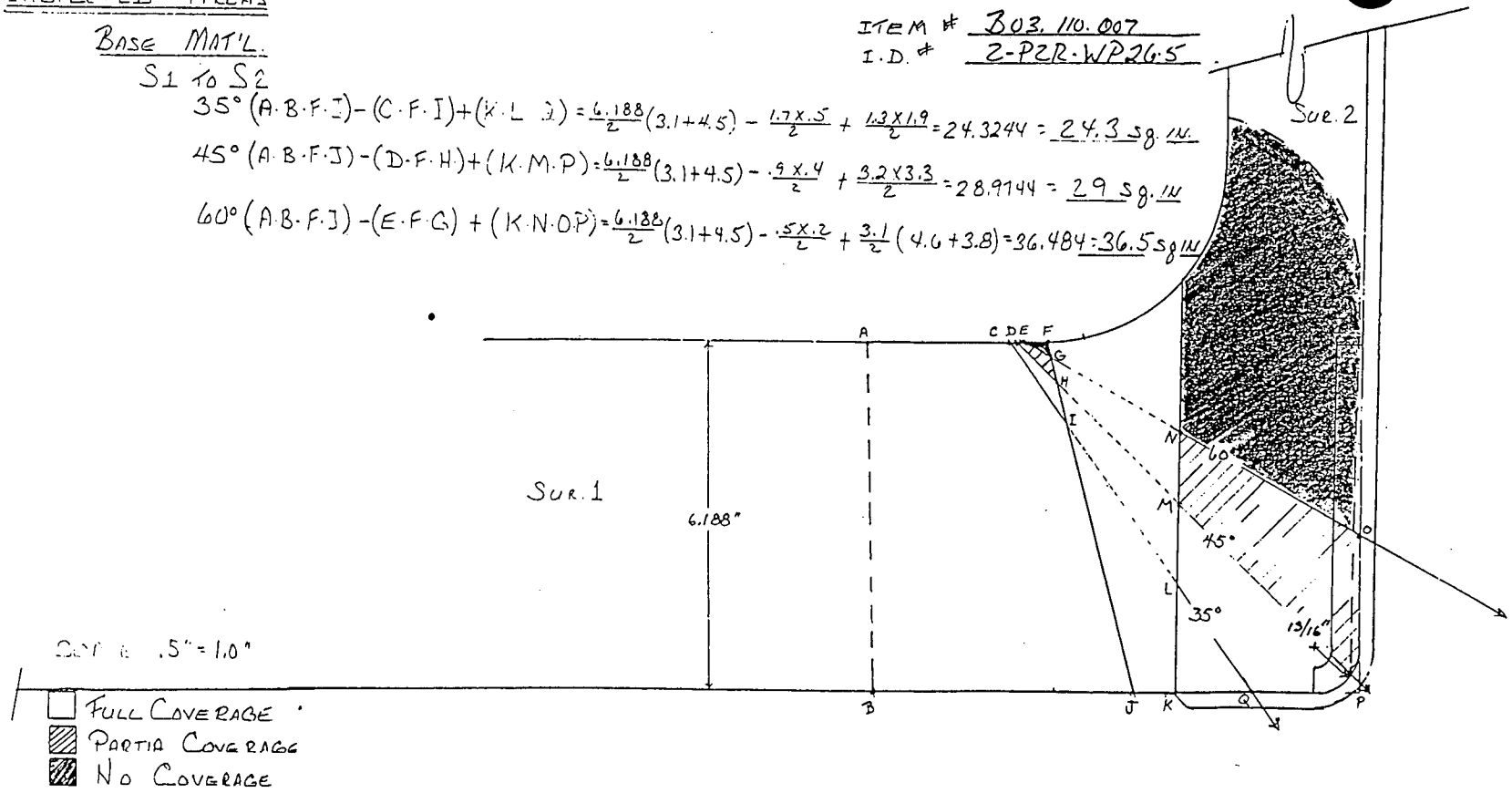
BASE MAT'L.

S1 TO S2

$35°\ (A \cdot B \cdot F \cdot J) - (C \cdot F \cdot I) + (K \cdot L \cdot J) = \frac{6.188}{2}(3.1+4.5) - \frac{1.7 \times .5}{2} + \frac{1.3 \times 1.9}{2} = 24.3244 = \underline{24.3}$ sq. in.

$45°\ (A \cdot B \cdot F \cdot J) - (D \cdot F \cdot H) + (K \cdot M \cdot P) = \frac{6.188}{2}(3.1+4.5) - \frac{.9 \times .4}{2} + \frac{3.2 \times 3.3}{2} = 28.9144 = \underline{29}$ sq. in.

$60°\ (A \cdot B \cdot F \cdot J) - (E \cdot F \cdot G) + (K \cdot N \cdot O \cdot P) = \frac{6.188}{2}(3.1+4.5) - \frac{.5 \times .2}{2} + \frac{3.1}{2}(4.6+3.8) = 36.484 = \underline{36.5}$ sq in.



OCONEE C. NG / SAMPLING NOZZLE

ITEM # 803.110.007
I.D. # 2-PZR-WP26-5

INSPECTED AREAS

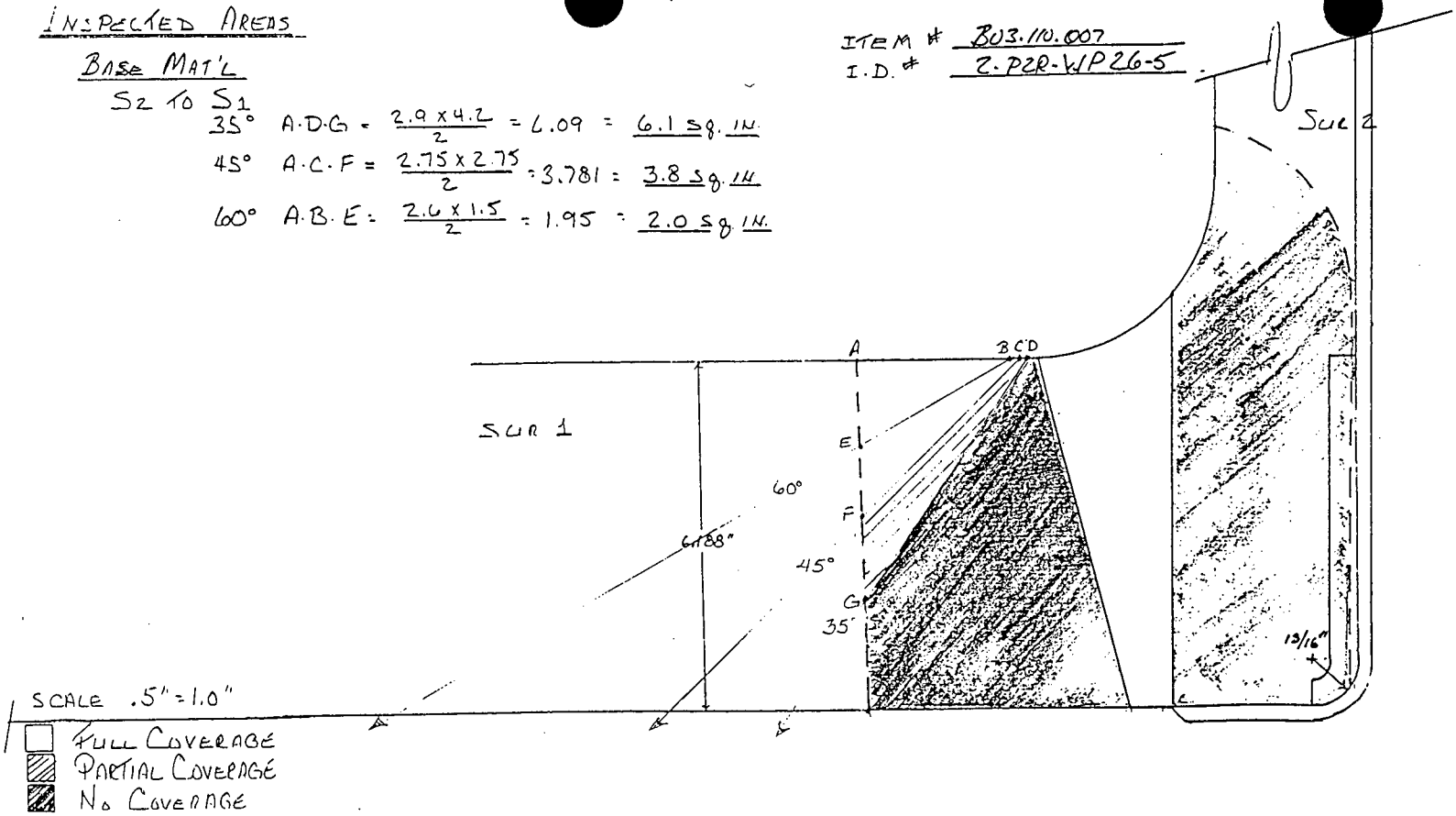
BASE MAT'L

S2 TO S1

35° A·D·G = $\frac{2.9 \times 4.2}{2}$ = 6.09 = 6.1 sq. IN.

45° A·C·F = $\frac{2.75 \times 2.75}{2}$ = 3.781 = 3.8 sq. IN.

60° A·B·E = $\frac{2.6 \times 1.5}{2}$ = 1.95 = 2.0 sq. IN.



Pg 8 of 11

Request For Relief 98-03
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Attachment B

OCONEE S[illegible]NG / SAMPLING NOZZLE

ITEM # B03.110.007
I.D. # 2-PZR-WP 26.5

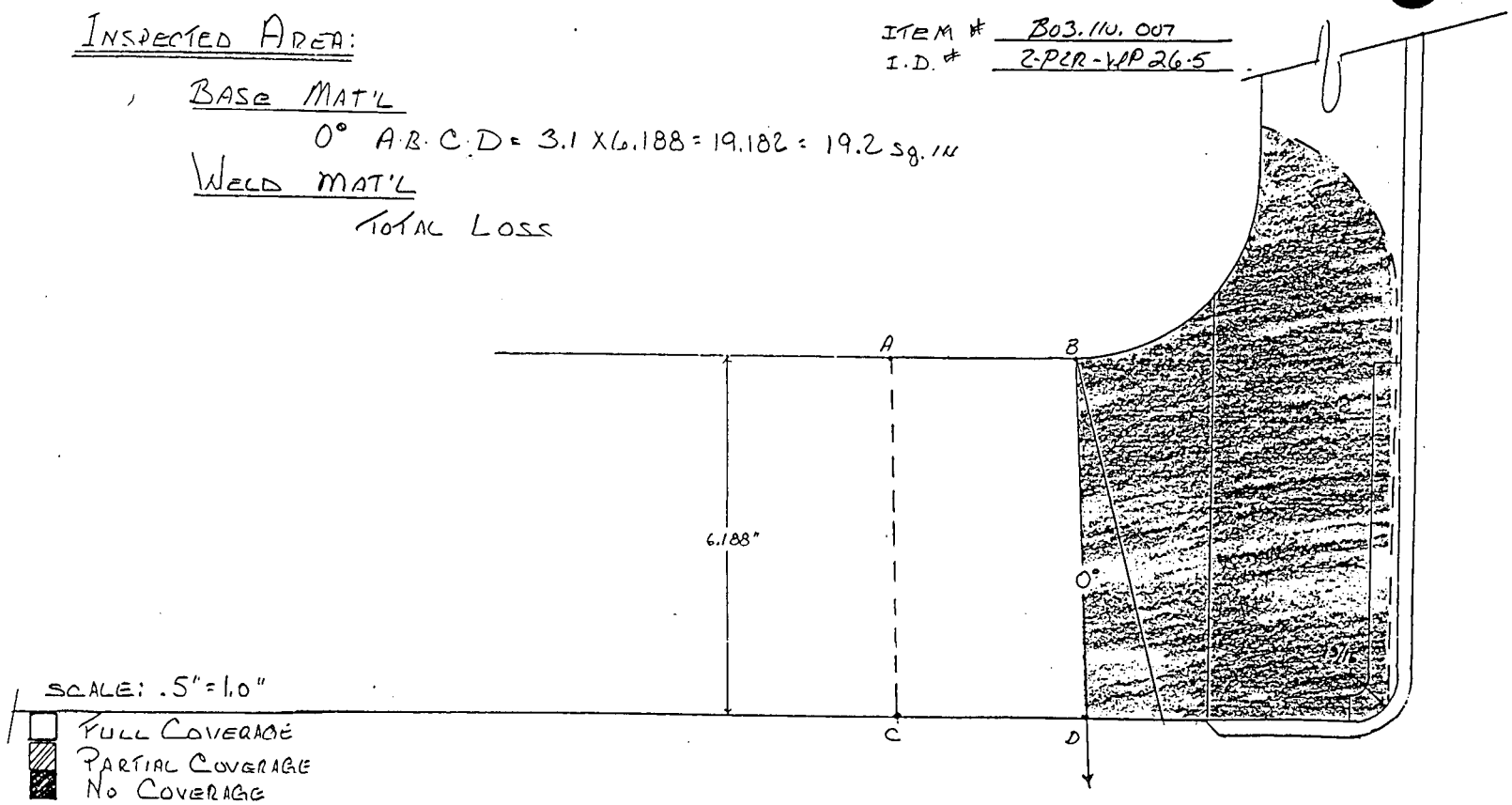
INSPECTED AREA:

BASE MAT'L

0° A·B·C·D = 3.1 X 6.188 = 19.182 = 19.2 sq. in

WELD MAT'L

TOTAL LOSS



Pg 9 of 11

OCONEE C NG/SAMPLING NOZZLE

ITEM # B03.110.007
I.D. # 2-PZR-WP26.5

INSPECTED AREAS:

BASE MAT'L

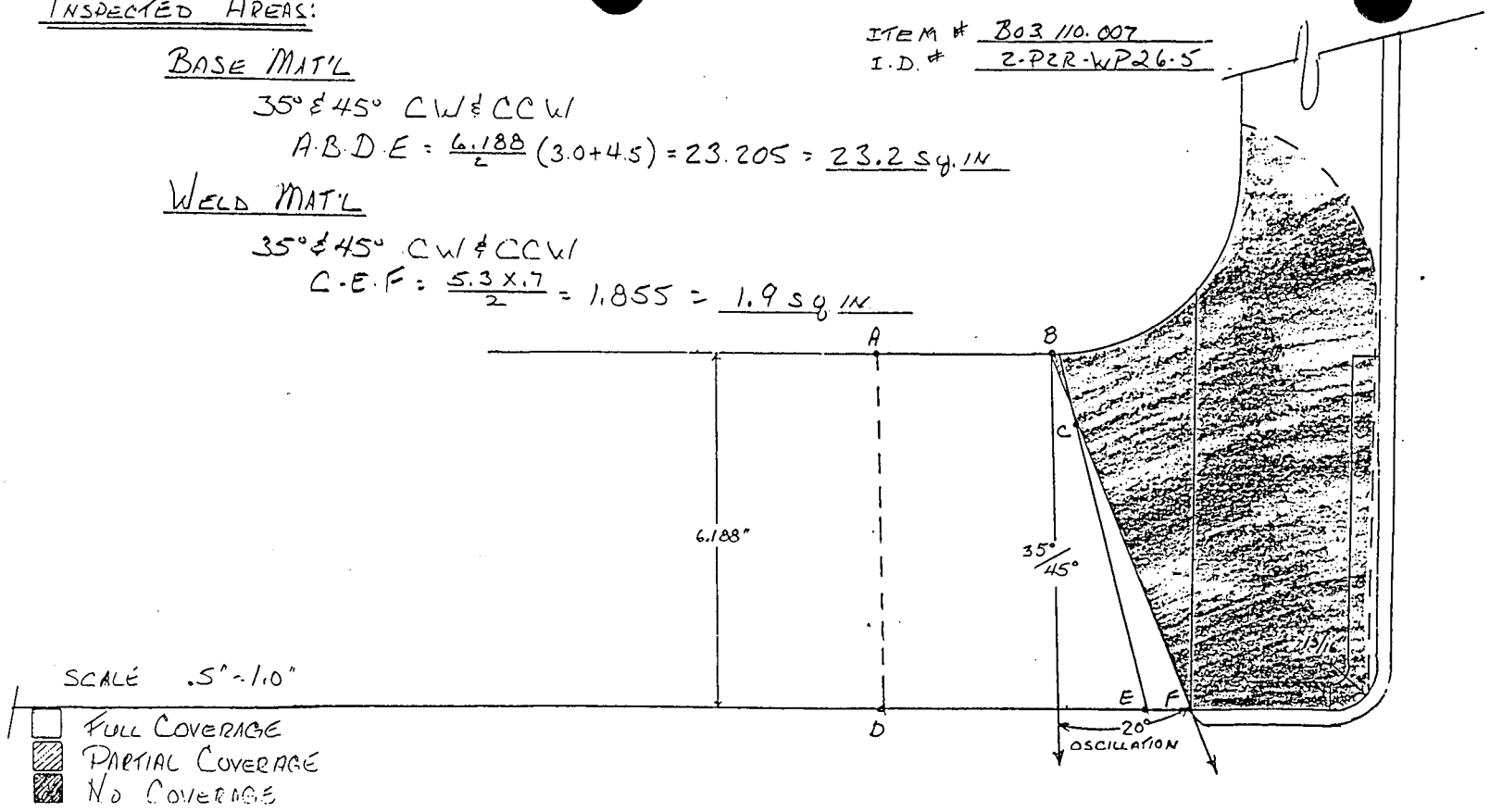
35° & 45° CW & CCW

$A \cdot B \cdot D \cdot E = \frac{6.188}{2}(3.0+4.5) = 23.205 = \underline{23.2 \text{ sq. IN}}$

WELD MAT'L

35° & 45° CW & CCW

$C \cdot E \cdot F = \frac{5.3 \times .7}{2} = 1.855 = \underline{1.9 \text{ sq IN}}$



A 10 OF 11

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Attachment B

OCONEE S NG / SAMPLING NOZZLE

ITEM # B03.10.007
I.D. # 2-PZR-WP26.5

INSPECTED AREAS:

WELD MAT'L

S1 TO S2

35° CDF + DEF = $\frac{4.8 \times 1.2}{2} + \frac{.9 \times .75}{2} = 3.217 = \underline{3.2}$ sq. IN

45° BDG + DEG = $\frac{5.6 \times 1.5}{2} + \frac{3.3 \times .75}{2} = 5.437 = \underline{5.4}$ sq. IN

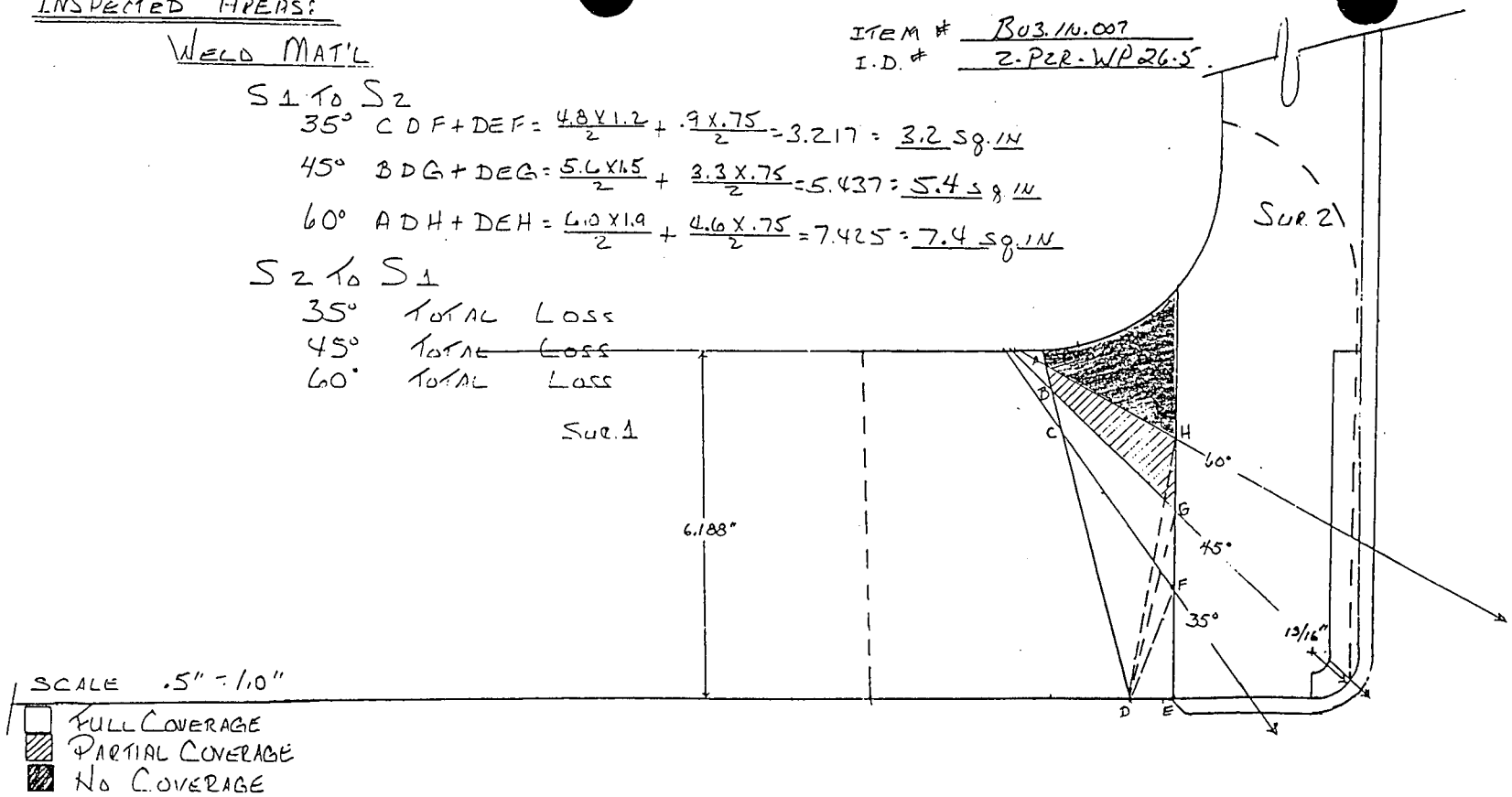
60° ADH + DEH = $\frac{6.0 \times 1.9}{2} + \frac{4.6 \times .75}{2} = 7.425 = \underline{7.4}$ sq. IN

S2 TO S1

35° TOTAL LOSS

45° TOTAL LOSS

60° TOTAL LOSS



SCALE .5" = 1.0"

FULL COVERAGE
PARTIAL COVERAGE
NO COVERAGE

DUKE POWER COMPANY

ULTRASONIC EXAMINATION DATA SHEET FOR PLANAR REFLECTORS

Exam Start: 1110 | Form NDE-UT-2A

Exam Finish: 1217 | Revision 4

Station: Oconee | 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

Examiner: David Zimmerman Level: II

Pyrometer S/N: MCNDE 27021

Cal Due: 7/27/98

Procedure: NDE-620 Rev: 5

NDE-640 1

FC: N/A

Calibration Sheet No: 9802043, 9802044, 9802046

Scans:

45 ☒ 54 dB 70 ☐ dB

45T ☒ 54 dB 70T ☐ dB

60 ☒ 70.5 dB

60T ☒ 70.5 dB

Other: 0°-26 dB

Configuration: Nozzle to Shell

N/A Flow N/A

S2 to S1

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	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: MOC Date: 3-31-98

Item No: B03.110.008

Request For Relief 98-03
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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
☒ LIMITED SCAN
SURFACE: ☒ 1 ☐ 2
BEAM DIRECTION: ☐ 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

Remarks: DUE TO LOWER HEAD WELD

☒ NO SCAN
☐ LIMITED SCAN
SURFACE: ☒ 1 ☐ 2
BEAM DIRECTION: ☐ 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

Remarks: NOZZLE CONFIGURATION

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

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

Prepared By: David K. [illegible] Level: II Date: 3/24/98 | Sketch(s) attached ☒ yes ☐ no | Sheet 2 of 11

Reviewed By: Gary A. Moss Date: 3.26.98 | Authorized Inspector: [illegible] Date: 5-31-98

Request For Relief 98-03
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Attachment B

Request For Relief 98-03
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Attachment B

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
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: David C. [illegible]	Level: II	Date: 3/24/98
Reviewed By: Gary A. Moss	Level: II	Date: 3.26.98

Request For Relief 98-03
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Attachment B

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
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: Daniel K. [illegible] Level: II Date: 3/24/98

Reviewed By: Gary A Moss Level: III Date: 3-26-98

Request For Relief 98-03
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Attachment B

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
B,D,E,F= 6.188/2(.75 + 2.3) = 9.43 B,F,G = 2.3 X 1.0/2 = 1.15 9.4 SQ. IN. + 1.2 SQ. IN. = 10.6 SQ. IN.	10.6 SQ. IN. X 28" = 296.8 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°	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: Daniel K. [illegible] Level: II Date: 3/24/98

Reviewed By: Gary A. Moss Level: III Date: 3-26-98

OCONEE · S[illegible]VG / SAMPLING NOZZLE

ITEM # B03.110.008
I.D. # 2-PZR-WP26.6

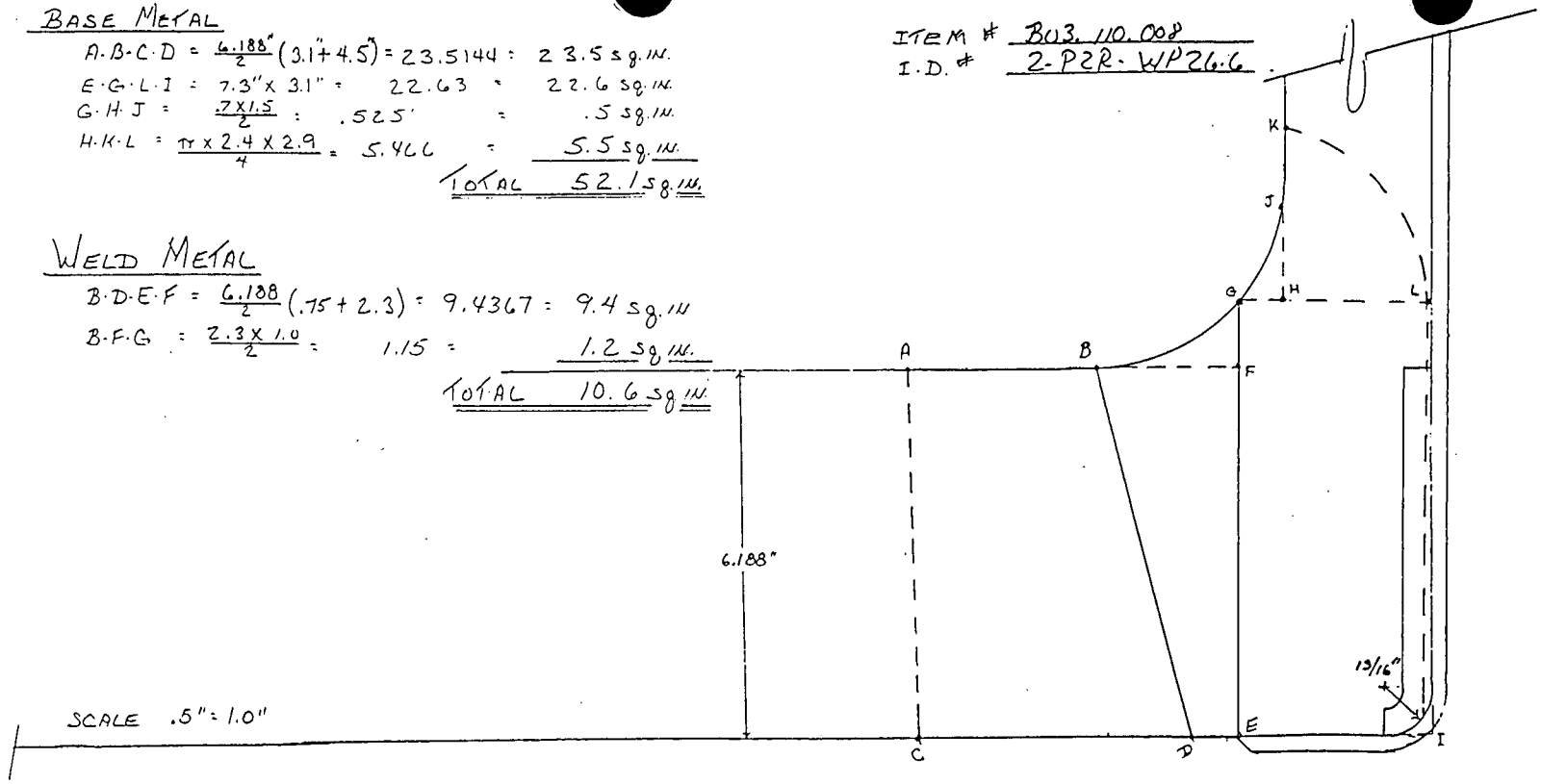
EXAM AREAS

BASE METAL

A·B·C·D = $\frac{6.188''}{2}(3.1'' + 4.5'') = 23.5144$: 23.5 sq. in.
E·G·L·I : 7.3" x 3.1" = 22.63 = 22.6 sq. in.
G·H·J = $\frac{.7 \times 1.5}{2}$: .525 = .5 sq. in.
H·K·L = $\frac{\pi \times 2.4 \times 2.9}{4}$ = 5.466 = 5.5 sq. in.
TOTAL 52.1 sq. in.

WELD METAL

B·D·E·F = $\frac{6.188}{2}(.75 + 2.3) = 9.4367$: 9.4 sq. in
B·F·G : $\frac{2.3 \times 1.0}{2}$ = 1.15 = 1.2 sq. in.
TOTAL 10.6 sq. in.



Pg 6 OF 11

Request For Relief 98-03
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Attachment B

OCONEE C ING / SAMPLING NOZZLE

ITEM # B03.110.008
I.D. # 2-PZR-WP26-6

INSPECTED AREAS

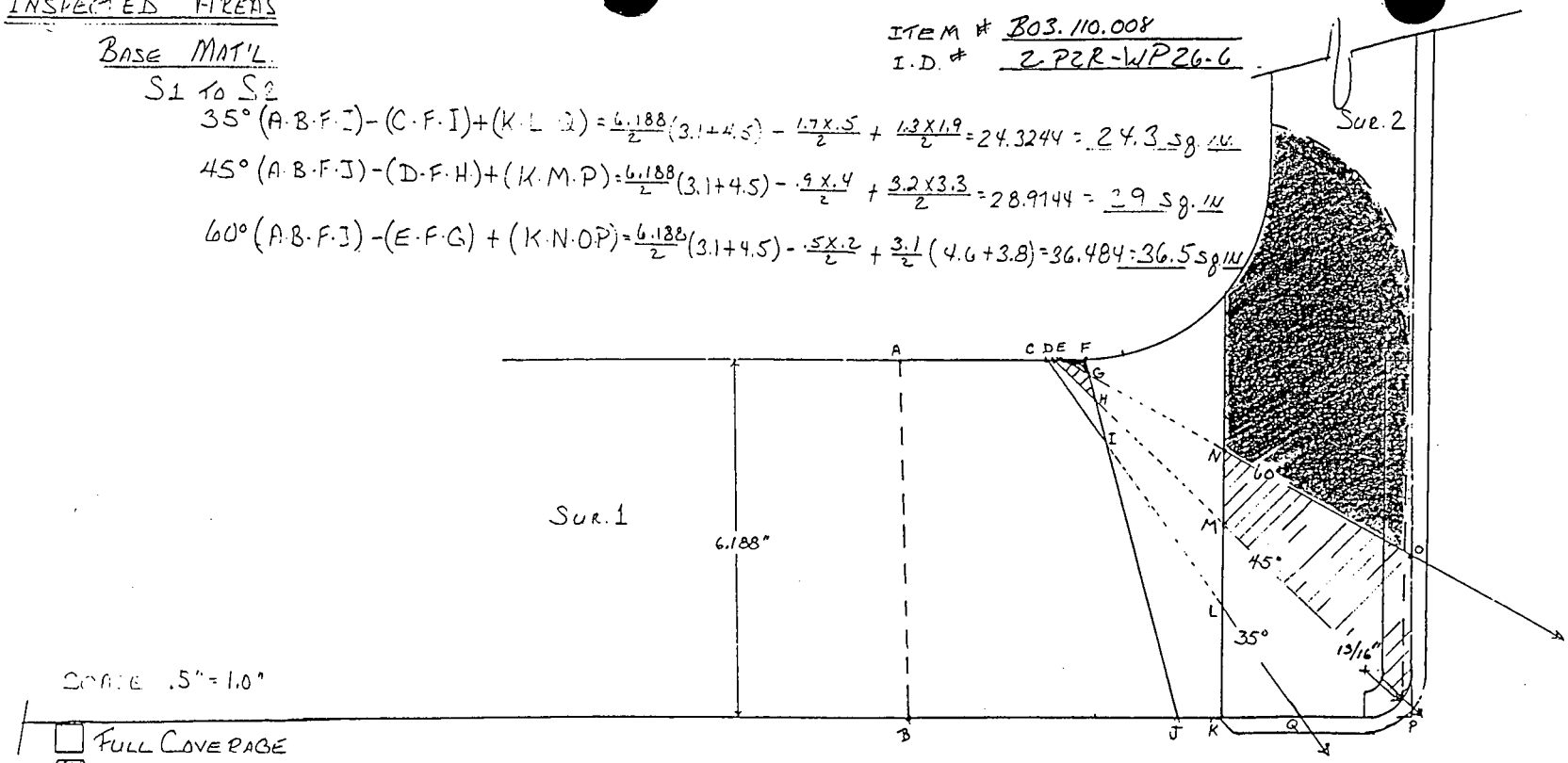
BASE MAT'L.

S1 TO S2

35° (A·B·F·J) − (C·F·I) + (K·L·Q) = $\frac{6.188}{2}(3.1+4.5) - \frac{1.7 \times .5}{2} + \frac{1.3 \times 1.9}{2} = 24.3244 =$ 24.3 sq. in.

45° (A·B·F·J) − (D·F·H) + (K·M·P) = $\frac{6.188}{2}(3.1+4.5) - \frac{.9 \times .4}{2} + \frac{3.2 \times 3.3}{2} = 28.9144 =$ 29 sq. in

60° (A·B·F·J) − (E·F·G) + (K·N·O·P) = $\frac{6.188}{2}(3.1+4.5) - \frac{.5 \times .2}{2} + \frac{3.1}{2}(4.6+3.8) = 36.484 =$ 36.5 sq in



SCALE .5" = 1.0"

- FULL COVERAGE
- PARTIA COVERAGE
- NO COVERAGE

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Request For Relief 98-03
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Attachment B

OCONEE S[illegible]VG / SAMPLING NOZZLE

ITEM # B03.110.008
I.D. # 2-PZR-4/P26.6

INSPECTED AREAS

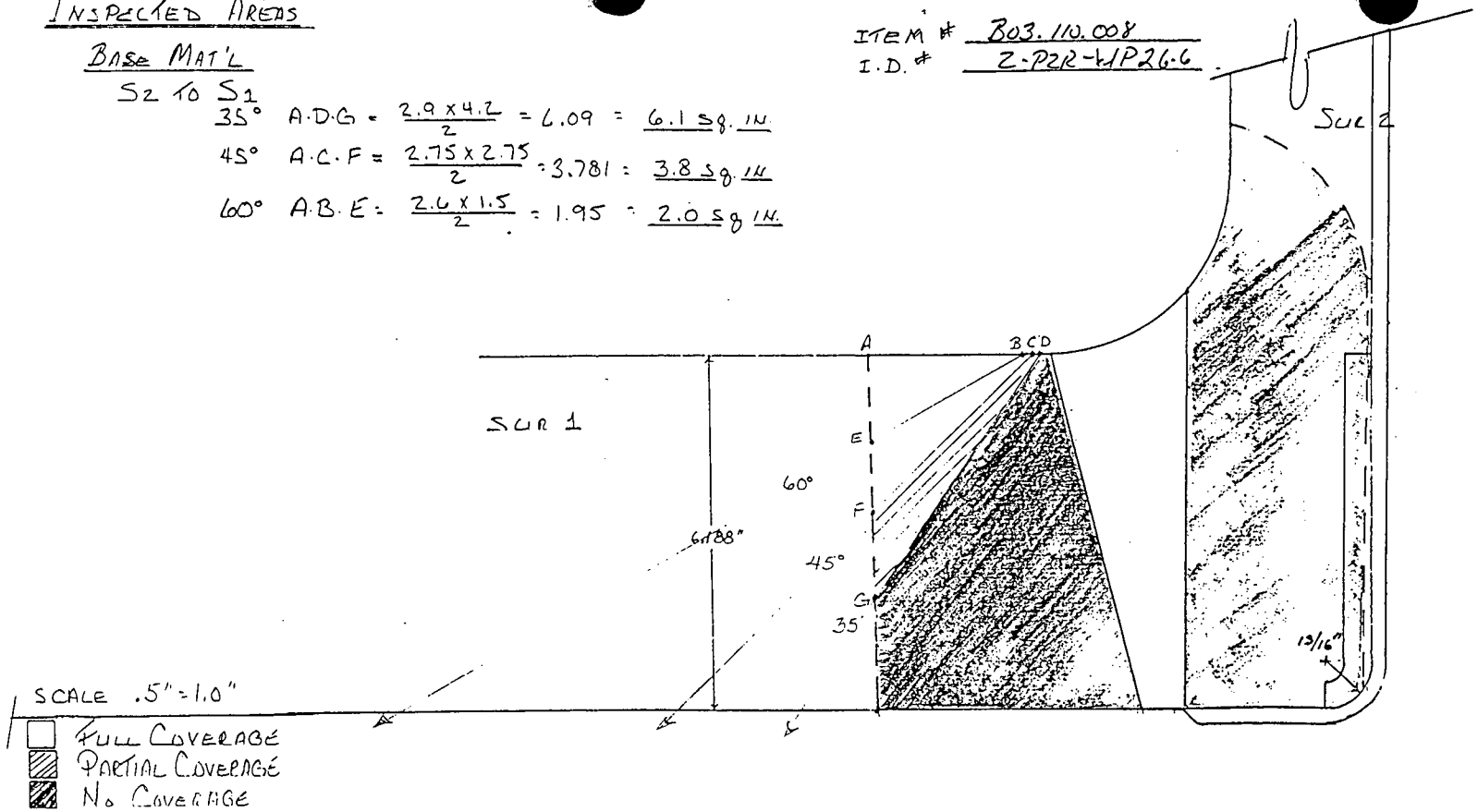
BASE MAT'L

S2 TO S1

35° A·D·G = $\frac{2.9 \times 4.2}{2}$ = 6.09 = 6.1 sq. IN.

45° A·C·F = $\frac{2.75 \times 2.75}{2}$ = 3.781 = 3.8 sq. IN.

60° A·B·E = $\frac{2.6 \times 1.5}{2}$ = 1.95 = 2.0 sq IN.



OCONEE SE[illegible]G/SAMPLING NOZZLE

ITEM # B03.110.008
I.D. # 2-PZR-WP26-6

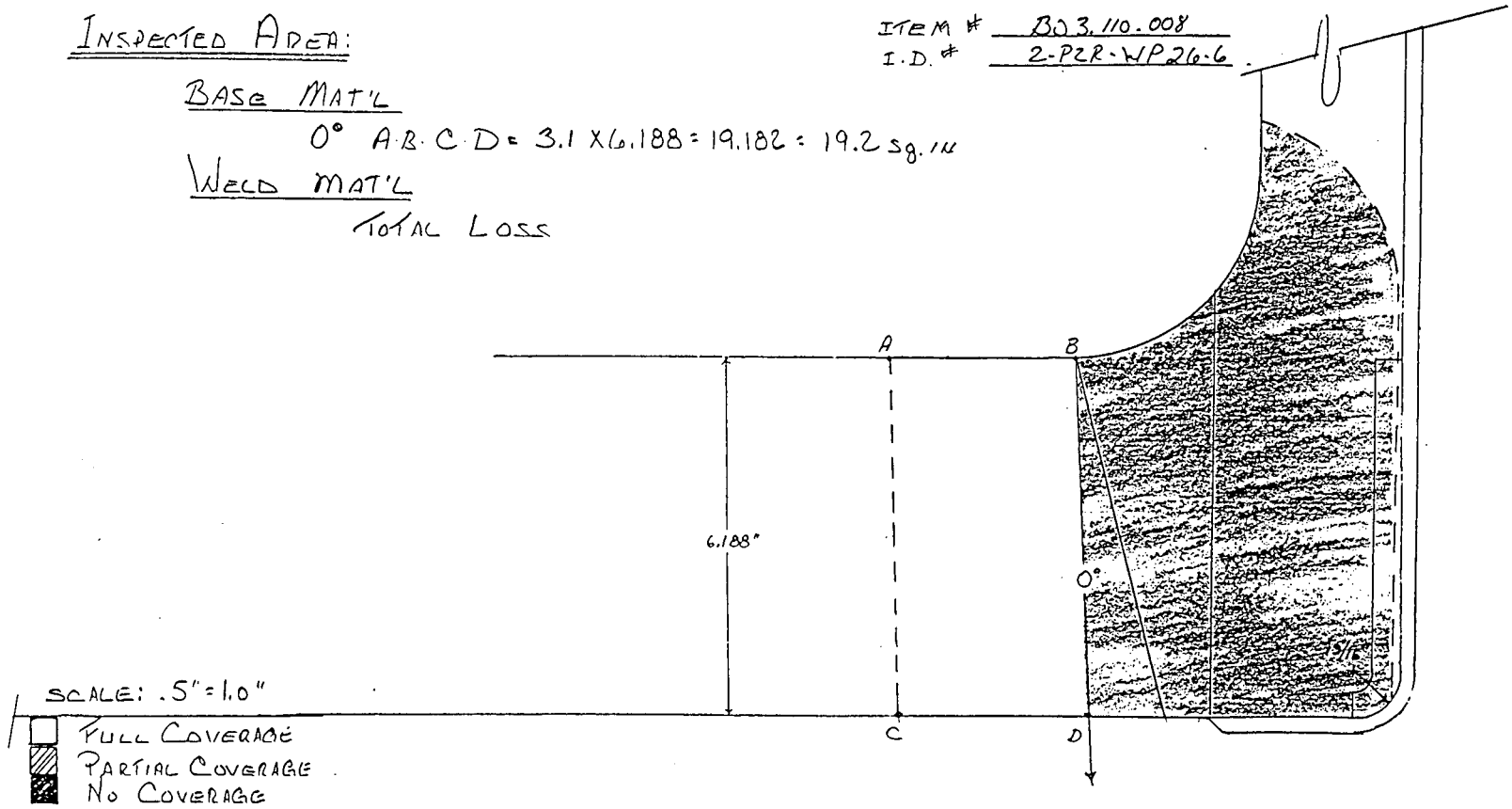
INSPECTED AREA:

BASE MAT'L

0° A·B·C·D = 3.1 X 6.188 = 19.182 = 19.2 sq. in

WELD MAT'L

TOTAL LOSS



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Request For Relief 98-03
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Attachment B

OCONEE SCANNING / SAMPLING NOZZLE

ITEM # B03.110.008
I.D. # 2-PZR-WP26-6

INSPECTED AREAS:

BASE MAT'L

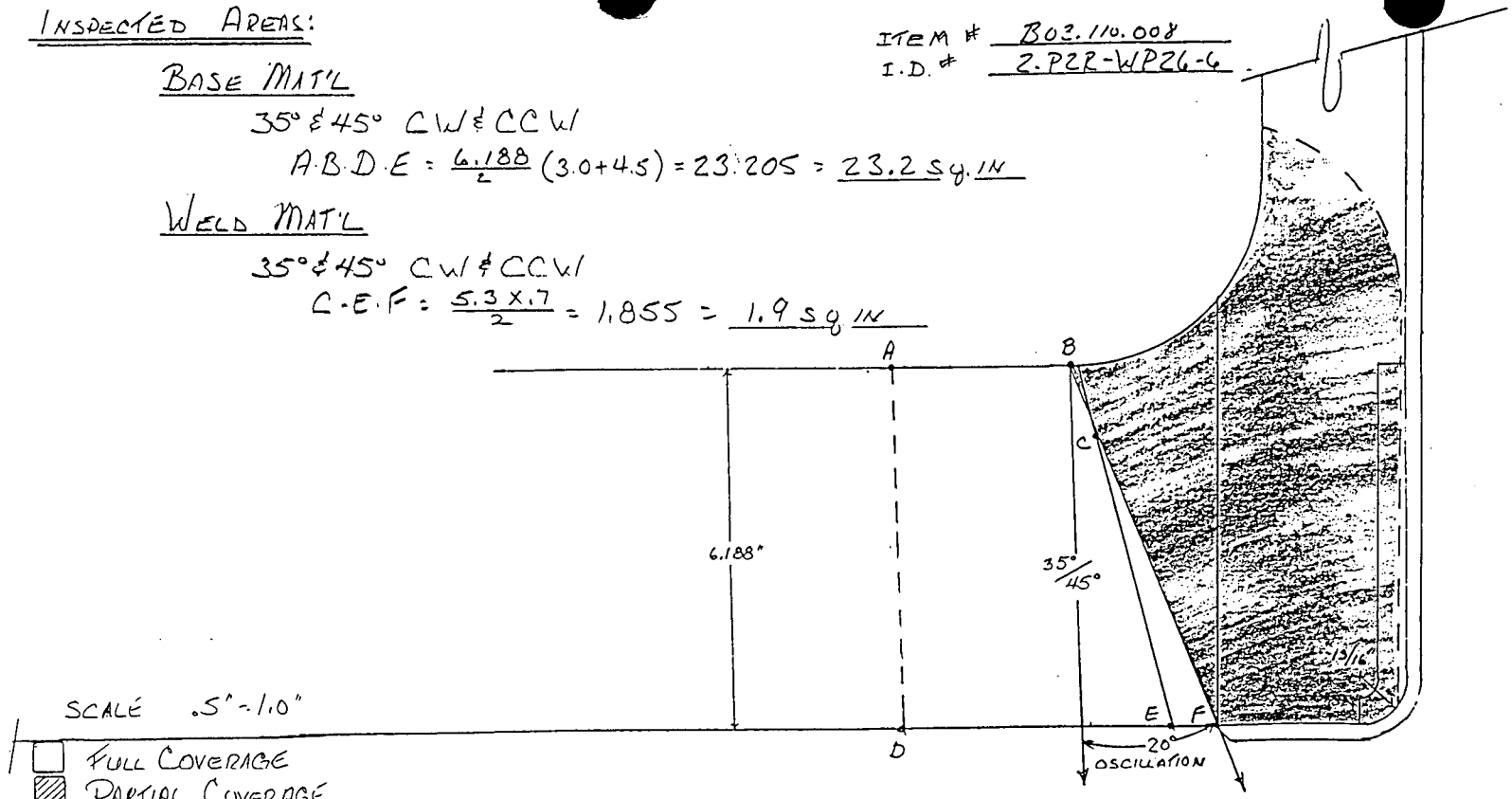
35° & 45° CW & CCW

$A \cdot B \cdot D \cdot E = \frac{6.188}{2}(3.0+4.5) = 23.205 = \underline{23.2 \text{ sq. IN}}$

WELD MAT'L

35° & 45° CW & CCW

$C \cdot E \cdot F = \frac{5.3 \times .7}{2} = 1.855 = \underline{1.9 \text{ sq IN}}$



SCALE .5" = 1.0"

- Full Coverage
- Partial Coverage
- No Coverage

OCONEE S[illegible]NG / SAMPLING NOZZLE

INSPECTED ITEMS:

WELD MAT'L

ITEM # B03.110.008
I.D. # 2-PZR-WP 26.6

S1 TO S2

35° CDF + DEF = $\frac{4.8 \times 1.2}{2} + \frac{.9 \times .75}{2} = 3.217 =$ 3.2 SQ. IN

45° BDG + DEG = $\frac{5.6 \times 1.5}{2} + \frac{3.3 \times .75}{2} = 5.437 =$ 5.4 SQ. IN

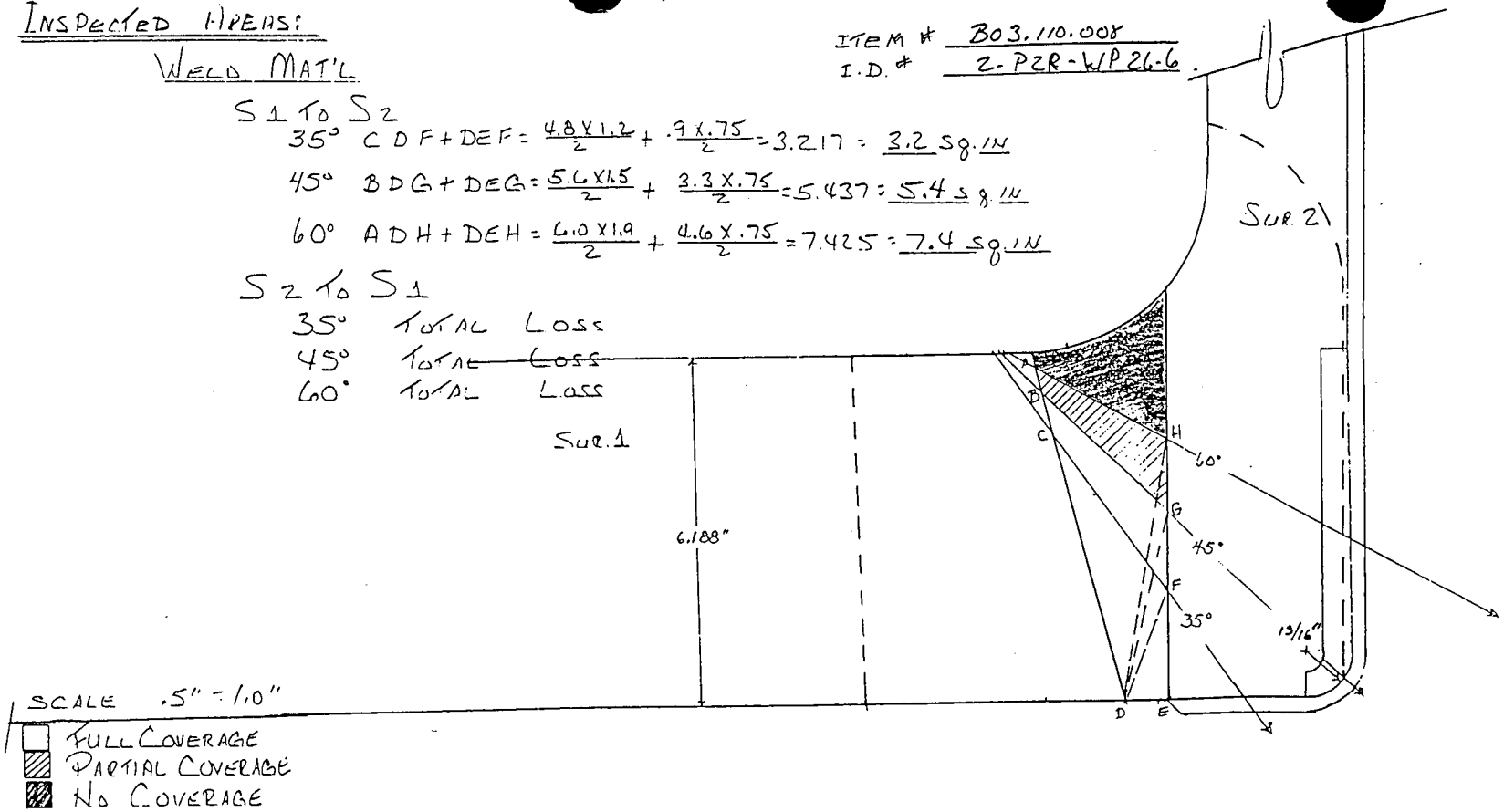
60° ADH + DEH = $\frac{6.0 \times 1.9}{2} + \frac{4.6 \times .75}{2} = 7.425 =$ 7.4 SQ. IN

S2 TO S1

35° TOTAL LOSS

45° TOTAL LOSS

60° TOTAL LOSS



SCALE .5" = 1.0"

FULL COVERAGE
PARTIAL COVERAGE
NO COVERAGE

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Request For Relief 98-03
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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)885-3564 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

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

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 EC050
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	Oconee 2	Oconee 3
Item No.	Item No.	Item No.
B03.160.001	B03.160.001	B03.160.001
B03.160.002	B03.160.002	B03.160.002
B03.160.003	B03.160.003	B03.160.003
B03.160.004	B03.160.004	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:

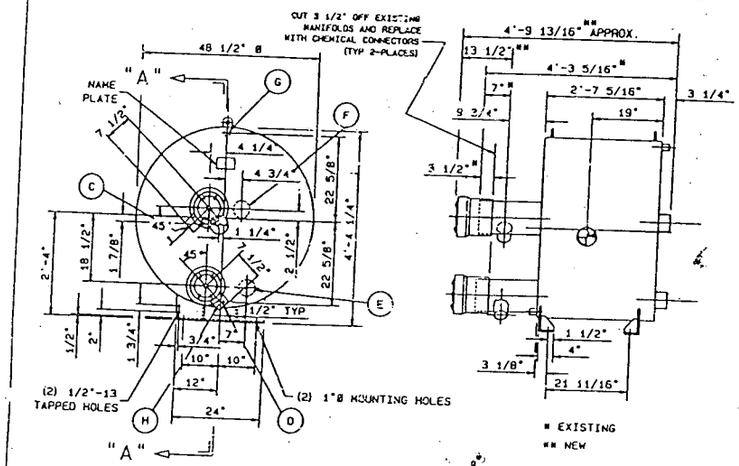
Perform the volumetric examination on the weld volume, as required by ASME Section XI, Table IWB-2500-1, Examination Category B-D, Item Number B03.150. This will provide adequate Assurance of the welded connection. The alternate proposed inservice testing will provide an acceptable level of quality and safety and ensures the level of public health and safety is not reduced.

V. Implementation Schedule:

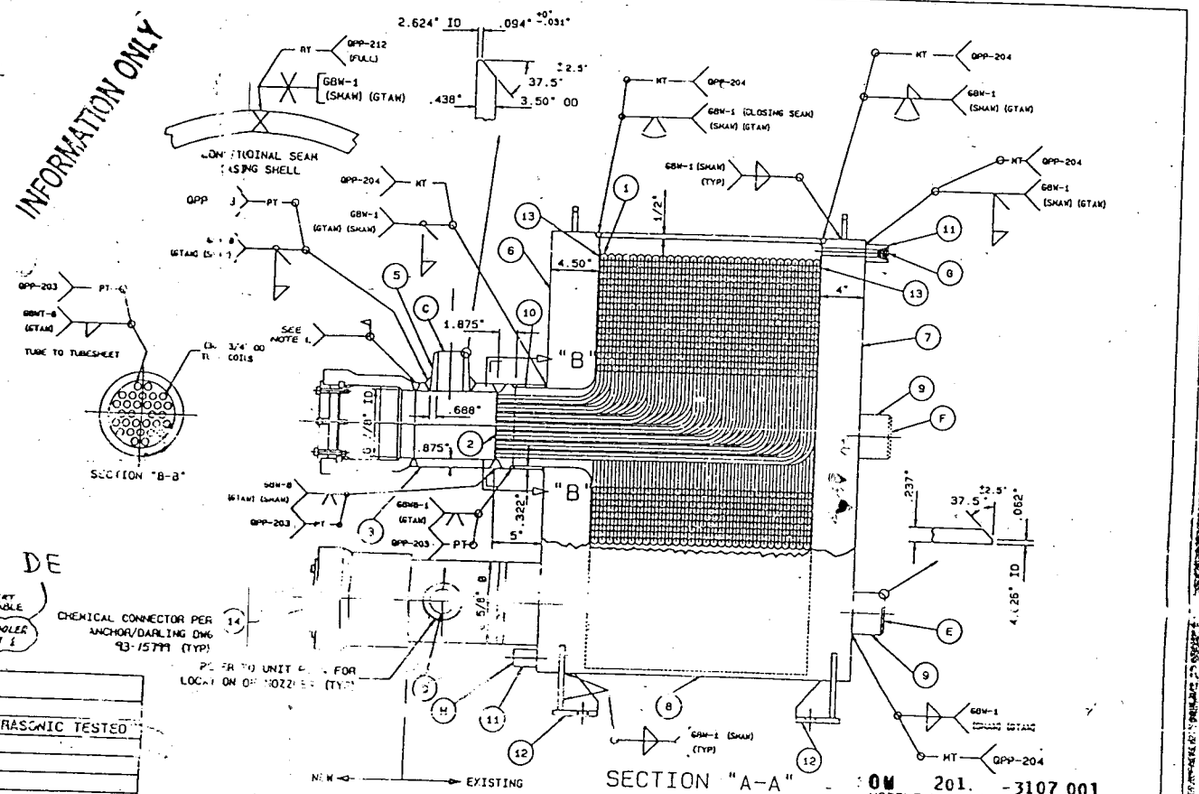
Oconee 1		Oconee 2		Oconee 3	
Item No.	RFO	Item No.	RFO	Item No.	RFO
B03.160.001	16	B03.160.001	15	B03.160.001	17
B03.160.002	16	B03.160.002	15	B03.160.002	17
B03.160.003	20	B03.160.003	20	B03.160.003	21
B03.160.004	20	B03.160.004	20	B03.160.004	21

Evaluated By: R H Rouse Date 2/10/97

Reviewed By: G Barlowe Date 2/11/97



INFORMATION ONLY



SECTION "A-A"

OM 201. -3107 001

NOZZLE LOADING

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

(C) TUBE SIDE INLET ---- 3" SCH. 160 (.438")
(D) TUBE SIDE OUTLET --- 3" SCH. 160 (.438") — END BEVELED FOR CONSUMABLE INSERT WELDING
(E) SHELL SIDE INLET --- 4" SCH. 40 (.237")
(F) SHELL SIDE OUTLET -- 4" SCH. 40 (.237") — END BEVELED FOR BUTT WELDING
(G) SHELL SIDE VENT ---- 1"- 3000# SOCKET WELD
(H) SHELL SIDE DRAIN --- 1"- 3000# SOCKET WELD

UNIT FLOW

NOTES:
1. U-GROOVE WELD WITH CONSUMABLE INSERT OR V-GROOVE WELD WITHOUT CONSUMABLE INSERT IS ACCEPTABLE.
2. FOR TUBE PLUGGING INFO. AIR LETDOWN COOLER DESIGNATION SEE OM-201-3120, ATTACHMENT 1

DE

"NUCLEAR SAFETY RELATED"
Q.A. CONDITION #1

MATERIAL LIST

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-182	FORGED BAR
5	CHANNEL NOZZLE	T-316L S.S.	SA-182	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-B	SEAMLESS PIPE
10	CASING PIPE TO TUBE SHEET	CARB. STEEL	SA-106-B	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	MATERIALS PER ANCHOR/DARLING DWG. 93-15799(OM-201-3094)		

SUPPORT STRESSES

LOAD CASE	Qx (PSI)	Qy (PSI)	ALLOWABLE (REF Z)
NORMAL OP.			.6Sy=
NORMAL OP. + OBE			.6Sy=
NORMAL OP. + SSE			.8Sy=

CUSTOMER ------ MILL POWER SUPPLY CO.
CUST. ORD. NO.- N46923-13
GRAHAM JOB NO.- 64770HC (ORIGINAL JOB NO. FOR COOLERS- 34097HC AND 44773HC) △
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

DE

DUKE POWER CO. SPECIFICATION NO.--- OSS-0201.00-00-0004 REV. 1

STATION- OCONEE
O.C. FILE #- 0374121, 06-00-0002-00
XPO 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	600°F

REV	DESCRIPTION	Q.C.	MADE	CHKD	DATE
A	REV PER OE-6820 & OE-6840				
STATUS	REV PER OE-6837, OE-3549 & OE-3406				
DC	REV. PER OE-2583				
DB	REV. PER OE-2872				
A	ADDED				
0	ORIGINAL ISSUE				2-26-88

CERTIFIED CORRECT
GRAHAM MFG. CO. INC.
E.A. Jankowski

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 — DATE 2-15-88

SCALE	MADE	CHKD	APPD	DATE	DWG. NO.	REV
NONE	GS	FS	MJD	2-11-88	NU-D-1124-1	DE

Oconee Nuclear Station
Problem Investigation Process - PIP
Problem Investigation Form

PIP Serial No:	**3-O98-5073**	**Action Category: 3**
LER No:		**Other Report:**

I. Problem ID

Discovered Time/Date: 11:00 10/25/98 Occurred Time/Date:

Unit(s): 3

Status at Time Discovered	Unit 1	Unit 2	Unit 3
Mode	N/A	N/A	NOMODE
% Power			

Unit Status Remarks:

System(s) Affected: HPI Other High Pressure Injection Equip.
RC Reactor Coolant

Affected Equipment

WMS Equipment ID No.	Comp. 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 Revison 2.

Radiographic film for all previous radiograhic 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

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 comparision 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. :

	Indiv	Team	Group	Date:
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**	**Action Category: 3**
LER No:		**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

	Indiv	Team	Group	Date
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:

Indiv	Team	Group	Date

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**	**Action Category: 3**
LER No:		**Other Report:**

Indiv	Team	Group	Date
No current Signatures for this section.			

IV. Reportability/Investigation

Responsible Group: Status:

Problem Reportable(Y,N,E):

Reportable Per:

Comments:

Indiv	Team	Group	Date
No current Signatures for this section.			

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	Primary	Causing Group(s)
F	N/A	Not Applicable	Yes	UNK

Oconee Nuclear Station
Problem Investigation Process - PIP
Problem Investigation Form

PIP Serial No:	**3-O98-5073**	**Action Category: 3**	
LER No:		**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

	Indiv	Team	Group	Date
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

	Indiv	Team	Group	Date
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-O98-5073**	**Action Category: 3**
LER No:		**Other Report:**

Other Tracking Processes

Type	Number	Text

Actual Corrective Action:

Actual CAC:
Due Date: 01/23/99

Status: Open

	Indiv	Team	Group	Date
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

	Indiv	Team	Group	Date
Assigned To:			QAT	10/26/98

Closure Document Type	Closure Document No

Supplemental Concurrences - These do not affect PIP closure.

Concurrences Associated with External Committments:

	Indiv	Team	Group	Date
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**	**Action Category: 3**
LER No:		**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**	**Action Category: 3**
LER No:		**Other Report:**

I. Problem ID

Discovered Time/Date: 10/26/98 Occurred Time/Date:

Unit(s): 3

Status at Time Discovered	Unit 1	Unit 2	Unit 3
Mode	N/A	N/A	NOMODE
% Power			

Unit Status Remarks:

System(s) Affected: HPI Other High Pressure Injection Equip.

Affected Equipment

WMS Equipment ID No.	Comp. Code	Manufacturer

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 documention (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**	**Action Category: 3**
LER No:		**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. :

	Indiv	Team	Group	Date:
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

	Indiv	Team	Group	Date
Screened By:	RWV1470	RTB7310	SRG	10/26/98

Oconee Nuclear Station
Problem Investigation Process - PIP
Problem Investigation Form

PIP Serial No:	**3-O98-5083**	**Action Category: 3**
LER No:		**Other Report:**

III. Operability

Present Operability:

Responsible Group: Status:

Sys/Comp Operable?(Y,N,C,E) :

Required Mode:

Comments:

Indiv	Team	Group	Date

No current Signatures for this section.

Past Operability:

Responsible Group: Status:

Sys/Comp Operable?(Y,N,C,E) :

Required Mode:

Comments:

Indiv	Team	Group	Date

No current Signatures for this section.

IV. Reportability/Investigation

Responsible Group: Status:

Problem Reportable(Y,N,E):

Reportable Per:

Comments:

Indiv	Team	Group	Date

No current Signatures for this section.

Investigation Report:

Oconee Nuclear Station
Problem Investigation Process - PIP
Problem Investigation Form

PIP Serial No:	**3-O98-5083**	**Action Category: 3**
LER No:		**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

WMS Equipment ID No.	Comp. Code	Manufacturer

Event	Cause Cd	Cause Description	Primary	Causing Group(s)
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

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

	Indiv	Team	Group	Date
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

	Indiv	Team	Group	Date
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**	**Action Category: 3**
LER No:		**Other Report:**

Other Tracking Processes

Type	Number	Text

Actual Corrective Action:

Actual CAC:
Due Date: 01/24/99
Status: Open

	Indiv	Team	Group	Date
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	Status:	Closed
Orig Group:	WCG	Event Code:	D6
Prop CAC:	D1	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

	Indiv	Team	Group	Date
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

	Indiv	Team	Group	Date
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-O98-5083**	**Action Category: 3**	
LER No:		**Other Report:**	

Assigned To:	GER8996	JNW8302	WCG	12/22/98

Seq. No: 3

Resp Group:	ESS	Status:	Closed
Orig Group:	WCG	Event Code:	D6
Prop CAC:	D1	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

	Indiv	Team	Group	Date
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: 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 veryify 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 occured, 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

	Indiv	Team	Group	Date
Due Date:	01/24/99			

Oconee Nuclear Station
Problem Investigation Process - PIP
Problem Investigation Form

PIP Serial No:	**3-O98-5083**	**Action Category: 3**
LER No:		**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

	Indiv	Team	Group	Date
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

Type	Number	Text

Actual Corrective Action:

Actual CAC: Status: Open
Due Date: 01/24/99

	Indiv	Team	Group	Date
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**	**Action Category: 3**
LER No:		**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

	Indiv	Team	Group	Date
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

Type	Number	Text

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

	Indiv	Team	Group	Date
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	Status:	Closed
Orig Group:	WCG	Event Code:	D6
Prop CAC:	B2	Cause Code:	F3d

Oconee Nuclear Station
Problem Investigation Process - PIP
Problem Investigation Form

PIP Serial No:	**3-O98-5083**	**Action Category: 3**
LER No:		**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

	Indiv	Team	Group	Date
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

Type	Number	Text

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

	Indiv	Team	Group	Date
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

	Indiv	Team	Group	Date
Assigned To:			MNT	10/26/98

Closure Document Type Closure Document No

PIP Serial No:	**3-O98-5083**	**Action Category: 3**
LER No:		**Other Report:**

Supplemental Concurrences - These do not affect PIP closure.

Concurrences Associated with External Committments:

	Indiv	Team	Group	Date
Concurred By:				

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 401463 (5/95)

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 _____)

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 # 97043201
Repair Organization Job #

3b. NSM or MM # _____

4. Identification of System HP 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	PIPING	D.P.Co.	NA	NA	NA	12/74	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 Orfices For 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 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 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.

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

Date 6-18, 1997

Form 401463 ([redacted])

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

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 _____)

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 # 97039297
Repair Organization Job #

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	Piping	DPC	N/A	N/A	N/A	9/74	☐ Repaired ☐ Replaced ☑ Replacement	☑ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 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 D 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.

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

Date 5-28, 1997

Form 401463 ([redacted])

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

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 _____)

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 # 96033696-01
Repair Organization Job #

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	3LPI FE 0004	N/A	N/A	N/A	N/A	N/A	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 3LPI FE 0004

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 Hansen 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 G Chapman Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 8-5, 1996

Form 401463

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

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_____)

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 # 98105812
Repair Organization Job #

3b. ~~NSM~~ or MM # 13044

4. Identification of System SF 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	SIR 56-0-2478A-GPD-0501	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 54-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 B Mason Date 11-23, 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 11-23-98 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 11-24, 1998

Form 401463

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

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 _____)

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 # 98019185
Repair Organization Job #

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-0-2477-49B	Grinnell	34184	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 D S Mason Date 1-12, 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 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.

M B Chapman Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 1-12, 1999

Form 401463

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

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_____)

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-381-SS1	Grinnell	34026	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B	Snubber on S/R 3-50-0-1066A-RCPM-381-SS2	Grinnell	34027 ~~30427~~	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
C	Snubber on S/R 3-50-0-1066A-RCPM-381-SS3	Grinnell	34028	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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/R. 3-50-0-1066A-RCPM-3B1-SS1, SS2, + SS3 per DE 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, 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 8-12-98 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 11-25, 1998

Form 401463 (2-95)

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

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 _____)

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	S/R 3-57-0-2481A-EWD-H1701	DPC	NA	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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-H701 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 Commissions NC 414

Inspector's Signature National Board, State, Providence and Endorsements

Date 11-25, 1998

Form 401463

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

Sheet 1 of 56

2. Plant **Oconee Nuclear Station**
   Address **P.O. Box 1439, Seneca, S.C. 29679**

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 # 97104189
Repair Organization Job #

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	S/R 3-14B-0-2480A-H36B	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B	S/R 3-14B-0-2480A-H13A	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
C	S/R 3-14B-0-2480A-H13-B	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
D	S/R 3-14B-0-2480A-H14A	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
E	3-14B-0-2480A-H14B	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
F	3-14B-0-2480A-H24A	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes

Form 401463 (2-95)

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 D B 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 12-1, 1998

Form 401463

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

Sheet 2 of 56

2. Plant **Oconee Nuclear Station**
   Address **P.O. Box 1439, Seneca, S.C. 29679**

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 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	S/R 3-148-0-2480A-H25A	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B	S/R 3-148-0-2480A-H25B	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
C	S/R 3-148-0-2480A-H26A	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
D	S/R 3-148-0-2480A-H26B	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
E	S/R 3-148-0-2480A-H33A	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
F	S/R 3-148-0-2480A-H33B	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ 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 DS 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 12-1, 1998

Form 401463 (9-98)

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

Sheet 3 of ~~56~~ 58

2. Plant **Oconee Nuclear Station**
   Address **P.O. Box 1439, Seneca, S.C. 29679**

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 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	S/R 3-14B-D-2480A-H34A	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B	S/R 3-14B-D-2480A-H34B	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
C	S/R 3-14B-D-2480A-H35A	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
D	S/R 3-14B-D-2480A-H35B	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
E	S/R 3-14B-D-2480A-H36A	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
F	S/R 3-14B-~~D~~ 2480C-H6549	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes

Form 401463 (2-95)

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 D B Marron 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.

M B Chapman Commissions NC 914

Inspector's Signature National Board, State, Providence and Endorsements

Date 12-1, 1998

Form 401463

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 Dom

Sheet 4 of 56

2. Plant **Oconee Nuclear Station**
   Address **P.O. Box 1439, Seneca, S.C. 29679**

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 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	S/R 3-14B-248C-H4551	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B	S/R 3-14B-D-2480A-H5A	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
C	S/R 3-14B-D-2480A-H5B	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
D	S/R 3-14B-D-2480A-H6B	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
E	S/R 3-14B-D-2480A-H7A	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
F	S/R 3-14B-D-2480A-H7B	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes

Form 401463 (2-95)

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 D 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 12-1, 1998

Form 401463 (9/96)

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_____)

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 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	S/R 3-14B-2480A-H8B	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B	S/R 3-14B-2480A-H11A	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
C	S/R ~~3-14B-2480A-H32B~~	DPC	NA	NA	NA	NA	☒ Repaired ~~☐ Replaced~~ ☐ Replacement	☒ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

DSM 11-30-98

Form 401463 (2-95)

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 D 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 12-1, 19 98

Form 401463 (5)

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

Sheet 6 of 6

2. Plant **Oconee Nuclear Station**
   Address **P.O. Box 1439, Seneca, S.C. 29679**

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	☐ Repaired ☐ Replaced ☒ Replacement	☐ No ☒ Yes
B	VLV. 3LPSW-96		3-14-62	NA		NA	☐ Repaired ☒ Replaced ☐ Replacement	☒ No ☐ Yes
C	VLV. 3LPSW-92	ITT	92-59833-4-13	8034		1993	☐ Repaired ☐ Replaced ☒ Replacement	☐ No ☒ Yes
D	VLV. 3LPSW-92		3-14-47	NA		NA	☐ Repaired ☒ Replaced ☐ Replacement	☒ No ☐ Yes
E	PIPING	D.P. Co.	NA	NA		12/94	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
F	Flange Bolting	D.P. Co.	N/A	N/A		N/A	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes

Form 401463 (2-95)

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 & VLVS. #'S 3LPS-92 & 96 & FLANGE BOLTING TO RCP MOTOR COOLERS.

8. Test Conducted: ☒ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure	205 psig	Test Temp.	743 °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 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 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 Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 12-1, 1998

Form 401463 (6/96)

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

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 _____)

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 # 98103480
Repair Organization Job #

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	S/R 3-03A-1-0-2401B-SR5	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 3-03A-1-0-2401B-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 D B 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.

M B Chapman Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 12-2, 19 98

Form 401463 (...)

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

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 _____)

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 # 98104218
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	S/R 3-50-D-2479A-H2A	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 D S 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 12-1, 1998

Form 401463

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

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 _____)

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 # 98103388
Repair Organization Job #

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	S/R 3-03-0-2480A-H6B	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 3-03-0-2480A-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 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 11-14-98 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 12-1, 1998

Form 401463

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

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 _____)

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	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 S/R 3-50-0-2479A-H12

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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 11-17, 1998

Form 401463

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

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_____)

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 # 98099677
Repair Organization Job #

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	S/R 3-64-2435B-H5597	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 3-44-2435B-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 C 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 Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 11-20, 1998

Form 401463 (6/96)

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

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_____)

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 3-50-0-1066A-RCPM-3A1-SS1	Grinnell	34023	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B	Snubber on S/R 3-50-0-1066A-RCPM-3A1-SS2	Grinnell	34025	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
C	Snubber on S/R 3-50-0-1066A-RCPM-3A1-SS3	Grinnell	34017	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 SFRs 3-50-0-1066A-RCPM-3A1-SS1, SS2, + SS3 per OE11238

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 11-23, 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 8-12-98 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 Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 11-24, 1998

Form 401463 (3/98)

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

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 _____)

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 # 98050105
Repair Organization Job #

3b. ~~NSM~~ or MM # 11686

4. Identification of System LP 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	S/R 3-53A-0-2481A-HWA-1728	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 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 11-3-98 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.

MB Chapman Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 11-25, 1998

Form 401463 (1/98)

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

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_____)

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 # 98050105
Repair Organization Job #

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	S/R 3-50-0-2481A-H6	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 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 11-3-98 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 11-25, 1998

Form 401463

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

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_____)

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 # 98049118
Repair Organization Job #

3b. ~~NSM~~ or MM # 11241

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-3B2-SS1	Grinnell	34015	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B	Snubber on S/R 3-50-0-1066A-RCPM-3B2-SS2	Grinnell	34011	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
C	Snubber on S/R 3-50-0-1066A-RCPM-3B2-SS3	Grinnell	34012	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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-3B2-SS1, SS2, + SS3 per DE 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.

MB Chapman Commissions NC 914
Inspector's Signature National Board, State, Providence and Endorsements

Date 11-24, 19 98

Form 401463

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

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_____)

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 # 98049049
Repair Organization Job #

3b. ~~NSM~~ or MM # 11239

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-3A2-SS1	Grinnell	34018	NA	NA		☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B	Snubber on S/R 3-50-0-1066A-RCPM-3A2-SS2	Grinnell	34024	NA	NA		☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
C	Snubber on S/R 3-50-0-1066A-RCPM-3A2-SS3	Grinnell	34010	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 SIRs 3-50-0-1066A-RCPM-3A2-SS1, SS2, + SS3 per DE 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 E.S. Mason Date 11-24, 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 8-12-98 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 11-24, 1998

11-24-98

Form 401463

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

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_____)

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 # 97049618
Repair Organization Job #

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	☐ Repaired ☒ Replaced ☐ Replacement	☒ No ☐ Yes
B	Snubber on S/R 3-01A-0-2401B-R10	Grinnell	34193	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 DS 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.

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

Date 8-11, 1998

Form 40146

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

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 _____)

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 # 98032097
Repair Organization Job #

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	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 (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 J S 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 10-12-98 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 11-3, 1998

Form 40146

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

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_____)

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 # 98032097
Repair Organization Job #

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-0-2441-R9(C)	Grinnell	9453	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 S 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.

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

Date 11-3, 19 98

Form 401463

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

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 _____)

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 # 98032097
Repair Organization Job #

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-2441-R7	Grinnell	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 10-23-98 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.

MB Chapman Commissions NC 914

Inspector's Signature National Board, State, Providence and Endorsements

Date 11-3, 1998

Form 40146

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

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 _____)

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 # 98032097
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-D-2479A-H3A	Grinnell	Unavailable	NA	NA	NA	☐ Repaired ☒ Replaced ☐ Replacement	☒ No ☐ Yes
B	Snubber on S/R 3-50-D-2479A-H3A	Grinnell	34184	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 D B 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.

M B Chapman Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 11-3, 1998

Form 401463 (9)

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

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_____)

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 # 97036780
Repair Organization Job #

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	S/R 3-01A-0-2441-H11	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 Date 11-10, 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 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 Commissions N.C. 914

Inspector's Signature National Board, State, Providence and Endorsements

Date 11-11, 1998

Form 401463

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

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_____)

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 # 98034048
Repair Organization Job #

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	3A RBCU	NA	NA	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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.S. 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 Commissions NC 914

Inspector's Signature National Board, State, Providence and Endorsements

Date 11-11, 1998

Form 401463

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

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 _____)

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 # 98036318
Repair Organization Job #

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	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 [signature] 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 10-26-98 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.

[signature] Commissions NC 914

Inspector's Signature National Board, State, Providence and Endorsements

Date 11-11, 1998

Form 401463

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

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 _____)

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 # 98036319
Repair Organization Job #

3b. NSM or MM # NA

4. Identification of System LPS 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	3C RBCU	NA	NA	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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, 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 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 11-11, 1998

Form 401463

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

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_____)

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 # 98091453
Repair Organization Job #

3b. NSM or MM # NA

4. Identification of System HP 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	3B S/R Pump Hanger #2	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B	Piping	DPC	NA	NA	NA	NA	☐ Repaired ☒ Replaced ☐ Replacement	☒ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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.

welded shim to correct clearance on S/R 3B Pump - Hanger #2

7. Description of Work Replaced downstream block orfice 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 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 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.

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

Date 1-12, 1999

Form 401463 (3)

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

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_____)

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 # 95027076-22
Repair Organization Job #

3b. NSM or ~~MM~~ # 32975

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	S/R 3-51A-0-2479A-H1B	DPC	N/A	N/A	N/A	N/A	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B	3-51A-0-2479E-~~H2E~~ H2E WDM	DPC	N/A	N/A	N/A	N/A	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
C	3-51A-0-2479A-~~H13B~~ H13B WDM	DPC	N/A	N/A	N/A	N/A	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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:

7. Description of Work REMOVED EXISTING SUPPORT AND INSTALLED NEW SUPPORT, ITEMS 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 ACCOMODATE 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 M C Clure Date 2/22, 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 11-12-96 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 Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 10-28, 19 97

Form 401463 (5)

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

Sheet 1 of ___

2. Plant **Oconee Nuclear Station**
   Address **P.O. Box 1439, Seneca, S.C. 29679**

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 # 96009036-14
Repair Organization Job #

3b. NSM or ~~MM #~~ 32979/AM1

4. Identification of System 01A 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	S/R 3-01A-3-0-2403D-H5	DPC	N/A	N/A	N/A	N/A	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B	3-01A-2403D-H4348	DPC	N/A	N/A	N/A	N/A	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 TROUGH #7 WERE REMOVED AND REPLACED WITH ITEMS #11 TROUGH #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 [signature] Date 2/22, 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 _____ 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.

_____ Commissions _____
Inspector's Signature National Board, State, Providence and Endorsements

Date_____, 19_____

Form 401463

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

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 _____)

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 # 97014492-01
Repair Organization Job #

3b. NSM or MM # N/A

4. Identification of System O1A 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	S/R 3-01A-0-2401B-R14	GRINNELL	22097	N/A	N/A	N/A	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 REFURBISHED SNUBBER, OIL RESERVOIR BY REPLACING CYLINDER RESERVOIR 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 C Clue Date 4/17, 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 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 Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 4-21, 1997

Form 40146

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_____)

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 # 97039576-01
Repair Organization Job #

3b. NSM or MM # N/A

4. Identification of System HPI Class B

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	SUPPORT/RESTRAINT #1 AT 3B HPI PUMP	DPC	N/A	N/A	N/A	N/A	☒ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B	SUPPORT/RESTRAINT #2 AT 3B HPI PUMP	DPC	N/A	N/A	N/A	N/A	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 TEMPORARY REMOVAL OF SUPPORTS. WELDED SUPPORTS BACK IN POSITION. SHIMED 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 W MC Clure Date 6/6, 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.

MB Chapman Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 6-23, 1997

Form 401463 (5)

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

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 _____)

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 # 97037884-08
Repair Organization Job #

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	S/R 3-53B-2436E-DE033	DPC	N/A	N/A	N/A	N/A	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 2 NEW CONCRETE ANCHORS, ITEM #7, DURING 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 W M C Clure Date 6/11, 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 6-11-97; 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.

M B Rapman Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 6-11, 1997

Form 401463 ( )

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

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 _____)

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 # 97112710-01
Repair Organization Job #

3b. NSM or MM # n/a

4. Identification of System OIA (MS) Class 2

5. (a) Applicable Construction Code B31.1 19 67 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 3-01A-4-0-2403D-R8	Grinnell	10354	n/a	n/a	n/a	☐ Repaired ☑ Replaced ☐ Replacement	☑ No ☐ Yes
B	Snubber 3-01A-4-0-2403D-R8	Grinnell	33613	n/a	n/a	n/a	☐ Repaired ☐ Replaced ☑ Replacement	☐ No ☑ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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/8110/001

(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 Date 4-1, 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 2-11-98 to 4-1-98 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 Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 4-1, 19 98

Form 401463

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

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_____)

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 # 98041363
Repair Organization Job #

3b. NSM or MM # NA

4. Identification of System LP 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 3-53B-5-0-24358-SR39	Grinnell	—	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 S/R 3-53B-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 J B 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 4-30-98 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.

M B Chapman Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 8-10, 1998

Form 40146

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

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_____)

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 # 98010086
Repair Organization Job #

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	S/R 3-01A-1-1-0-2401B-H42	DPC	NA	NA	NA	NA	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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-1-1-0-2401B-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 D 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 8-10, 1998

Form 40146 (6)

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

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 _____)

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 # 97037884
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	43339	N/A	N/A	N/A	☐ Repaired ☑ Replaced ☐ Replacement	☑ No ☐ Yes
B	3B HPI Pump	Ingersoll-RAND	68332	N/A	~~N~~ CRH 6-18-96 UTC 962476	N/A	☐ Repaired ☐ Replaced ☑ Replacement	☑ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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, 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.

M.B. Chapman Commissions NC 914
Inspector's Signature National Board, State, Providence and Endorsements

Date 8-4, 1997

Form 40146 (5)

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

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_____)

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, S-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	HPI PU 0001	Ingersoll-Rand	28101	N/A		N/A	☐ Repaired ☑ Replaced ☐ Replacement	☑ No ☐ Yes
B	HPI PU 0001	Ingersoll-Rand	43408	N/A	UTC # 962133	N/A	☐ Repaired ☐ Replaced ☑ Replacement	☑ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

Form NIS-2 (Back)

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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 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 5-5-97 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 8-4, 1997

Form 401463 (5)

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

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_____)

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 # 97065998-0
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	☐ Repaired ☒ Replaced ☐ Replacement	☒ No ☐ Yes
B	3B HPI Pump	Ingersoll-RAND	43339	N/A	HPI Pu 0002	N/A	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 D S Mason QA Spec Date 11-7, 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 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.

M B Chapman Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 11-7, 1997

Form 40146[illegible]6)

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

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_____)

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 # 97108268-01
Repair Organization Job #

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 3HP-122	VELAN	N/A	N/A	model BY-314B-13MS	N/A	☐ Repaired ☐ Replaced ☑ Replacement	☑ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 bolting 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 C.R. Henson QA SPECIALIST Date 1-6, 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 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.

M B Chapman Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 1-6, 1998

Form 40146

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

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_____)

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 # 98042021-04
Repair Organization Job #

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	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 3MS-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 Pitoohs QC Specialist Date 10-21, 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 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.

M B Chapman Commissions NC 914
Inspector's Signature National Board, State, Providence and Endorsements

Date 10-22, 19 98

Form 40146 (5)

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

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 _____)

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 # 98011407-01
Repair Organization Job #

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	☐ Repaired ☐ Replaced ☒ Replacement	☐ No ☒ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 Hoohs QC Specialist Date 11-19, 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 11-19-98; 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 Commissions NC 914
Inspector's Signature National Board, State, Providence and Endorsements

Date 11-19, 1998

Form 40146 (5)

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

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 _____)

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 # 97039973-01
Repair Organization Job #

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	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 Pl Hoohn 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 12-3, 19 98

Form 40146 (5)

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

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 _____)

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 # 98013326-01
Repair Organization Job #

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	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 Atoohr QC Specialist Date 11-18, 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 11-19-98; 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 Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 11-19, 1998

Form 40146[illegible])

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

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_____)

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 # 98045463-01
Repair Organization Job #

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	☐ Repaired ☐ Replaced ☒ Replacement	☐ No ☒ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 P Hoohn 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.

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

Date 12-14, 19 98

Form 40146 (6)

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

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 _____)

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 # 98013316-01
Repair Organization Job #

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	☐ Repaired ☐ Replaced ☒ Replacement	☐ No ☒ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 Pl Hoohn QC Specialist Date 12-9, 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 11-2-98 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 Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 12-14, 1998

Form 40146 (5)

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

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_____)

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 # 98042018-04
Repair Organization Job #

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	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 [illegible] QC Specialist Date 1-7, 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 11-2-98 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 Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 1-7, 1999

Form 40146 (5)

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

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_____)

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 # 98009735
Repair Organization Job #

3b. NSM or ~~MM~~ # 11461

4. Identification of System RC Class 1

5. (a) Applicable Construction Code ASME III 1965 Edition, Summer 1967 Addenda, 1332-2, 3, 4 / 1339-1 Code Cases 1336 / 1359-1 / 1338-3 + 4 ALT. 1
   (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	B&W	620-0009-55-2	N128		1971	☒ Repaired ☐ Replaced ☐ Replacement	☐ No ☒ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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/A**

Certificate of Authorization No. **N/A** Expiration Date **N/A**

Signed [signature] QA SPECIALIST Date 11-24, 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, 1994

Form 40146 (5)

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

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 _____)

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 # 98009730
Repair Organization Job #

3b. NSM or ~~MM~~ # 11460

4. Identification of System RC 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 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	3A OTSG	B&W	620-0009-55-1	N127		1971	☒ Repaired ☐ Replaced ☐ Replacement	☐ No ☒ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 [signature] QA Specialist 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.

[signature] Commissions NC917
Inspector's Signature National Board, State, Providence and Endorsements

Date 11-24, 19 98

Form 40146 (5)

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

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 _____)

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 # 98092876
Repair Organization Job #

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	☐ Repaired ☒ Replaced ☐ Replacement	☒ No ☐ Yes
B	BOLTING	NA	NA	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 OTSG MFDW 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/A**

Certificate of Authorization No. **N/A** Expiration Date **N/A**

Signed A. L. Blubaugh QA SPECIALIST 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 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.

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

Date 11-30, 1998

Form 4014[illegible]5)

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

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_____)

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 # 98092876
Repair Organization Job #

3b. NSM or MM # NA

4. Identification of System MFDW 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	PIPING	D.P. Co.	NA	NA	MFDW RISER FLANGE #20	12/74	☒ Repaired ☐ Replaced ☐ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 MFDW 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 [signature] QA SPECIALIST Date 12-2, 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 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 Commissions NC 914
Inspector's Signature National Board, State, Providence and Endorsements

Date 12-2, 19 98

Form 4014[illegible]5)

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

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_____)

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 # 98014936
Repair Organization Job #

3b. NSM or MM # _____

4. Identification of System RC Class 1

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	3B OTSG UPPER PRIMARY HANDHOLE BOLTING	B+W	STEAM GEN. S/N 620-0009-55-2	S.GEN. #N128		1971	☐ Repaired ☐ Replaced ☒ Replacement	☐ No ☒ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 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 [signature] QA SPECIALIST Date 12-8, 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 12-9-98; 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.

[signature] Commissions NC 914
Inspector's Signature National Board, State, Providence and Endorsements

Date 12-9, 19~~9~~9

Form 4014[illegible]5)

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

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 _____)

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 # 98095726
Repair Organization Job #

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	BOLTING	NA	NA	NA	NA	NA	☐ Repaired ☒ Replaced ☐ Replacement	☒ No ☐ Yes
B	BOLTING	NA	NA	NA	NA	NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 MFDW 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/A**

Certificate of Authorization No. **N/A** Expiration Date **N/A**

Signed [signature] QA SPECIALIST 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 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 Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 12-9, 1998

Form 40146 (5)

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

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_____)

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 # 98047357
Repair Organization Job #

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	☐ Repaired ☐ Replaced ☒ Replacement	☐ No ☒ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 [signature] 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 12-9, 1998

Form 40146 (5)

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

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 _____)

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 # 98095727
Repair Organization Job #

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	MFW RISER #28 ON OTSG 3A	B+W	NA	NA	#28	1971	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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/A**

Certificate of Authorization No. **N/A** Expiration Date **N/A**

Signed G. L. Blubaugh QA Specialist 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 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.

MB Chapman Commissions NC 914
Inspector's Signature National Board, State, Providence and Endorsements

Date 1-13, 1999

Form 4014[illegible]5)

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

Sheet 1 of 3

2. Plant **Oconee Nuclear Station**
   Address **P.O. Box 1439, Seneca, S.C. 29679**

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 # 95027076
Repair Organization Job #

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	EZ496-1-7	1913		1996	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B	VLV. 3HP-126	VELAN	962103-3	NA		NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
C	VLV. 3HP-487	ANCHOR DARLING	EZ496-1-9	1915		1996	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
D	VLV 3HP-127	VELAN	962103-4	NA		NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
E	VLV. 3HP-489	ANCHOR DARLING	EZ496-1-6	1912		1996	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
F	VLV. 3HP-152	VELAN	962103-7	NA		NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes

Form 401463 (2-95)

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 D B Mason QA 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 Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 10-28, 1997

Form 4014[illegible]5)

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

Sheet 2 of 3

2. Plant **Oconee Nuclear Station**
   Address **P.O. Box 1439, Seneca, S.C. 29679**

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 # 95027076
Repair Organization Job #

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	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B	VLV. 3HP-153	VELAN	962103-1	NA		NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
C	PIPING	D.P.C.	NA	NA		12/94	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 D.A. 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 11-18-96 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 Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 10-28, 1997

Form 4014[illegible]5)

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

Sheet 3 of 3

2. Plant **Oconee Nuclear Station**
   Address **P.O. Box 1439, Seneca, S.C. 29679**

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 # 95027076-01
Repair Organization Job #

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			☐ Repaired ☒ Replaced ☐ Replacement	☐ No ☒ Yes
B	VLV. 3HP-126	"	34	NA			☐ Repaired ☒ Replaced ☐ Replacement	☐ No ☒ Yes
C	VLV. 3HP-153	"	31	NA			☐ Repaired ☒ Replaced ☐ Replacement	☐ No ☒ Yes
D	VLV. 3HP-152	"	32	NA			☐ Repaired ☒ Replaced ☐ Replacement	☐ No ☒ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 D S Mason QA 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 11-12-97 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.

M B Chapman Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 10-28, 1997

Form 4014 (5)

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

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 _____)

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 # 96084197
Repair Organization Job #

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	☒ Repaired ☐ Replaced ☐ Replacement	☐ No ☒ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 D 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 1-14, 1999

Form 4014 (5)

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

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_____)

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 # 96013880
Repair Organization Job #

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	PIPING	D.P.C.	NA	NA		12/74	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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, 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 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 Commissions NC914

Inspector's Signature National Board, State, Providence and Endorsements

Date 1-18, 1999

Form 401[illegible]95)

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_____)

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 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	PIPING	D.P.Co.	NA	NA	NA	12/74	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 DB 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.

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

Date 6-23, 1997

Form 4014 [illegible])

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

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_____)

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 # 97037962
Repair Organization Job #

3b. ~~NSM~~ or MM # 10396

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	Piping	DPC	N/A	N/A		12-1974	☐ Repaired ☐ Replaced ☑ Replacement	☑ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ 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 J B Mason QA Tech 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 5-9-97 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 Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 8-4, 1997

Form 4014 (5)

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

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_____)

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 # 97087156
Repair Organization Job #

3b. NSM or MM # NA

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	3LPS-FX-0009 FLEX HOSE	PARKER HANNIFAN	030	NA		1991	☐ Repaired ☐ Replaced ☒ Replacement	☐ No ☒ Yes
B	3LPS-FX-0009 FLEX HOSE	UNKOWN	UNKOWN	NA		NA	☐ Repaired ☒ Replaced ☐ Replacement	☒ No ☐ Yes
C	PIPING	D.P.C.	NA	NA		NA	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
D	PH 10/17/97 ~~Flex line~~	~~DPC~~	~~NA~~	~~NA~~			☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E	S/R ~~1-148-0-248A-H24A~~	~~DPC~~	~~N/A~~	~~N/A~~		~~N/A~~	☐ Repaired ☐ Replaced ~~☒ Replacement~~	☒ No ~~☐ Yes~~
F	WJM 1/12/98						☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 U-BOLT ON SUPPORT/RESTRAINT.~~ WTM 1/12/98

7. Description of Work REPLACED FLEX HOSE. and flange bolting

8. Test Conducted: [X] 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 S B Mason QA 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.

M B Chapman Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 10-21, 19 97

Form 4014 (95)

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

Sheet 1 of 2

2. Plant **Oconee Nuclear Station**
   Address **P.O. Box 1439, Seneca, S.C. 29679**

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 # 94087963
Repair Organization Job #

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	FLEX HOSE LPS FX 0005	PARKER HANNIFIN	035	NA		1991	☐ Repaired ☐ Replaced ☒ Replacement	☐ No ☒ Yes
B	PIPING	D.P.C.	NA	NA		12/94	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
C	FLEX HOSE	UNKOWN	UNKOWN	NA		NA	☐ Repaired ☒ Replaced ☐ Replacement	☒ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

Form NIS-2 (Back)

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7. Description of Work REPLACED FLEX HOSE CPS FX 0005

8. Test Conducted: ☒ Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ Other ☐ Exempt

Pressure	130 psig	Test 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 D8 Mason QA 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 10-9-97 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 Commissions NC 914
Inspector's Signature National Board, State, Providence and Endorsements

Date 10-21, 19 97

Form 4014 (95)

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

Sheet 1 of 2

2. Plant **Oconee Nuclear Station**
   Address **P.O. Box 1439, Seneca, S.C. 29679**

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 # 97087963-01
Repair Organization Job #

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	Flex line	DPC	N/A	N/A	LPS FX 0005	1974	☐ Repaired ☒ Replaced ☐ Replacement	☒ No ☐ Yes
B	S/R ~~1-14B-0-2480A-H35A~~ DTM 1/2/98	DPC	N/A	N/A		N/A	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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.

~~B) REPLACED U BOLT ON SUPPORT / RESTRAINT.~~ WTM 1/12/98

7. Description of Work A) Replaced bolting ON Flex 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 Commissions NC914
Inspector's Signature National Board, State, Providence and Endorsements

Date 10-21, 19 97

Form 401[illegible]95)

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

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_____)

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 # 98077760
Repair Organization Job #

3b. NSM or MM # _____

4. Identification of System LPS 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	PIPING	D.P.Co.	NA	NA		12/74	☐ Repaired ☐ Replaced ☒ Replacement	☒ No ☐ Yes
B							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
C							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
D							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
E							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes
F							☐ Repaired ☐ Replaced ☐ Replacement	☐ No ☐ Yes

Form 401463 (2-95)

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 3A-1 MOTOR.

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 JB 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.

MB Chapman Commissions NC 914

Inspector's Signature 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).

Examination Category	*Test Requirement*	*Total Examinations Required For This Period*	*Total Examinations Credited For This Period*	*(%) Examinations Complete For This Period*
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

Item Number	Flow Drawing	Required Test	System Name	Required Inspection	Required Procedure	Comments
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

Item Number	Flow Drawing	Required Test	System Name	Required Inspection	Required Procedure	Comments
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	INSER	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	INSER	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	INSER	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

Item Number	Flow Drawing	Required Test	System Name	Required Inspection	Required Procedure	Comments
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	INSER	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

Item Number	Flow Drawing	Required Test	System Name	Required Inspection	Required Procedure	Comments
D01.011.001	OFD-100A-3.3	INSER	RC SYSTEM	VT-2	QAL-15	EOC-17 Station Pkg.#32S-451
D01.011.002	OFD-101A-3.1	INSER	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	INSER	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	INSER	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

Item Number	Flow Drawing	Required Test	Test Status	Test Result	VT-2 Date	Comments
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

Item Number	Flow Drawing	Required Test	Test Status	Test Result	VT-2 Date	Comments
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	INSER	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	INSER	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	INSER	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

Item Number	Flow Drawing	Required Test	Test Status	Test Result	VT-2 Date	Comments
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	INSER	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

Item Number	Flow Drawing	Required Test	Test Status	Test Result	VT-2 Date	Comments
D01.011.001	OFD-100A-3.3	INSER	COMPLETE	CLEAR	10/08/98	EOC-17 Station Pkg.#32S-451
D01.011.002	OFD-101A-3.1	INSER	COMPLETE	CLEAR	10/08/98	EOC-16 Station Pkg.# 33S-301. EOC-17 Station Pkg.#32S-451
D01.011.005	OFD-101A-3.4	INSER	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	INSER	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