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December 2, 1999

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington D.C. 20555

Subject: Oconee Nuclear Station Units 1, 2 & 3
Docket Nos. 50 -269, 270, 287
TAC Nos. MA0557, MA0558 and MA0559

Via a letter dated June 24, 1999 for the Oconee Nuclear Station, the staff requested that we review the information contained in the Reactor Vessel Integrity Database (RVID), Version 2. The purpose of this submittal is to provide comments on the Oconee specific reactor vessel information contained in the RVID database.

If you have questions or need additional information, please contact Allison Jones-Young at (704) 382-3154.

Very truly yours,

M. S. Tuckman

M.S. Tuckman

Attachments

A001

xc:

L.A. Reyes
Regional Administrator, Region II

D.E. Labarge, ONRR

M.C. Shannon
Senior Resident Inspector (ONS)

ATTACHMENTS
OCONEE NUCLEAR STATION UNITS 1, 2 and 3

NRC - Reactor Vessel Integrity Database

PTS Summary Report

OCONEE 1

Docket No: 50-269
EOL Date: 02/06/2013

Beltline Identification		RTpts @EOL	Neutron Fluence @ EOL	RTndt(u)	RTndt(u) METHOD	ΔRTndt(u) @ EOL	Fluence Factor @ EOL	Chem Factor	Chemistry Factor Method	Margin	Margin Method	Cu %	Ni %	P %	S %
Type	Heat ID														
LOWER NOZZLE BELT		117.9	0.079	3.0	B&W GENERIC	44.2	0.371	119.25	TABLE	70.7	POSITION 1.1 (NO S DATA)	0.160	0.650	0.006	0.010
FORGING	AHR54 (ZV2861)														
INTERMEDIATE SHELL		163.9	0.838	1.0	B&W GENERIC	99.3	0.950	104.50	TABLE	63.6	POSITION 1.1 (NO S DATA)	0.150	0.500	0.008	0.010
PLATE	C2197-2														
LOWER SHELL		137.6	0.930	1.0	B&W GENERIC	73.0	0.980	74.45	TABLE	63.6	POSITION 1.1 (NO S DATA)	0.110	0.630	0.012	0.017
PLATE	C2800-1														
LOWER SHELL		137.6	0.930	1.0	B&W GENERIC	73.0	0.980	74.45	TABLE	63.6	POSITION 1.1 (NO S DATA)	0.110	0.630	0.012	0.017
PLATE	C2800-2														
UPPER SHELL		128.3	0.932	1.0	B&W GENERIC	63.7	0.980	65.00	TABLE	63.6	POSITION 1.1 (NO S DATA)	0.100	0.500	0.015	0.015
PLATE	C3265-1														
UPPER SHELL		146.0	0.932	1.0	B&W GENERIC	81.3	0.980	83.00	TABLE	63.6	POSITION 1.1 (NO S DATA)	0.120	0.600	0.010	0.016
PLATE	C3278-1														
INTERMEDIATE SHELL AXIAL WELDS SA-1073		213.8	0.655	-5.0	B&W GENERIC	150.3	0.881	170.60	TABLE	68.5	POSITION 1.1 (NO S DATA)	0.210	0.640	0.025	0.017
WELD	1P0962														
INT./UPPER SHL CIRC WELD (OUTSIDE 39%) WF-25				-7.0	B&W GENERIC			220.60	TABLE	69.5	POSITION 1.1 (NO S DATA)	0.340	0.680	0.000	0.000
WELD	299L44														
NOZZLE BELT/INT. SHELL CIRC WELD SA-1135		96.2	0.079	-5.0	B&W GENERIC	52.9	0.371	142.60	OVERRIDE	48.3	POSITION 2.1 (S DATA)	0.230	0.520	0.011	0.013
WELD	61782														
INT./UPPER SHL CIRC WELD (INSIDE 61%) SA-1229		225.5	0.844	10.0	PLANT SPECIFIC	159.5	0.952	167.55	TABLE	58.0	POSITION 1.1 (NO S DATA)	0.230	0.590	0.021	0.012
WELD	71249														
UPPER/LOWER SHELL CIRC WELD SA-1585		185.0	0.899	-5.0	B&W GENERIC	141.6	0.970	146.00	OVERRIDE	48.3	POSITION 2.1 (S DATA)	0.220	0.540	0.016	0.016
WELD	72445														
LOWER SHELL AXIAL WELDS SA-1426		204.6 201.6	0.767	-5.0	B&W GENERIC	141.1 138.1	0.926	152.35	TABLE	68.5	POSITION 1.1 (NO S DATA)	0.190	0.570	0.017	0.013
WELD	8T1762														
LOWER SHELL AXIAL WELDS SA-1430		204.6 201.6	0.767	-5.0	B&W GENERIC	141.1 138.1	0.926	152.35	TABLE	68.5	POSITION 1.1 (NO S DATA)	0.190	0.570	0.017	0.015
WELD	8T1762														
UPPER SHELL AXIAL WELDS SA-1493		205.9 203.1	0.794	-5.0	B&W GENERIC	142.4	0.935	152.35	TABLE	68.5	POSITION 1.1 (NO S DATA)	0.190	0.570	0.017	0.010
WELD	8T1762														

Plant References and Beltline Material Notes

Chemical composition and RTndt(u) for welds, and fluence values for all beltline materials are from BAW-2325, Revision 1 (January 1999).

~~0.55~~ OK

Chemical composition and RTndt(u) for plates are from BAW-2166.

The UUSE data are from BAW-2222 (June 1994).

Surveillance data for heat 71249 was determined not credible, Table was used to calculate chemistry factor.

The RTpts for weld WF-25 (weld wire heat 299L44) is not applicable because the weld is on the outer diameter of the reactor pressure vessel (RPV), and RTpts is a measurement taken from the

inside of the RPV.

Data which may be applicable to the evaluation of weld wire heat 299L44 is available from the surveillance programs of the following facilities: TMI-1, Crystal River 3. (Data is also available from Surry 1, a Westinghouse-designed nuclear steam supply system facility, with a different operating temperaure). However, at this time, the data set is not credible and is therefore not used in the evaluation.

The chemistry factor (CF) for the nozzle belt/int. shell circ. weld SA-1135 (heat number 61782) is calculated from Ginna and Davis-Besse surveillance data. The surveillance welds were fabricated with the same heat of weld wire as weld SA-1135. The CF method is "override" since the data from the two units had to be adjusted for differences in chemical composition and irradition temperature, and the RVID does not have the capability to automatically adjust the surveillance data.

Data which may be applicable to the evaluation of weld wire heat 71249 is available from the surveillance programs of the following facilities: Turkey Point 3 and Turkey Point 4 (Westinghouse-designed nuclear steam supply system facilities). However, at this time, the data set is not credible and is therefore not used in the evaluation.

The chemistry factor (CF) for the upper/lower shell circ. weld SA-1585 (heat number 72445) is calculated from Crystal River 3 surveillance data. The surveillance welds were fabricated using the same heat of weld wire as SA-1585. The CF method is "override" since the data had to be adjusted for differences in chemical composition, and the RVID does not have the capability to automatically adjust the surveillance data.

NRC - Reactor Vessel Integrity Database

PTS Summary Report

OCONEE 2

Docket No: 50-270
EOL Date: 10/06/2013

Beltline Identification		RTpts @EOL	Neutron Fluence @ EOL	RTndt(u)	RTndt(u) METHOD	ΔRTndt(u) @ EOL	Fluence Factor @ EOL	Chem Factor	Chemistry Factor Method	Margin	Margin Method	Cu %	Ni %	P %	S %
Type	Heat ID														
UPPER SHELL		70.4 / 37.3	0.902	20.0	PLANT SPECIFIC	25.3 / 8.6	0.971	26.00 / ~~8.9~~	TABLE / ~~OVERRIDE~~	25.2 / ~~8.6~~	~~OVERRIDE~~ / POS 2.1 (S DATA)	0.040	0.750	0.006	0.012
FORGING	AAW-163 (3P2359)														
NOZZLE BELT FORGING		163.9	0.835	3.0	B&W GENERIC	90.2	0.949	95.00	OK TABLE OK	70.7	POSITION 1.1 (NO S DATA)	0.130	0.760	0.006	0.009
FORGING	AMX-77 (123T382)														
LOWER SHELL		58.8	0.893	20.0	PLANT SPECIFIC	19.4	0.968	20.00	TABLE	19.4	OVERRIDE	0.020	0.800	0.010	0.010
FORGING	AWG-164 (4P1885)														
MIDDLE CIRC WELD WF-25		273.5 / 238.4	0.870	-7.0 / ~~-5~~ OK	B&W GENERIC	212.0 / 315.0	0.961	220.60 / ~~323.7~~ OK	TABLE	68.5	POSITION 1.1 (NO S DATA)	0.340	0.680	0.015	0.016
WELD	299L44														
NB/UPPER SHELL CIRC WELD WF-154		236.7 / 239.7	0.835	-5.0	B&W GENERIC	173.2 / 176.3	0.949	182.55 / ~~185.7~~ OK	TABLE	68.5	POSITION 1.1 (NO S DATA)	0.270 / ~~0.28~~ OK	0.590	0.013	0.016
WELD	406L44														

Plant References and Beltline Material Notes

Chemical composition, fluence and RTndt(u) are from Table 1b of BAW-2325, Revision 1 (January 1999).

UUSE data are from BAW-2222 (June 1994).

Margin method for the upper shell forging is "override" since sigma delta need not be greater than 1/2 delta RTndt per RG 1.99, Rev. 2.

Margin method for the lower shell forging is "override" since sigma delta need not be greater than 1/2 delta RTndt per RG 1.99, Rev. 2.

Data which may be applicable to the evaluation of weld wire heat 299L44 is available from the surveillance programs of the following facilities: TMI-1, Crystal River 3. (Data is also available from Surry 1, a Westinghouse-designed nuclear steam supply system facility, with a different operting temperaure). However, at this time, the data set is not credible and is therefore not used in the evaluation.

Data which may be applicable to the evaluation of weld wire heat 406L44 is available from the surveillance programs of the following facilities: Arkansas Nuclear 1, Oconee 1, Davis-Besse, and Rancho Seco (the Rancho Seco data is not contained in this database but is in report BAW 2325, Revision 1). However, at this time, the data set is not credible and is therefore not used in the evaluation.

NRC - Reactor Vessel Integrity Database

PTS Summary Report

OCONEE 3

Docket No: 50-287
EOL Date: 07/19/2014

Beltline Identification		RTpts @EOL	Neutron Fluence @ EOL	RTndt(u)	RTndt(u) METHOD	ΔRTndt(u) @ EOL	Fluence Factor @ EOL	Chem Factor	Chemistry Factor Method	Margin	Margin Method	Cu %	Ni %	P %	S %
Type	Heat ID														
NOZZLE BELT SHELL FORGING		163.9	0.807	3.0	B&W GENERIC	90.2	0.940	96.00	TABLE	70.7	POSITION 1.1 (NO S DATA)	0.130	0.910	0.009	0.012
FORGING	4680														
LOWER SHELL		73.6	0.888	40.0	PLANT SPECIFIC	16.8	0.967	17.40	SURVEILLANCE NON-RATIO	16.8	~~OVERRIDE~~ OK 17.0 Pos. 2.1 (S DATA)	0.020	0.760	0.014	0.012
FORGING	ANK-191/522194														
UPPER SHELL		108.8	0.890	40.0	PLANT SPECIFIC	34.8	0.967	36.01	SURVEILLANCE NON-RATIO	34.0	POSITION 2.1 (S DATA)	0.010	0.730	0.011	0.015
FORGING	AWS-192/522314														
UPPER/LOWER SHL CIRC WELD (OUTSIDE 25%) WF-70				-26.0	PLANT SPECIFIC			199.30	TABLE	56.0	POSITION 1.1 (NO S DATA)	0.320	0.580	0.016	0.016
WELD	72105														
UPPER/LOWER SHL CIRC WELD (INSIDE 75%) WF-67		235.7	0.859	-5.0	B&W GENERIC	172.3	0.957	180.00	TABLE	68.5	POSITION 1.1 (NO S DATA)	0.260	0.600	0.021	0.016
WELD	72442														
LOWER NOZZLE BELT/UPPER SHL CIRC WELD WF-200		192.2 ~~233.5~~ OK	0.807	-5.0	B&W GENERIC	148.9 ~~170.1~~ OK	0.940	158.40 ~~181.0~~ OK	OVERRIDE ~~Table~~ OK	48.3 ~~68.5~~ OK	POSITION 2.1 (S DATA) NO OK	0.240 ~~0.25~~ OK	0.630	0.010	0.015
WELD	821T44														

Plant References and Beltline Material Notes

Chemical composition, fluence, RTndt(u) and UUSE data are from Table 1b of BAW-2325, Revision 1 (January 1999).

Margin method for the lower shell forging is "override" since sigma delta need not be greater than 1/2 delta RTndt per RG 1.99, Rev. 2.

For the upper shell forging, the licensee conservatively chose to use surveillance data to calculate the chemistry factor (CF) with the full margin to calculate RTpts as opposed to using the RG 1.99, Revision 2 Tables. The full margin term is applicable because 2 out of the 3 surveillance data points are not credible.

The RTpts for weld WF-70 is not applicable because the weld is on the outer diameter of the reactor pressure vessel (RPV), and RTpts is a measurement taken from the inside of the RPV.

Data which may be applicable to the evaluation of weld wire heat 72105 is available from the surveillance programs of the following facilities: Oconee 2, Oconee 3, Davis-Besse, and Crystal River 3. (Additional data is also available from Zion 1 and Zion 2, Westinghouse-designed nuclear steam supply system facilities, with a different operating temperature.) However, at this time, the data set is not credible and is therefore not used in the evaluation.

Data which may be applicable to the evaluation of weld wire heat 72442 is available from the surveillance program of the following facility: Crystal River 3. However, at this time, the data set is not credible and is therefore not used in the evaluation.

OK The chemistry factor (CF) for weld WF-200 (heat number 821T44) is calculated from Davis-Besse and TMI-2 surveillance data (the TMI-2 data is recorded in RVID under Davis-Besse). The CF method is "override" since the data from the two units had to be adjusted for differences in chemical composition, and the RVID does not have the capability to automatically adjust the surveillance data.

NRC - Reactor Vessel Integrity Database

Surveillance Data Summary

OCONEE 1

Docket No: 50-269
EOL Date: 02/06/2013

Type / Direction	Heat ID / Capsule, Lead Factor	Neutron Fluence	Fluence Factor	Group CF	Used in CF Calcs	Predicted ΔRTndt	Measured ΔRTndt	Predicted - Measured ΔRTndt	Credible RG1.99 Scatter	σ of Pred-Meas ΔRTndt	Unir USE	Meas USE	%Drop in USE	%Drop in USE Line Offset	Cu %	Ni %	P %	S %
PLATE	C2800-2	0.08	0.38		YES		16.0				0.0	120.0			0.110	0.630	0.012	0.017
LONGITUDINAL	F, 1.4																	
PLATE	C2800-2	0.08	0.38		YES		30.0				0.0	119.0			0.110	0.630	0.012	0.017
TRANSVERSE	F, 1.4																	
PLATE	C3265-1	0.89	0.97	58.2	YES	56.4 / 52.9	55.0 / 60	1.4 / -7.1	YES	20.2	142.0	131.0	7.75	0.90050	0.100	0.500	0.015	0.015
LONGITUDINAL	A																	
PLATE	C3265-1	0.89	0.97	58.2	YES	56.4 / 52.9	28.0 / 34	28.4 / 18.9	NO	20.2	112.0	111.0	0.89	-0.03783	0.100	0.500	0.015	0.015
TRANSVERSE	A																	
PLATE	C3265-1	0.99	1.00	58.2	YES	58.0 / 54.3	45.0 / 76	13.0 / -21.7	YES / NO	20.2	142.0	128.0	9.86	0.99529	0.100	0.500	0.015	0.015
LONGITUDINAL	C																	
PLATE	C3265-1	0.99	1.00	58.2	YES	58.0 / 54.3	87.0 / 39	-29.0 / 15.3	NO / YES	20.2	112.0	97.0	13.39	1.12832	0.100	0.500	0.015	0.015
TRANSVERSE	C																	
PLATE	C3265-1	0.15	0.50	58.2	YES	29.3 / 27.4	55.0 / 50	-25.7 / -22.6	NO	20.2	142.0	137.0	3.52	0.74152	0.100	0.500	0.015	0.015
LONGITUDINAL	E, 1.72																	
PLATE	C3265-1	0.15	0.50	58.2 / 54.6	YES	29.3 / 27.4	29.0 / 15	0.3 / 12.4	YES	20.2	112.0		0.00		0.100	0.500	0.015	0.015
TRANSVERSE	E, 1.72																	
PLATE	CM	0.89	0.97		NO		88.0				130.0	97.0	25.38	1.41576	0.170	0.640	0.010	0.017
LONGITUDINAL	A																	
PLATE	CM	0.99	1.00		NO		68.0				130.0	101.0	22.31	1.34988	0.170	0.640	0.010	0.017
LONGITUDINAL	C																	
PLATE	CM	0.15	0.50		NO		0.0				130.0	111.0	14.62	1.35616	0.170	0.640	0.010	0.017
LONGITUDINAL	E, 1.72																	
PLATE	CM	0.08	0.38	171.2	NO		0.0				130.0	108.0	16.92	1.47952	0.170	0.640	0.010	0.017
LONGITUDINAL	F, 1.4																	
WELD	406L44	0.89	0.97	180.9	YES	175.3 / 168.5	171.0 / 184	4.3 / -15.5	YES	8.7	64.0	52.0	18.75	1.28395	0.320	0.590	0.024	0.015
N/A	A																	
WELD	406L44	0.99	1.00	180.9	YES	180.2 / 173.3	190.0 / 178.3	-9.8 / -5	YES	8.7	64.0	52.0	18.75	1.27439	0.320	0.590	0.024	0.015
N/A	C																	
WELD	406L44	0.15	0.50	180.9	YES	91.0 / 87.5	80.0 / 77	11.0 / 10.5	YES	8.7	64.0	55.0	14.06	1.33525	0.320 / 0.31	0.590 / 0.58	0.024	0.015
N/A	E, 1.72																	
WELD	61782	1.03	1.01	157.0	YES	158.2 / 148.9	138.0 / 142	20.2 / 11.9	YES	15.4	76.0	55.0	27.63	1.43850	0.270	0.590	0.011	0.013
N/A	DB1-LG1																	
WELD	61782	1.11 / 1.15	1.03 / 1.04	157.0	YES	161.4 / 153.5	167.0 / 166	-5.6 / -13.5	YES	15.4	80.0	50.0	37.50	1.56419	0.240	0.520	0.012	0.016
N/A	GINNA-R																	
WELD	61782	3.75 / 3.87	1.34 / 1.35	157.0	YES	210.7 / 199.3	223.0 / 208	-12.3 / -8.7	YES	15.4	80.0	55.0	31.25	1.36468	0.240	0.520	0.012	0.016
N/A	GINNA-S																	
WELD	61782	1.86 / 1.97	1.17 / 1.19	157.0	YES	183.8 / 175.1	169.0 / 152	14.8 / 23.1	YES	15.4	80.0	55.0	31.25	1.43347	0.240	0.520	0.012	0.016
N/A	GINNA-T																	
WELD	61782	0.50 / 0.56	0.81 / 0.84	157.0 / 147.7	YES	126.8 / 123.5	146.0 / 140	-19.2 / -17.5	YES	15.4	80.0	55.0	31.25	1.56262	0.240	0.520	0.012	0.016
N/A	GINNA-V																	
WELD	72445	0.51	0.81	153.0 / 149	YES	124.2 / 121.3	139.0 / 162	-14.8 / -40.7	YES / NO	12.7	79.0	55.0	30.38	1.54933	0.220	0.590	0.016	0.016
N/A	CR3-LG1																	

NRC - Reactor Vessel Integrity Database

Surveillance Data Summary

OCONEE 1

Docket No: 50-269
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WELD	72445	1.67	1.14	153.0	YES	174.5	164.0	10.5	YES	12.7	79.0	53.0	32.91	1.46651	0.220	0.590	0.016	0.016
N/A	CR3-LG2			149		170.4	182.1	-11.7										

NRC - Reactor Vessel Integrity Database

Surveillance Data Summary

OCONEE 2

Docket No: 50-270
EOL Date: 10/06/2013

Type Direction	Heat ID Capsule, Lead Factor	Neutron Fluence	Fluence Factor	Group CF	Used in CF Calcs	Predicted ΔRTndt	Measured ΔRTndt	Predicted - Measured ΔRTndt	Credible RG1.99 Scatter	σ of Pred-Meas ΔRTndt	Unir USE	Meas USE	%Drop in USE	%Drop in USE Line Offset	Cu %	Ni %	P %	S %
FORGING	AAW-163 (3P2359)	0.34	0.70	11.9	YES	8.4 6.2	0.0 17	8.4 -10.8	YES	9.9	146.0	130.0	10.96	1.15147	0.040	0.750	0.006	0.012
LONGITUDINAL	A, 2.07																	
FORGING	AAW-163 (3P2359)	0.34	0.70	11.9	YES	8.4 6.2	4.0 0	4.4 6.2	YES	9.9	127.0		0.00		0.040	0.750	0.006	0.012
TRANSVERSE	A, 2.07																	
FORGING	AAW-163 (3P2359)	0.10	0.42	11.9	YES	5.0 3.8	24.0 17	-19.0 -13.2	NO Yes	9.9	146.0	129.0	11.64	1.30054	0.040	0.750	0.006	0.012
LONGITUDINAL	C, 1.91																	
FORGING	AAW-163 (3P2359)	0.10	0.42		NO Yes	3.8	0.0	3.8	Yes		127.0		0.00		0.040	0.750	0.006	0.012
TRANSVERSE	C, 1.91																	
FORGING	AAW-163 (3P2359)	1.21	1.05	11.9	YES	12.6 9.4	18.0 17	-5.4 -2.6	YES	9.9	146.0	132.0	9.59	0.96220	0.040	0.750	0.006	0.012
LONGITUDINAL	E																	
FORGING	AAW-163 (3P2359)	1.21	1.05	11.9	YES	12.6 9.4	8.0 0	4.6 9.4	YES	9.9	127.0	114.0	10.24	0.99056	0.040	0.750	0.006	0.012
TRANSVERSE	E			8.9														
PLATE	CM	0.34	0.70		NO		71.0				130.0	103.0	20.77	1.42713	0.170	0.640	0.010	0.017
LONGITUDINAL	A, 2.07																	
PLATE	CM	0.10	0.42		NO		0.0				130.0	108.0	16.92	1.45873	0.170	0.640	0.010	0.017
LONGITUDINAL	C, 1.91																	
PLATE	CM	1.21	1.05		NO		95.0				130.0	98.0	24.62	1.37198	0.170	0.640	0.010	0.017
LONGITUDINAL	E																	
WELD	72105	0.34	0.70	156.2	YES	109.5 96.1	107.0 113	2.5 -16.9	YES	12.0	66.0	45.0	31.82	1.61000	0.350	0.580	0.020	0.010
N/A	A, 2.07																	
WELD	72105	0.10	0.42	156.2	YES	65.8 57.7	46.0 44	19.8 13.7	YES	12.0	66.0	53.0	19.70	1.51964	0.350	0.580	0.020	0.010
N/A	C, 1.91																	
WELD	72105	1.21	1.05	156.2	YES	164.5 144.4	174.0 177	-9.5 -32.6	YES NO	12.0	66.0	44.0	33.33	1.50407	0.350	0.580	0.020	0.010
N/A	E			137.1														

NRC - Reactor Vessel Integrity Database

Surveillance Data Summary

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OCONEE 3

Docket No: 50-287

EOL Date: 07/19/2014

Type / Direction	Heat ID / Capsule, Lead Factor	Neutron Fluence	Fluence Factor	Group CF	Used in CF Calcs	Predicted ΔRTndt	Measured ΔRTndt	Predicted - Measured ΔRTndt	Credible RG1.99 Scatter	σ of Pred-Meas ΔRTndt	Unir USE	Meas USE	%Drop in USE	%Drop in USE Line Offset	Cu %	Ni %	P %	S %
FORGING	ANK-191/522194	0.08	0.38	17.4	YES	6.5	12.0	-5.5	YES	5.0	174.0	150.0	13.79	1.39778	0.020	0.760	0.014	0.012
LONGITUDINAL	A, 1.78					12.2		0.2										
FORGING	ANK-191/522194	0.08	0.38	17.4	YES	6.5	7.0	-0.5	YES	5.0	141.0	131.0	7.09	1.10890	0.020	0.760	0.014	0.012
TRANSVERSE	A, 1.78					12.2	9	3.2										
FORGING	ANK-191/522194	0.31	0.68	17.4	YES	41.8	34.0	7.8	YES	5.0	141.0	124.0	12.06	1.20085	0.020	0.760	0.014	0.012
TRANSVERSE	B					22.1	32	-9.9										
FORGING	ANK-191/522194	1.45	1.10	17.4	YES	19.2	22.0	-2.8	YES	5.0	141.0	124.0	12.06	1.04307	0.020	0.760	0.014	0.012
TRANSVERSE	D			32.5		35.9	31	4.9										
FORGING	AWS-192/522314	0.08	0.38	36.0	YES	13.5	52.0	-38.5	NO	23.9	110.0	101.0	8.18	1.17097	0.010	0.730	0.011	0.015
TRANSVERSE A	A, 1.78					17.8	63	-45.2										
FORGING	AWS-192/522314	0.31	0.68	36.0	YES	24.5	6.0	18.5	NO	23.9	110.0	101.0	8.18	1.03033	0.170	0.730	0.011	0.015
" LONGITUDINAL	B					32.2	19	13.2	YES						0.01			
FORGING	AWS-192/522314	1.45	1.10	36.0	YES	39.7	38.0	1.7	YES	23.9	110.0	92.0	16.36	1.17572	0.010	0.730	0.011	0.015
" LONGITUDINAL	D			47.4		52.2	45	7.2										
PLATE	CM	0.31	0.68		NO		39.0				130.0	96.0	26.15	1.53502	0.170	0.640	0.010	0.017
LONGITUDINAL	B																	
PLATE	CM	1.45	1.10		NO		119.0				130.0	94.0	27.69	1.40488	0.170	0.640	0.010	0.017
LONGITUDINAL	D			137.1														
WELD	72105	0.08	0.38	115.3	YES	43.3	15.0	28.3	NO	17.6	63.0	59.0	6.35	1.05052	0.290	0.560	0.020	0.012
N/A	A, 1.78					51.6	53	-1.4	YES									
WELD	72105	0.31	0.68	115.3	YES	78.4	70.0	8.4	YES	17.6	63.0	49.0	22.22	1.46163	0.290	0.560	0.020	0.012
N/A	B					93.3	71	22.3										
WELD	72105	1.45	1.10	115.3	YES	127.2	142.0	-14.8	YES	17.6	63.0	42.0	33.33	1.48624	0.290	0.560	0.020	0.012
N/A	D					151.3	156	-4.7										
WELD	821T44	1.29	1.07	156.3	YES	167.4	162.0	5.4	YES	22.6	70.0	56.5	19.29	1.26000	0.220	0.630	0.013	0.013
N/A	TE1-A					182.9	181	1.9										
WELD	821T44	0.59	0.85	156.3	YES	133.3	107.0	26.3	YES	22.6	70.0	52.2	25.43	1.45729	0.220	0.630	0.013	0.013
N/A	TE1-B					145.8	129	16.8										
WELD	821T44	0.96	0.99	156.3	YES	154.6	140.0	14.6	YES	22.6	70.0	53.8	23.14	1.36826	0.220	0.630	0.013	0.013
N/A	TE1-D					169.0	155	14.0										
WELD	821T44	0.20	0.56	156.3	YES	88.3	104.0	-15.7	YES	22.6	70.0	63.5	9.29	1.12935	0.220	0.630	0.013	70.000
N/A	TE1-F					96.5	131	-34.5	NO									
WELD	821T44	0.17	0.53	156.3	YES	82.7	120.0	-37.3	NO	22.6	73.2	54.5	25.55	1.58306	0.280	0.630	0.013	0.013
N/A	TMI2-C					90.3	109	-18.7	YES									
WELD	821T44	0.17	0.54	156.3	YES	83.9	110.0	-26.1	YES	22.6	73.2	58.8	19.67	1.46613	0.280	0.630	0.013	0.013
N/A	TMI2-E			170.8		91.7	91.9	-0.2										

NRC - Reactor Vessel Integrity Database

Upper Shelf Energy Summary Report

OCONEE 1

Docket No: 50-269
EOL Date: 02/06/2013

Beltline Identification Type	Heat ID	Material Type	USE @ EOL @ 1/4T	1/4 T NeutronFluence @ EOL	Unirradiated USE	Unirradiated USE Method	%Drop in USE @ EOL @ 1/4T	%Drop in USE Method	Cu %
LOWER NOZZLE BELT		A 508-2	95.63	0.048	109.00	B&W GENERIC	12.27	POSITION 1.2 (NO S DATA)	0.160
FORGING	AHR54 (ZV2861)								
INTERMEDIATE SHELL		A 302BM	64.48	0.505 0.518	81.00	B&W GENERIC	20.40	POSITION 1.2 (NO S DATA)	0.150
PLATE	C2197-2								
LOWER SHELL		A 302BM	66.97	0.560 0.575	81.00	B&W GENERIC	17.32	POSITION 1.2 (NO S DATA)	0.110
PLATE	C2800-1								
LOWER SHELL		A 302BM	98.39	0.560 0.575	119.00	DIRECT	17.32	POSITION 1.2 (NO S DATA)	0.110
PLATE	C2800-2								
UPPER SHELL		A 302BM	95.33	0.562 0.576	108.00	DIRECT	11.73	POSITION 2.2 (S DATA)	0.100
PLATE	C3265-1								
UPPER SHELL		A 302BM	66.28	0.562 0.576	81.00	B&W GENERIC	18.17	POSITION 1.2 (NO S DATA)	0.120
PLATE	C3278-1								
INTERMEDIATE SHELL AXIAL WELDS SA-1073		LINDE 80	EMA	0.395 ~~0.405~~ 0.405 N/A	EMA	EMA	EMA	EMA	0.210
WELD	1P0962								
INT./UPPER SHL CIRC WELD (OUTSIDE 39%) WF-25		LINDE 80	EMA	0.405 N/A	EMA	EMA	EMA	EMA	0.340
WELD	299L44								
NOZZLE BELT/INT. SHELL CIRC WELD SA-1135		LINDE 80	EMA	0.048	EMA	EMA	EMA	EMA	0.230
WELD	61782								
INT./UPPER SHL CIRC WELD (INSIDE 61%) SA-1229		LINDE 80	EMA	0.509 0.522	EMA	EMA	EMA	EMA	0.230
WELD	71249								
UPPER/LOWER SHELL CIRC WELD SA-1585		LINDE 80	EMA	0.542 0.556	EMA	EMA	EMA	EMA	0.220
WELD	72445								
LOWER SHELL AXIAL WELDS SA-1426		LINDE 80	EMA	0.462 0.474	EMA	EMA	EMA	EMA	0.190
WELD	8T1762								
LOWER SHELL AXIAL WELDS SA-1430		LINDE 80	EMA	0.462 0.474	EMA	EMA	EMA	EMA	0.190
WELD	8T1762								
UPPER SHELL AXIAL WELDS SA-1493		LINDE 80	EMA	0.479 0.491	EMA	EMA	EMA	EMA	0.190
WELD	8T1762								

Plant References and Beltline Material Notes

Chemical composition ~~and RTndt(u)~~ for welds, and fluence values for all beltline materials are from BAW-2325, Revision 1 (January 1999).

Chemical composition ~~and RTndt(u)~~ for plates are from BAW-2166.

The UUSE data are from BAW-2222 (June 1994).

Notes: EMA: ??

Please define ACRONYM in notes section at bottom of page. Also applies to CN5-2 CN5-3 & B5.

delete

~~- Surveillance data for heat 71249 was determined not credible, Table was used to calculate chemistry factor.~~

The RTpts for weld WF-25 (weld wire heat 299L44) is not applicable because the weld is on the outer diameter of the reactor pressure vessel (RPV), and RTpts is a measurement taken from the

inside of the RPV.

Delete

Data which may be applicable to the evaluation of weld wire heat 299L44 is available from the surveillance programs of the following facilities: TMI-1, Crystal River 3. (Data is also available from Surry 1, a Westinghouse-designed nuclear steam supply system facility, with a different operating temperaure). However, at this time, the data set is not credible and is therefore not used in the evaluation.

Delete

The chemistry factor (CF) for the nozzle belt/int. shell circ. weld SA-1135 (heat number 61782) is calculated from Ginna and Davis-Besse surveillance data. The surveillance welds were fabricated with the same heat of weld wire as weld SA-1135. The CF method is "override" since the data from the two units had to be adjusted for differences in chemical composition and irradition temperature, and the RVID does not have the capability to automatically adjust the surveillance data.

Delete

Data which may be applicable to the evaluation of weld wire heat 71249 is available from the surveillance programs of the following facilities: Turkey Point 3 and Turkey Point 4 (Westinghouse-designed nuclear steam supply system facilities). However, at this time, the data set is not credible and is therefore not used in the evaluation.

Delete

The chemistry factor (CF) for the upper/lower shell circ. weld SA-1585 (heat number 72445) is calculated from Crystal River 3 surveillance data. The surveillance welds were fabricated using the same heat of weld wire as SA-1585. The CF method is "override" since the data had to be adjusted for differences in chemical composition, and the RVID does not have the capability to automatically adjust the surveillance data.

These notes do not apply to this table.

NRC - Reactor Vessel Integrity Database

Upper Shelf Energy Summary Report

OCONEE 2

Docket No: 50-270
EOL Date: 10/06/2013

Beltline Identification		Material Type	USE @ EOL @ 1/4T	1/4 T NeutronFluence @ EOL	Unirradiated USE	Unirradiated USE Method	%Drop in USE @ EOL @ 1/4T	%Drop in USE Method	Cu %
Type	Heat ID								
UPPER SHELL Forging		A 508-2	109.99	0.544 0.557	133.00	DIRECT	17.30	POSITION 2.2 (S DATA)	0.040
FORGING	AAW-163 (3P2659) d								
Lower NOZZLE BELT FORGING		A 508-2	88.78	0.503 0.516	109.00	GENERIC	18.55	POSITION 1.2 (NO S DATA)	0.130
FORGING	AMX-77 (123T382)								
LOWER SHELL Forging		A 508-2	115.40	0.538 0.552	138.00	DIRECT	16.38	POSITION 1.2 (NO S DATA)	0.020
FORGING	AWG-164 (4P1995) d								
MIDDLE CIRC WELD WF-25		LINDE 80	EMA	0.524 0.538	EMA	EMA	EMA	EMA	0.340
WELD	299L44								
NB/UPPER SHELL CIRC WELD WF-154		LINDE 80	EMA	0.503 0.516	EMA	EMA	EMA	EMA	0.270 ~~0.28~~ OK
WELD	406L44								

Plant References and Beltline Material Notes

Chemical composition, fluence ~~and RTndt(u)~~ are from Table 1b of BAW-2325, Revision 1 (January 1999).

Pls define.

UUSE data are from BAW-2222 (June 1994).

Margin method for the upper shell forging is "override" since sigma delta need not be greater than 1/2 delta RTndt per RG 1.99, Rev. 2.

Margin method for the lower shell forging is "override" since sigma delta need not be greater than 1/2 delta RTndt per RG 1.99, Rev. 2.

Data which may be applicable to the evaluation of weld wire heat 299L44 is available from the surveillance programs of the following facilities: TMI-1, Crystal River 3. (Data is also available from Surry 1, a Westinghouse-designed nuclear steam supply system facility, with a different operting temperaure). However, at this time, the data set is not credible and is therefore not used in the evaluation.

Data which may be applicable to the evaluation of weld wire heat 406L44 is available from the surveillance programs of the following facilities: Arkansas Nuclear 1, Oconee 1, Davis-Besse, and Rancho Seco (the Rancho Seco data is not contained in this database but is in report BAW 2325, Revision 1). However, at this time, the data set is not credible and is therefore not used in the evaluation.

Delete These notes do not apply to this table.

NRC - Reactor Vessel Integrity Database

Upper Shelf Energy Summary Report

OCONEE 3

Docket No: 50-287
EOL Date: 07/19/2014

Beltline Identification		Material Type	USE @ EOL @ 1/4T	1/4 T NeutronFluence @ EOL	Unirradiated USE	Unirradiated USE Method	%Drop in USE @ EOL @ 1/4T	%Drop in USE Method	Cu %
Type	Heat ID								
Lower NOZZLE BELT SHELL FORGING		A 508-2	88.93	0.486 0.499	109.00	GENERIC	18.41	POSITION 1.2 (NO S DATA)	0.130
FORGING	4880								
LOWER SHELL		A 508-2	112.97	0.535 0.549	144.00	DIRECT	21.55	POSITION 2.2 (S DATA)	0.020
FORGING	ANK-191/522194								
UPPER SHELL		A 508-2	97.52	0.536 0.550	112.00	DIRECT	12.93	POSITION 2.2 (S DATA)	0.010
FORGING	AWS-192/522314								
UPPER/LOWER SHL CIRC WELD (OUTSIDE 25%) WF-70		LINDE 80	EMA	N/A	EMA	EMA	EMA	EMA	0.320
WELD	72105								
UPPER/LOWER SHL CIRC WELD (INSIDE 75%) WF-67		LINDE 80	EMA	0.518 0.532	EMA	EMA	EMA	EMA	0.260
WELD	72442								
LOWER NOZZLE BELT/UPPER SHL CIRC WELD WF-200		LINDE 80	EMA	0.486 0.499	EMA	EMA	EMA	EMA	0.240 0.25 ok
WELD	821T44								

Plant References and Beltline Material Notes

Chemical composition, fluence, ~~RTndt(u)~~ and UUSE data are from Table 1b of BAW-2325, Revision 1 (January 1999).

Pls define

Margin method for the lower shell forging is "override" since sigma delta need not be greater than 1/2 delta RTndt per RG 1.99, Rev. 2.

For the upper shell forging, the licensee conservatively chose to use surveillance data to calculate the chemistry factor (CF) with the full margin to calculate RTpts as opposed to using the RG 1.99, Revision 2 Tables. The full margin term is applicable because 2 out of the 3 surveillance data points are not credible.

The RTpts for weld WF-70 is not applicable because the weld is on the outer diameter of the reactor pressure vessel (RPV), and RTpts is a measurement taken from the inside of the RPV.

Data which may be applicable to the evaluation of weld wire heat 72105 is available from the surveillance programs of the following facilities: Oconee 2, Oconee 3, Davis-Besse, and Crystal River 3. (Additional data is also available from Zion 1 and Zion 2, Westinghouse-designed nuclear steam supply system facilities, with a different operating temperature.) However, at this time, the data set is not credible and is therefore not used in the evaluation.

Data which may be applicable to the evaluation of weld wire heat 72442 is available from the surveillance program of the following facility: Crystal River 3. However, at this time, the data set is not credible and is therefore not used in the evaluation.

The chemistry factor (CF) for weld WF-200 (heat number 821T44) is calculated from Davis-Besse and TMI-2 surveillance data (the TMI-2 data is recorded in RVID under Davis-Besse). The CF method is "override" since the data from the two units had to be adjusted for differences in chemical composition, and the RVID does not have the capability to automatically adjust the surveillance data.

Delete
Does not apply.