

# CATEGORY 1

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 50-270 Oconee Nuclear Station, Unit 2, Duke Power Co. 05000270  
 50-287 Oconee Nuclear Station, Unit 3, Duke Power Co. 05000287

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 RECIPIENT NAME RECIPIENT AFFILIATION  
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SUBJECT: Forwards request for from ASME Section XI, 1989 Edition re third ten yr ISI interval request for Relief 96-01. Units being addressed by request for relief, per recommendations delineated in NRC Insp Rept.

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**DUKE POWER**

February 27, 1996

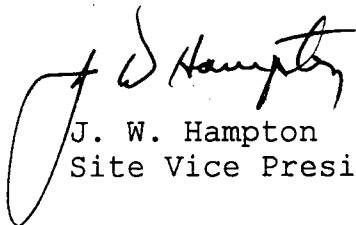
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Subject: Duke Power Company  
Oconee Nuclear Station, Units 1, 2, and 3  
Docket Nos. 50-269, -270, and -287  
Third Ten Year Inservice Inspection Interval  
Request for Relief No. 96-01

Pursuant to 10 CFR 50.55a, section (g) (4) (iii), attached is a Request for Relief from ASME Section XI, 1989 Edition. This request is to allow Duke Power to take credit for limited ultrasonic examinations on pressurizer nozzle-to-vessel welds and steam generator tubesheet-to-shell welds. During the examinations on the subject Unit 1 welds, the ultrasonic examination coverage did not meet the 90% examination coverage requirements of ASME Section XI. Achievement of greater than 90% examination coverage for the subject welds is impractical due to piping geometry, joint configuration, and interferences. All three Oconee units are being addressed by this Request for Relief per recommendations delineated in NRC Inspection Report 95-05 dated May 5, 1995.

If there are any questions or further information is needed you may contact D. A. Nix at (803) 885-3634.

Very truly yours,

  
J. W. Hampton  
Site Vice President

Attachment

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PDR ADOCK 05000269  
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U. S. Nuclear Regulatory Commission  
February 27, 1996  
Page 2

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Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

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Columbia, SC 29201

Duke Power Company

Station Oconee Unit 1, 2 & 3

10-YEAR INTERVAL REQUEST FOR RELIEF NO. 96-01

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

a. Pressurizer Nozzle-to-Vessel Welds:

- 1-PZR-WP34, Item Number B03.110.002
- 1-PZR-WP33-3, Item Number B03.110.003
- 1-PZR-WP33-2, Item Number B03.110.004
  
- 2-PZR-WP34, Item Number B03.110.002
- 2-PZR-WP33-3, Item Number B03.110.003
- 2-PZR-WP33-2, Item Number B03.110.004
  
- 3-PZR-WP34, Item Number B03.110.002
- 3-PZR-WP33-3, Item Number B03.110.003
- 3-PZR-WP33-2, Item Number B03.110.004

b. Steam Generator Tubesheet-to-Shell Welds:

- 1-SGA-WG60, Item Number C01.030.001
- 2-SGA-WG60, Item Number C01.030.001
- 3-SGA-WG60, Item Number C01.030.001

II. Code Requirement:

Figure IWB-2500-7, Examination Category B-D, Full Penetration Welds Of Nozzles In Vessels - Inspection Program B.

Figure IWC-2500-1, Examination Category C-A, Pressure Retaining Welds In Pressure Vessel; Note 1 "Includes essentially 100% of the weld length".

III. Code Requirement from which Relief is Requested:

Relief is requested from the requirement of examining essentially 100% of the weld length. The applicable code required is ASME Section V, Article 4, T-441.3.2, Scanning Requirements, 1989 Edition with no Addenda as modified by Code Case N-460. Due to part geometry and actual physical

barriers, obtaining at least 90% of the weld length as outlined in Code Case N-460 is not possible with existing ultrasonic technology.

The specified Code requirements identified in Section 2 of this request, require scanning of the examination volume(s) using three angle beams and a straight beam from both sides of the weld. 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.

#### IV. Basis for Relief:

Pressurizer Nozzle-to-Shell Weld 1-PZR-WP34 (Item Number B03.110.002) 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.

This weld is limited to 70.75% coverage of the required volume because of the nozzle configuration.

Pressurizer Nozzle-to-Shell Welds 1-PZR-WP33-3 and 1-PZR-WP33-2 (Item Numbers B03.110.003 and B03.110.004 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, Appendix I, 1989 Edition.

These welds are limited to 66.5% coverage of the required volume because of the nozzle configuration.

Steam Generator Tubesheet-to-Shell Weld 1-SGA-WG60 (Item Number C01.030.001) 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.

This weld was limited to 73.8% coverage of the required volume because of the proximity of five restraints which prevent scanning the required weld volume and near surface volume from the tube sheet side.

All three units are being documented in this request for relief as outlined in NRC correspondence dated May 5, 1995 concerning NRC Inspection Report No. 50-269/95-05, 50-270/95-05, and 50-287.

For welds and components listed in this request for relief, all configurations, including interferences, are the same for Units 2 and 3. If for some reason, the actual examination coverage of the welds referenced in this request for relief for Units 2 and 3 are less than those listed for Unit 1; additional requests for relief will be submitted on a case by case basis.

V. Alternate Examinations or Testing:

Duke Power company 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.

VI. Justification for the Granting of Relief:

Duke Power Company will continue to ultrasonically examine the welds, including inside radii, to the extent practical within the limits of original design and construction. 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.

VII. Implementation Schedule:

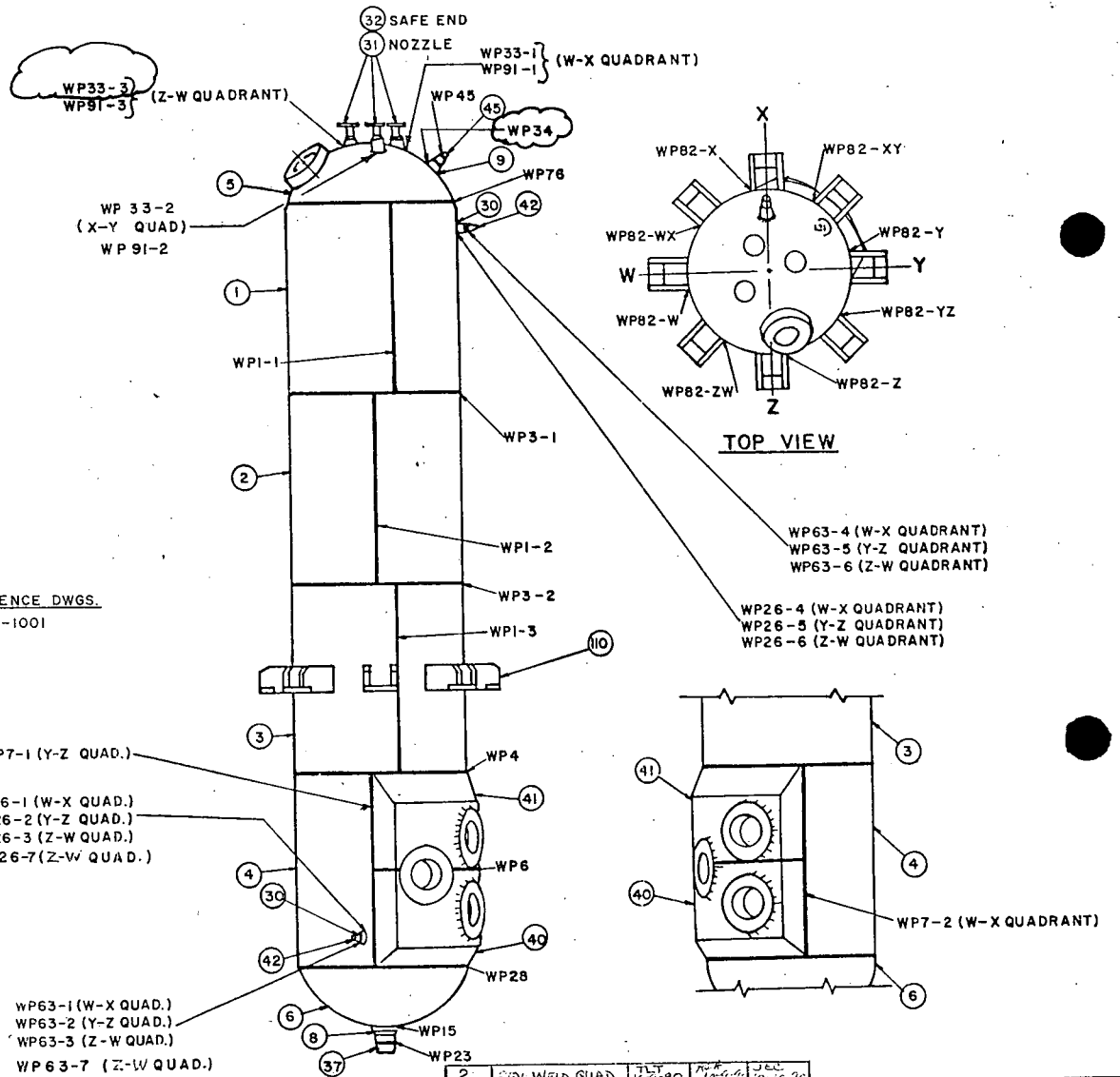
Unit 1, Refueling Outage 16  
Unit 2, Refueling Outages 17 and 18  
Unit 3, Refueling Outage 16

Evaluated By:                     R. G. Louse                     Date                     2/8/96                    

Reviewed By                     J. O. Barlow                     Date                     2/20/96

WELD LIST				BILL OF MATERIAL			
IDENT NO.	PIECE NO.	DIAM.	THICK.	PC. NO.	QTY	DESCRIPTION	MATL.
WPI-1	1 TO 1	N/A	6.188	1	1	UPPER SHELL COURSE	SA 212 GR. B
WPI-2	2 TO 2	N/A	6.188	2	1	MIDDLE SHELL COURSE	SA 212 GR. B
WPI-3	3 TO 3	N/A	6.188	3	1	LOWER SHELL COURSE	SA 212 GR. B
WP3-1	1 TO 2	84" I.D.	6.188	4	1	HEATER BELT SHELL	SA 212 GR. B
WP3-2	2 TO 3	84" I.D.	6.188	5	1	UPPER HEAD	SA 212 GR. B
WP4	3 TO 4 & 4	84" I.D.	6.188	6	1	LOWER HEAD	SA 212 GR. B
WP6	40 TO 41	84" I.D.	13.563	8	1	PRESSURIZER SURGE NOZZLE	SA 508 CL. 1
WP7-1	4 TO 40 & 41	N/A	6.188	9	1	PRESSURIZER SPRAY NOZZLE	SA 508 CL. 1
WP7-2	4 TO 40 & 41	N/A	6.188	30	6	SAMPLING NOZZLE	SA 508 GR. B
WPI5	6 TO 8		4.750	31	3	PRESSURIZER RELIEF NOZZLE	SA 508 CL. 1
WP23	8 TO 37	10" NPS	1.063	32	3	PRESSURIZER RELIEF NOZZLE SAFE END	SA 182 F316
WP26-1	30 TO 4		6.188	37	1	PRESSURIZER SURGE NOZZLE SAFE END	SA 336 CL. FBM
WP26-2	30 TO 4		6.188	40	1	LOWER HEATER BELT FORGING	SA 508 CL. 1
WP26-3	30 TO 4		6.188	41	1	UPPER HEATER BELT FORGING	SA 508 CL. 1
WP26-4	30 TO 1		6.188	42	6	SAMPLING NOZZLE SAFE END	SB-166
WP26-5	30 TO 1		6.188	45	1	PRESSURIZER SPRAY NOZZLE SAFE END	SB-166
WP26-6	30 TO 1		6.188	110	8	PRESSURIZER SUPPORT LUG ASSEMBLY	SA-516 GR. 70
WP26-7	30 TO 4		6.188				
WP28	6 TO 4 & 40	84" I.D.	4.750				
WP33-1	31 TO 5		4.750				
WP33-2	31 TO 5		4.750				
WP33-3	31 TO 5		4.750				
WP34	9 TO 5		4.750				
WP45	45 TO 9	4" NPS	0.750				
WP63-1	42 TO 30		1.1875				
WP63-2	42 TO 30		1.1875				
WP63-3	42 TO 30		1.1875				
WP63-4	42 TO 30		1.1875				
WP63-5	42 TO 30		1.1875				
WP63-6	42 TO 30		1.1875				
WP76	1 TO 5	84" I.D.	4.750				
WP82-X	110 TO 3	N/A	3.500				
WP82-XY	110 TO 3	N/A	3.500				
WP82-YZ	110 TO 3	N/A	3.500				
WP82-Z	110 TO 3	N/A	3.500				
WP82-W	110 TO 3	N/A	3.500				
WP82-WX	110 TO 3	N/A	3.500				

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



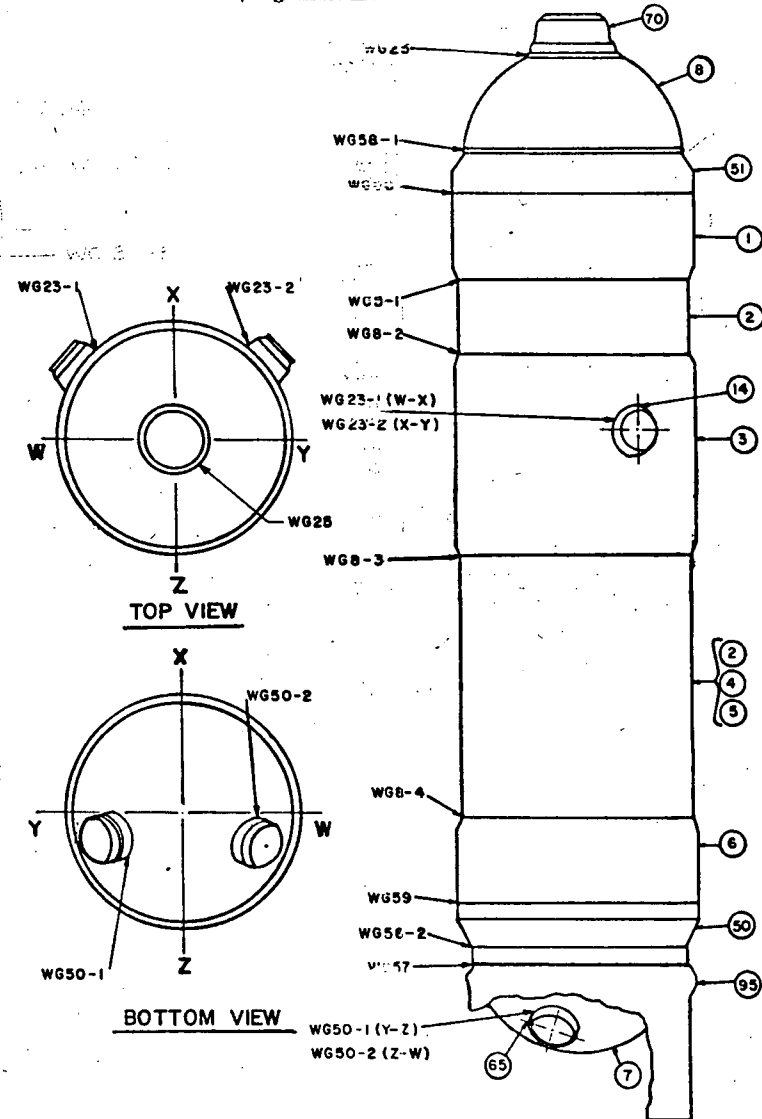
REFERENCE DWGS.  
OM 201-1001

NOTES:  
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2. PIECE NUMBERS ARE SHOWN IN CIRCLES.

NO.	REVISION	DRWN	RVWD	APPD	DATE	DATE	DATE	TITLE
2	REV. WELD QUAD.	AW5	AW5	AW5	7/23/81	7/23/81	7/23/81	PRESSURIZER WELD OUTLINE
1	ADD. REF. DWGS.	AW5	TTM	CAC	7/23/81	7/23/81	7/23/81	
0	ORIG.	AW5	TTM	CAC	7/23/81	7/23/81	7/23/81	

DWG. NO. ISI-OCNI-002 REV. 2

WELD LIST				BILL OF MATERIAL			
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 212 GR. B
WG8-2	2 TO 3	138" I.D.	4.188 MIN.	2	2	SHELL SECTION	SA 212 GR. B
WG8-3	3 TO 2	138" I.D.	4.188 MIN.	3	1	SHELL SECTION	SA 212 GR. B
WG8-4	5 TO 6	138" I.D.	4.188 MIN.	4	1	SHELL SECTION	SA 212 GR. B
WG23-1	14 TO 3	29.00"	6.625 MIN.	5	1	SHELL SECTION	SA 212 GR. B
WG23-2	14 TO 3	29.00"	6.625 MIN.	6	1	SHELL SECTION	SA 212 GR. B
WG25	70 TO 8	48.63"	8.000 MIN.	7	1	LOWER HEAD	SA 302 GR. B
WG50-1	65 TO 7	38.38"	8.000 MIN.	8	1	UPPER HEAD	SA 302 GR. B
WG50-2	65 TO 7	38.38"	8.000 MIN.	14	2	24" STEAM OUTLET NOZZLE	SA 508 CL. 1
WG57	95 TO 7	135" I.D.	N/A	50	1	LOWER TUBE SHEET	SA 508 CL. 2
WG58-1	8 TO 51	119" I.D.	8.000 MIN.	51	1	UPPER TUBE SHEET	SA 508 CL. 2
WG58-2	7 TO 50	119" I.D.	8.000 MIN.	65	2	28" PRIMARY OUTLET NOZZLE	SA 508 CL. 2
WG59	6 TO 50	138" I.D.	6.625 MIN.	70	1	36" PRIMARY INLET NOZZLE	SA 508 CL. 1
WG60	1 TO 51	138" I.D.	6.625 MIN.	95	1	SUPPORT SKIRT TRANSITION RING	SA 302 GR. B



REFERENCE DWGS:  
 OM 201-1873  
 OM 201-176

NOTES:

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1.	Add Top & Bot. Views & 12.00. Drawing 95	MWL	JH	JOE	TITLE STEAM GENERATOR "A" WELD OUTLINE
O.	ORIGINAL	7-205	7-21-5	7-23-3	
NO.	REVISION	DRWN	FWVD	APPD	DWG NO. ISI-OCNI-003
		DATE	DATE	DATE	REV. 1