Commonwealth Edison Company
1400 Opus Place
Downers Grove, IL 60515

ComEd

November 17, 1995

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Document Control Desk

Subject: Dresden Station Units 2 and 3
LaSalle Station Units 1 and 2
Quad Cities Station Units 1 and 2

Com Ed Response to NRC Generic Letter 92-01, Revision 1, Supplement 1: "Reactor Vessel Structural Integrity"

NRC Dockets Numbers:50-237 and 50-249
NRC Dockets Numbers:50-373 and 50-374
NRC Dockets Numbers:50-254 and 50-265

References:

1. USNRC Generic Letter 92-01, Revision 1, Supplement 1, "Reactor Vessel Structural Integrity"

2. August 17, 1995, Commonwealth Edison Company's Response to NRC Generic Letter 92-01, Revision 1, Supplement 1: "Reactor Vessel Structural Integrity."

3. November 15, 1995, J. T. Beckham, Jr. letter to the NRC transmitting BWRVIP Response to Information Requests in NRC Generic Letter 92-01, Revision 1 Supplement 1, Reactor Vessel Structural Integrity

The purpose of this letter is to provide the Commonwealth Edison Company (ComEd) response to Parts (2), (3), and (4) of the subject Generic Letter for Dresden, LaSalle, and Quad Cities Nuclear Power Stations.

This Generic Letter requests the licensees to provide within 90 days of the date of the Generic Letter,

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"(1) a description of those actions taken or planned to locate all data relevant to the determination of RPV integrity, or an explanation of why the existing data base is considered complete as previously submitted;"

and to provide within 6 months from the date of the Generic Letter,

"(2) an assessment of any change in best-estimate chemistry based on consideration of all relevant data;

(3) a determination of the need for use of the ratio procedure in accordance with the established Position 2.1 of Regulatory Guide 1.99, Revision 2, for those licensees that use surveillance data to provide a basis for the RPV integrity evaluation; and

(4) a written report providing any newly required data as specified above and (1) the results of any necessary revisions to the evaluation of RPV integrity in accordance with the requirements of 10 CFR 50.60, 10 CFR 50.61, Appendices G and H to 10 CFR 50, and any potential impact on the LTOP or P-T limits in the technical specifications or (2) a certification that previously submitted evaluations remain valid. Revised evaluations and certifications should include consideration of Position 2.1 of Regulatory Guide 1.99, Revision 2, as applicable, and any new data."

Our letter dated August 17, 1995 provided a response to Part (1) of the subject Generic Letter.

Reference 3, J. T. Beckham, Jr. letter to the NRC dated November 15, 1995, transmits the BWRVIP Response to Information Requests in NRC Generic Letter 92-01, Revision 1 Supplement 1, Reactor Vessel Structural Integrity. Specifically, this correspondence contained BWRVIP Document "BWR Vessel and Internals Project, Bounding Assessment of BWR/2-6 Reactor Pressure Vessel Integrity Issues, (BWRVIP-08)," EPRI Report TR-105908, November 1995, performed by General Electric for the BWRVIP. This EPRI Report, provides the ComEd response to Parts (2), (3), and (4) of the subject Generic Letter for Dresden Units 2 and 3, LaSalle Units 1 and 2, and Quad Cities Units 1 and 2.

The following details specific information which ComEd wishes to emphasize:

LaSalle Units 1 and 2

As a result of the conservative bounding approach to chemistry taken in the evaluation of the Boiling Water Reactor Owners Group upper shelf energy (USE) Equivalent Margins Analysis (EMA) found in the BWRVIP "Bounding Assessment of BWR/2-6 Reactor Pressure Vessel Integrity Issues," it was necessary to perform a specific analysis of the 1P3571 beltline weld of LaSalle Unit 1. This analysis, also found in the BWRVIP "Bounding Assessment of BWR/2-6 Reactor Pressure Vessel Integrity Issues," demonstrated that the 1P3571 beltline weld metal of LaSalle Unit 1 will remain above the 35 ft-lb EMA allowable at the 32 EFPY fluence. For this reason, the BWROG EMA is still applicable to LaSalle Unit 1.

In light of the weld variability observed in welds fabricated by ABB/CE, ComEd has decided to participate in the Combustion Engineering Owners Group Reactor Vessel Working Group Weld Property Evaluation Task. The results of this long-term effort are expected to be bounded by the evaluations of the BWRVIP "Bounding Assessment of BWR/2-6 Reactor Pressure Vessel Integrity Issues," and will be reported when they become available.

All previously submitted P-T limits remain valid.

Dresden Units 2 and 3 and Quad Cities Units 1 and 2

In the BWRVIP "Bounding Assessment of BWR/2-6 Reactor Pressure Vessel Integrity Issues" evaluation of impact on P-T curves, a bounding approach to electroslag weld chemistry resulted in a negative impact on the Dresden Unit 3 16 EFPY P-T curves of 2.6°F and a negative impact on the Quad Cities Unit 2 16 EFPY P-T curves of 1.3°F. This impact is so minimal as to be inconsequential. However, it should be noted that Dresden Unit 3 was at 14.0 EFPY as of September 30, 1995, and Quad Cities Unit 2 was at 14.6 EFPY as of November 3, 1995. For this reason there would be no impact on near-term operation. In the interim, ComEd has contracted with B&W Nuclear Technologies (BWNT) to perform an evaluation of all available weld properties data for electroslag welds produced by BWNT. Preliminary results indicate that the best-estimate copper and nickel values for these electroslag welds will be significantly lower than the bounding values utilized in the BWRVIP "Bounding Assessment of BWR/2-6 Reactor Pressure Vessel Integrity Issues." The completed BWNT study of electroslag weld properties data will be submitted within 60 days of this letter. All previously submitted P-T limits remain valid.

As requested at the July 1995 NRC Workshop on RPV Integrity Issues, the Attachment provides, for your information, corrected mark-ups of the applicable pages for Dresden Units 2 and 3, LaSalle Units 1 and 2, and Quad Cities Units 1 and 2 from the NRC Reactor Vessel Integrity Database Summary Files. The applicable references are indicated on the mark-ups.

If you have any questions concerning this letter, please contact this office.

Sincerely,

Denise Saccomando
Senior Nuclear Licensing Administrator

OFFICIAL SEAL
JACQUELINE T EVANS
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES: 12/15/97

Jacqueline T. Evans 11/17/95

Attachment

cc: J. Stang, Dresden Project Manager-NRR
R. Pulsifer, Quad Cities Project Manager-NRR
R. Latta, LaSalle Project Manager-NRR
C. Vanderniet, Senior Resident Inspector-Dresden
C. Miller, Senior Resident Inspector-Quad Cities
P. Brochman, Senior Resident Inspector-LaSalle
H. Miller, Regional Administrator-RIII
Office of Nuclear Safety-IDNS

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Attachment

Corrections to NRC Reactor Vessel Integrity Database Summary Files

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Plant Name	Beltline Ident.	Heat No Ident.	RTpts @ EOL	ID Neut. Fluence @ EOL	IRTndt	Method of Determin. IRTndt	σRTndt at EOL	Fluence Factor @ EOL	Chemistry Factor	Method of Determin. CF	Margin	Method of Determin. Margin	Cu%	Ni%
Diablo Canyon 2 (Continued) Docket No.: 50-323														
	LOWER SHELL B5455-3	C5176-1	121	1.45700	15	PLANT SPEC	72.0	1.104	65.20	Table	34.00	TABLE	0.100	0.620
	INT./LOWER SHELL CIRC WELD 9-201	10120	19	1.45700	-56	GENERIC	29.6	1.104	26.85	Table	45.10	TABLE	0.040	0.030
	INTERMEDIATE SHELL WELD 2-201A	12008/21935	197	0.93400	-50	PLANT SPEC	218.9	0.981	223.10	Calculated	28.00	TABLE	0.220	0.850
	INTERMEDIATE SHELL WELDS 2-201B/C	12008/21935	202	1.01200	-50	PLANT SPEC	223.6	1.003	222.97	Calculated	28.00	TABLE	0.220	0.850
	LOWER SHELL AXIAL WELD 3-201B	33A277	136	0.93400	-56	GENERIC	126.7	0.981	129.15	Table	65.51	TABLE	0.260	0.190
	LOWER SHELL AXIAL WELDS 3-201A,C	33A277	139	1.01200	-56	GENERIC	129.5	1.003	129.15	Table	65.51	TABLE	0.260	0.190

References for Diablo Canyon 2

The ID fluence at EOL is the value projected for April 26, 2025. Upon approval of LAR 92-04, the EOL date will be changed from 12/9/10 to 4/26/25.

Chemical composition and IRTndt are from June 30, 1992 letter from G. M. Rueger (PG&E) to USNRC Document Control Desk, subject: Response to Generic Letter 92-01, Revision 1, Reactor Vessel Structural Integrity

Fluence and UUSE data are from December 4, 1992, letter from G. M. Rueger (PG&E) to USNRC Document Control Desk, subject: Response to Generic Letter 92-01, Revision 1, "Reactor Vessel Structural Integrity"--Supplemental Information.

Dresden 2 EOL: 01/10/06 Docket No.: 50-237 92-01 92-01														
	LOWER SHELL	A9128-1	74	0.03600	10	PLANT SPEC	32.0	0.244	131.00	Table	31.96	TABLE	0.200	0.450
	LOWER SHELL	A9128-2	74	0.03600	10	PLANT SPEC	32.0	0.244	131.00	Table	31.96	TABLE	0.200	0.450
	LOWER SHELL	B3990-2	69	0.03600	12	PLANT SPEC	28.5	0.244	116.90	Table	28.52	TABLE	0.180	0.420

Plant Name	Beltline Ident.	Heat No Ident.	RTpts @ EOL	ID Neut. Fluence @ EOL	IRTndt	Method of Determin. IRTndt	ΔRTndt at EOL	Fluence Factor @ EOL	Chemistry Factor	Method of Determin. CF	Margin	Method of Determin. Margin	Cu%	Ni%
Dresden 2	(Continued)	Docket No.: 50-237							Est. From Table					
	LOWER INTERMEDIATE SHELL	B4030-1	75	0.03600	6	PLANT SPEC	34.9	0.244	143.00	Table	34.00	TABLE	0.200	0.550
	LOWER INTERMEDIATE SHELL	B4030-2	67	0.03600	-2	PLANT SPEC	34.9	0.244	143.00	Table	34.00	TABLE	0.200	0.550
	LOWER INTERMEDIATE SHELL	B4065-1	92	0.03600	20	PLANT SPEC	37.9	0.244	155.40	Table	34.00	TABLE	0.230	0.520
	LOWER INTERMEDIATE SHELL	B5764-1	42	0.03600	10	PLANT SPEC	15.9	0.244	65.00	Table	15.86	TABLE	0.100	0.490
	LOWER INT. SHELL AXIAL WELD	1P0661	74	0.03600	-5	PLANT SPEC	39.6	0.244	162.10	Table	39.55	TABLE	0.190	0.630
	LOWER INT. SHELL AXIAL WELD	1P0815	55	0.03600	-5	PLANT SPEC	29.8	0.244	122.20	Table	29.81	TABLE	0.120	0.520
	LOWER SHELL AXIAL WELD	1P0815	73	0.03600	-5	PLANT SPEC	38.8	0.244	159.20	Table	38.84	TABLE	0.250	0.480
	LOWER INT./LOWER SHELL CIRC WELD	71249	77	0.03600	-5	PLANT SPEC	40.8	0.244	167.30	Table	40.82	TABLE	0.210	0.620
	LOWER SHELL AXIAL WELD	PQ1092C-2 Proc Qual	86	0.03600	40	PLANT SPEC	22.8	0.244	93.40	Table	22.79	TABLE	0.180	0.180
	LOWER INT. SHELL AXIAL WELDS	PQ1092C-2 Proc Qual	86	0.03600	40	PLANT SPEC	2.2	0.244	93.40 ~~9.00~~	Table	22.79	TABLE	0.180	0.180

References for Dresden 2

Information on material types is from August 11, 1994 letter to the NRC (the response to GL 92-01 closeout letter).

Plant Name	Beltline Ident.	Heat No Ident.	RTpts @ EOL	ID Neut. Fluence @ EOL	IRTndt	Method of Determin. IRTndt	oRTndt at EOL	Fluence Factor @ EOL	Chemistry Factor	Method of Determin. CF	Margin	Method of Determin. Margin	Cu%	Ni%

References for Dresden 2 (continued)

Chemical composition, UUSE, IRTndt, and fluence data are from July 1, 1992, letter from M. A. Jackson (CECo) to T. E. Murley (USNRC), subject: Dresden Station Units 2 and 3; Quad Cities Station Units 1 and 2; LaSalle County Station Units 1 and 2

The IRT for electroslag welds (heat number PQ 1092C-2) and Linde 80 welds are from September 24, 1993 letter to NRC (Response to GL 92-01 RAI).

Dresden 3 EOL: 01/12/11 Docket No.: 50-249

Est from Table

LOWER INTERMEDIATE SHELL	A0237-1	89	0.05100	10	PLANT SPEC	44.7	0.296	151.05	Table	34.00	TABLE	0.230	0.490
LOWER INTERMEDIATE SHELL	B5118-1	87	0.05100	10	PLANT SPEC	43.3	0.296	146.15	Table	34.00	TABLE	0.220	0.490
LOWER SHELL	B5159-2	79	0.05100	0	PLANT SPEC	45.3	0.296	153.15	Table	34.00	TABLE	0.240	0.470
LOWER SHELL	C1182-2	88	0.05100	10	PLANT SPEC	43.7	0.296	147.50	Table	34.00	TABLE	0.220	0.500
LOWER SHELL	C1256-2	33	0.05100	-10	PLANT SPEC	21.6	0.296	73.00	Table	21.60	TABLE	0.110	0.500
LOWER INTERMEDIATE SHELL	C1290-2	72	0.05100	10	PLANT SPEC	30.8	0.296	103.95	Table	30.76	TABLE	0.150	0.490
LOWER INT./LOWER SHELL CIRC WELDS	299L44	113	0.05100	-5	PLANT SPEC	62.0	0.296	209.60	Table	56.00	TABLE	0.290	0.720
LOWER & LOWER INT. SHELL AXIAL WELDS	PQ 1300 Prox. Qual	135	0.05100	40	PLANT SPEC	47.1	0.296	159.65 159.00	Table	47.25	TABLE	0.300	0.330

References for Dresden 3

Information on material types is from August 11, 1994 letter to the NRC (the response to GL 92-01 closeout letter).

Chemical composition, UUSE, IRTndt, and fluence data are from July 1, 1992, letter from M. A. Jackson (CECo) to T. E. Murley (USNRC), subject: Dresden Station Units 2 and 3; Quad Cities Station Units 1 and 2, LaSalle County Station Units 1 and 2

Plant Name	Beltline Ident.	Heat No Ident.	RTpts @ EOL	ID Neut. Fluence @ EOL	IRTndt	Method of Determin. IRTndt	∆RTndt at EOL	Fluence Factor @ EOL	Chemistry Factor	Method of Determin. CF	Margin	Method of Determin. Margin	Cu%	Ni%

References for Dresden 3 (continued)

The IRTs for electroslag welds (heat number PG-1300) and Linde 80 welds are from September 24, 1993 letter to NRC (Response to GL 92-01 RAI).

Duane Arnold EOL: 02/21/14 Docket No.: 50-331

	LOWER SHELL 1-19	B0402-1	143	0.47000	40	PLANT SPEC	68.8	0.790	87.10	Table	34.00	TABLE	0.130	0.[illegible]
	LOWER INTERMEDIATE SHELL 1-20	B0436-2	132	0.47000	10	PLANT SPEC	87.7	0.790	111.00	Table	34.00	TABLE	0.150	0.640
	LOWER INTERMEDIATE SHELL 1-21	B0673-1	131	0.47000	10	PLANT SPEC	87.1	0.790	110.25	Table	34.00	TABLE	0.150	0.610
	LOWER SHELL 1-18	C6439-2	120	0.47000	40	PLANT SPEC	45.8	0.790	58.00	Table	34.00	TABLE	0.090	0.510
	CIRC WELD	07L669	15	0.47000	-50	PLANT SPEC	32.4	0.790	41.00	Table	32.39	TABLE	0.030	1.020
	CIRC WELD	09L853	15	0.47000	-50	PLANT SPEC	32.4	0.790	41.00	Table	32.39	TABLE	0.030	0.880
	AXIAL WELDS	432Z0471	15	0.47000	-50	PLANT SPEC	32.4	0.790	41.00	Table	32.39	TABLE	0.030	0.910
	AXIAL WELDS	432Z4521	-18	0.47000	-50	PLANT SPEC	15.8	0.790	20.00	Table	15.80	TABLE	0.010	0.9[illegible]
	CIRC WELD	CTY538	15	0.47000	-50	PLANT SPEC	32.4	0.790	41.00	Table	32.39	TABLE	0.030	0.830

References for Duane Arnold

Chemical composition, UUSE, IRTndt, and fluence data from from July 6, 1992, letter from J. F. Franz, Jr. (IEL&P) to T. E. Murley (USNRC), subject: Response to NRC Generic Letter 92-01, Revision 1, "Reactor Vessel Structural Integrity"

Licensee's response to GL 92-01 does not indicate which welds are in which shell, so all weld UUSE calculations will be made for the thinner (4.47 in.) wall thickness.

The 1/4T USE at EOL for plate B0673-1 was changed to 87 ft-lb according to May 6, 1994 letter to the NRC. The staff confirmed that the old value of 103 ft-lb was from one surveillance data point and cannot be used. The same document also confirmed that the 1/4T fluence is 3.6E18.

Plant Name	Beltline Ident.	Heat No Ident.	RTpts @ EOL	ID Neut. Fluence @ EOL	IRTndt	Method of Determin. IRTndt	ΔRTndt at EOL	Fluence Factor @ EOL	Chemistry Factor	Method of Determin. CF	Margin	Method of Determin. Margin	Cu%	Ni%
Kewaunee	EOL: 12/21/13	Docket No.: 50-305												
	INTERMEDIATE SHELL B-6306	122X208VA1	94	3.21000	60	PLANT SPEC	17.3	1.307	13.24	Calculated	17.00	TABLE	0.060	0.710
	LOWER SHELL B-6307	123X167VA1	54	3.21000	20	PLANT SPEC	17.1	1.307	13.12	Calculated	17.00	TABLE	0.060	0.750
	INT./LOWER CIRC. WELD	1P3571	238	3.21000	-56	GENERIC	250.0	1.307	191.27	Calculated	44.04	TABLE	0.280	0.750

References for Kewaunee

Chemical composition, fluence, IRTndt, and UUSE data are from July 2, 1992, letter from C. R. Steinhardt (WPSCo) to USNRC Document Control Desk, subject: Kewaunee Nuclear Power Plant, Reactor Vessel Structural Integrity
Heat number for int. to lower shell circ. weld from June 4, 1993 letter from C. R. Steinhardt (WPSCo) to USNRC Document Control Desk, subject: Reactor Vessel Structural Integrity.

Plant Name	Beltline Ident.	Heat No Ident.	RTpts @ EOL	ID Neut. Fluence @ EOL	IRTndt	Method of Determin. IRTndt	ΔRTndt at EOL	Fluence Factor @ EOL	Chemistry Factor	Method of Determin. CF	Margin	Method of Determin. Margin	Cu%	Ni%
Lasalle 1	EOL: 05/17/22	Docket No.: 50-373							Est from Table					
	MIDDLE SHELL G-5605-1	A5333-1	43	~~0.06100~~ 0.045	-10	PLANT SPEC	26.6	0.325	81.80	Table	26.58	TABLE	0.120	0.540
	MIDDLE SHELL G-5605-2	B0078-1	58	~~0.06100~~ 0.045	-10	PLANT SPEC	34.0	0.325	104.50	Table	33.96	TABLE	0.150	0.500
	LOWER SHELL G-5603-1	C5978-1	62	~~0.06100~~ 0.045	14	PLANT SPEC	24.0	0.325	73.80	Table	23.98	TABLE	0.110	0.580
	LOWER SHELL G-5603-2	C5978-2	71	~~0.06100~~ 0.045	23	PLANT SPEC	24.0	0.325	73.90	Table	24.01	TABLE	0.110	0.5[illegible]
	LOWER SHELL G-5603-3	C5979-1	65	~~0.06100~~ 0.045	10	PLANT SPEC	27.3	0.325	83.90	Table	27.26	TABLE	0.120	0.660
	MIDDLE SHELL G-5605-3	C6123-2	50	~~0.06100~~ 0.045	-10	PLANT SPEC	30.2	0.325	93.00	Table	30.22	TABLE	0.130	0.680
	LOWER INTERMEDIATE SHELL G-5604-2	C6318-1	33	~~0.06100~~ 0.045	-20	PLANT SPEC	26.4	0.325	81.20	Table	26.39	TABLE	0.120	0.510

see revised fluence values in GE report GE-NE-523-A166-1294, DRF 137-0010-7, Revision 1, "La Salle Unit 1 RPV Surveillance Materials Testing and Analysis," June 1995.

Plant Name	Beltline Ident.	Heat No Ident.	RTpts @ EOL	ID Neut. Fluence @ EOL	IRTndt	Method of Determin. IRTndt	ΔRTndt at EOL	Fluence Factor @ EOL	Chemistry Factor	Method of Determin. CF	Margin	Method of Determin. Margin	Cu%	Ni%
asalle 1	(Continued)	Docket No.: 50-373												
	LOWER INTERMEDIATE SHELL G-5604-1	C6345-1	48	~~0.06100~~ 0.045	-20	PLANT SPEC	33.8	0.325	103.95	Table	33.78	TABLE	0.150	0.490
	LOWER INTERMEDIATE SHELL G-5604-3	C6345-2	48	~~0.06100~~ 0.045	-20	PLANT SPEC	34.1	0.325	105.05	Table	34.00	TABLE	0.150	0.510
	LOWER SHELL AXIAL WELDS 2-307 A/C	12008	87	~~0.06100~~ 0.045	-50	PLANT SPEC	80.9	0.325	249.00	Table	56.00	TABLE	0.270	1.000
	LOWER-INT. SHELL AXIAL WELDS 4-308 A/C	12008	74	~~0.06100~~ 0.045	-50	PLANT SPEC	67.8	0.325	208.70	Table	56.00	TABLE	0.280	0.740
	MIDDLE SHELL AXIAL WELDS 3-308 A/C	1P3571	104	~~0.06100~~ 0.045	-30	PLANT SPEC	78.3	0.325	241.00	Table	56.00	TABLE	0.370	0.750
	LOWER SHELL AXIAL WELDS 2-307 A/C	21935	64	~~0.06100~~ 0.045	-50	PLANT SPEC	57.6	0.325	177.20	Table	56.00	TABLE	0.210	0.680
	LOWER INT. SHELL AXIAL WELDS 4-308 A/C	305414	72	~~0.06100~~ 0.045	-50	PLANT SPEC	66.2	0.325	203.75	Table	56.00	TABLE	0.330	0.590
	MIDDLE SHELL AXIAL WELDS 3-308 A/C	305424	71	~~0.06100~~ 0.045	-50	PLANT SPEC	65.1	0.325	200.20	Table	56.00	TABLE	0.300	0.640
	MIDDLE TO LOWER-INT. CIRC WELD 6-308	6329637	84	~~0.06100~~ 0.045	-50	PLANT SPEC	77.7	0.325	239.00	Table	56.00	TABLE	0.240	1.000

See note on page 50

Plant Name	Beltline Ident.	Heat No Ident.	RTpts @ EOL	ID Neut. Fluence @ EOL	IRTndt	Method of Determin. IRTndt	ΔRTndt at EOL	Fluence Factor @ EOL	Chemistry Factor	Method of Determin. CF	Margin	Method of Determin. Margin	Cu%	Ni%
Lasalle 1 (Continued) Docket No.: 50-373														
	LOWER/LOWER INT. SHELL CIRC WELD 1-313	AP6519	-6	~~0.06100~~ 0.045	-60	PLANT SPEC	27.2	0.325	83.80	Table	27.23	TABLE	0.180	0.060

References for Lasalle 1

See note on page 50

Fluence data is from GE Report ~~NDE-89-0786, DRF-A00-02764, "Flux Wire Dosimeter Evaluation for Lasalle Nuclear Power Station, Unit 1," July 1986.~~

Chemical composition, IRTndt, and UUSE data are from July 1, 1992, letter from M. A. Jackson (CECo) to T. E. Murley (USNRC), subject: Dresden Station Units 2 and 3; Quad Cities Station Units 1 and 2; LaSalle County Station Units 1 and 2

Plant Name	Beltline Ident.	Heat No Ident.	RTpts @ EOL	ID Neut. Fluence @ EOL	IRTndt	Method of Determin. IRTndt	ΔRTndt at EOL	Fluence Factor @ EOL	Chemistry Factor	Method of Determin. CF	Margin	Method of Determin. Margin	Cu%	Ni%
Lasalle 2 EOL: 12/16/23 Docket No.: 50-374														
	LOWER-INT. SHELL 22-2	C9404-2	81	0.06400	52	PLANT SPEC	14.7	0.334	44.00	Table	14.69	TABLE	0.070	0.490
	LOWER SHELL 21-2	C9425-1	86	0.06400	32	PLANT SPEC	27.1	0.334	81.20	Table	27.12	TABLE	0.120	0.510
	LOWER SHELL 21-1	C9425-2	84	0.06400	30	PLANT SPEC	27.1	0.334	81.20	Table	27.12	TABLE	0.120	0.510
	LOWER SHELL 21-3	C9434-2	49	0.06400	10	PLANT SPEC	19.4	0.334	58.00	Table	19.37	TABLE	0.090	0.510
	LOWER-INT. SHELL 22-1	C9481-1	59	0.06400	10	PLANT SPEC	24.4	0.334	73.00	Table	24.38	TABLE	0.110	0.500
	LOWER-INT. SHELL 22-3	C9601-2	64	0.06400	10	PLANT SPEC	27.1	0.334	81.00	Table	27.05	TABLE	0.120	0.500
	LOWER-INT. SHELL AXIAL WELDS BA/BC	3P400	-32	0.06400	-50	PLANT SPEC	9.0	0.334	27.00	Table	9.01	TABLE	0.020	0.890
	LOWER SHELL AXIAL WELDS BD/BF	3P4966	1	0.06400	-26	PLANT SPEC	13.7	0.334	41.00	Table	13.69	TABLE	0.030	0.900

07/22/95

Plant Name	Beltline Ident.	Heat No Ident.	RTpts @ EOL	ID Neut. Fluence @ EOL	IRTndt	Method of Determin. IRTndt	∆RTndt at EOL	Fluence Factor @ EOL	Chemistry Factor	Method of Determin. CF	Margin	Method of Determin. Margin	Cu%	Ni%
Lasalle 2 (Continued) Docket No.: 50-374														
	CIRC WELD AB	5P6771	2	0.06400	-34	PLANT SPEC	18.0	0.334	54.00	Table	18.03	TABLE	0.040	0.950

References for Lasalle 2

Chemical composition, IRTndt, and UUSE data are from July 1, 1992, letter from M. A. Jackson (CECo) to T. E. Murley (USNRC), subject: Dresden Station Units 2 and 3; Quad Cities Station Units 1 and 2; LaSalle County Station Units 1 and 2

Fluence data is from GE Report SASR 87-59, DRF A00-02764, "Flux Wire Dosimeter Evaluation for LaSalle Nuclear Power Station, Unit 2," October 1987.

Limerick 1 EOL: 10/26/26 Docket No.: 50-352														
	SHELL COURSE # 2 17-2	C7677-1	93	0.17300	20	PLANT SPEC	39.1	0.535	73.00	Table	34.00	TABLE	0.110	0.500
	SHELL COURSE # 1 14-1	C7688-1	87	0.17300	10	PLANT SPEC	43.4	0.535	81.20	Table	34.00	TABLE	0.120	0.510
	SHELL COURSE # 1 14-3	C7688-2	87	0.17300	10	PLANT SPEC	43.3	0.535	81.00	Table	34.00	TABLE	0.120	0.510
	SHELL COURSE # 2 17-1	C7689-1	83	0.17300	10	PLANT SPEC	38.9	0.535	72.80	Table	34.00	TABLE	0.110	0.480
	SHELL COURSE # 2 17-3	C7698-1	83	0.17300	10	PLANT SPEC	38.9	0.535	72.80	Table	34.00	TABLE	0.110	0.480
	SHELL COURSE # 1 14-2	C7698-2	83	0.17300	10	PLANT SPEC	38.9	0.535	72.80	Table	34.00	TABLE	0.110	0.4[illegible]
	CIRC WELD	07L857/8101 A27A	38	0.17300	-6	PLANT SPEC	21.9	0.535	41.00	Table	21.93	TABLE	0.030	0.970
	CIRC. WELD	09M057/C109 A27A	12	0.17300	-32	PLANT SPEC	21.9	0.535	41.00	Table	21.93	TABLE	0.030	0.890
	AXIAL WELD	1P4218	38	0.17300	-50	PLANT SPEC	43.9	0.535	82.00	Table	43.87	TABLE	0.060	0.890
	CIRC WELD	5P6756	54	0.17300	-60	PLANT SPEC	57.8	0.535	108.00	Table	56.00	TABLE	0.080	0.960

Beltline Ident.	Heat No Ident.	RTpts @ EOL	ID Neut. Fluence @ EOL	IRTndt	Method of Determin. IRTndt	ΔRTndt at EOL	Fluence Factor @ EOL	Chemistry Factor	Method of Determin. CF	Margin	Method of Determin. Margin	Cu%	Ni%
Quad Cities 1 EOL: 12/14/12 Docket No.: 50-254								Est. From Table					
LOWER SHELL	A0610-1	48	0.03500	-20	PLANT SPEC	34.4	0.240	143.30	Table	34.00	TABLE	0.210	0.510
LOWER INTERMEDIATE SHELL	A0931-1	16	0.03500	-30	PLANT SPEC	23.0	0.240	95.95	Table	23.02	TABLE	0.140	0.510
LOWER SHELL	B5524-1	77	0.03500	0	PLANT SPEC	43.1	0.240	179.65	Table	34.00	TABLE	0.270	0.570
LOWER SHELL	C1485-2	41	0.03500	-30	PLANT SPEC	36.6	0.240	152.50	Table	34.00	TABLE	0.230	0.500
LOWER INTERMEDIATE SHELL	C1498-2	27	0.03500	-30	PLANT SPEC	28.4	0.240	118.50	Table	28.44	TABLE	0.170	0.500
LOWER INTERMEDIATE SHELL	C1505-2	41	0.03500	-20	PLANT SPEC	30.3	0.240	126.40	Table	30.33	TABLE	0.180	0.520
LOWER INT./LOWER SHELL CIRC WELD	406L44	103	0.03500	-5	GENERIC	39.4	0.240	164.00	Table	68.47	TABLE	0.220	0.580
LOWER INT/LOWER SHELL CIRC WELD	72445	73	0.03500	-5	GENERIC	29.3	0.240	122.00	Table	49.08	TABLE	0.100	0.600
LOWER AND LOWER INT. AXIAL WELDS	PQ1300 Pre Qual	117	0.03500	40	PLANT SPEC	38.3	0.240	159.65	Table	38.31	TABLE	0.300	0.330
LOWER INT. AND LOWER SHELL AXIAL WELDS	PQ2563 Pre Qual	161	0.03500	40	PLANT SPEC	65.3	0.240	272.00	Table	56.00	TABLE	0.350 Max no Anal	1.000

References for Quad Cities 1

>>>>>GL 92-01 References<<<<<

Plant Name	Beltline Ident.	Heat No Ident.	RTpts @ EOL	ID Neut. Fluence @ EOL	IRTndt	Method of Determin. IRTndt	ΔRTndt at EOL	Fluence Factor @ EOL	Chemistry Factor	Method of Determin. CF	Margin	Method of Determin. Margin	Cu%	Ni%

References for Quad Cities 1 (continued)

Chemical composition, UUSE, IRTndt, and fluence data are from July 1, 1992, letter from M. A. Jackson (CECo) to T. E. Murley (USNRC), subject: Dresden Station Units 2 and 3; Quad Cities Station Units 1 and 2; LaSalle County Station Units 1 and 2

The IRT for electroslag welds (heat number PQ-1300 and PQ-2563) is from September 24, 1993 letter to NRC (Response to GL 92-01).

The staff did not use surveillance weld data to calculate the chemistry factor for weld 406L44 because credibility of the surveillance weld was not established.

IRTndt for circ welds are reported in BAW-1803, Rev. 1 and is documented by the licensee in their September 24, 1993 letter to the USNRC (JI = 20oF).

Quad Cities 2 EOL: 12/14/12 Docket No.: 50-265

									Est from Table					
	LOWER SHELL	C-1501-2	60	0.04900	-10	PLANT SPEC	35.8	0.290	123.55	Table	34.00	TABLE	0.180	0.490
	LOWER SHELL	C-1516-2	69	0.04900	6	PLANT SPEC	31.4	0.290	108.20	Table	31.37	TABLE	0.160	0.460
	LOWER SHELL	C-1722-2	66	0.04900	10	PLANT SPEC	28.2	0.290	97.30	Table	28.21	TABLE	0.140	0.540
	LOWER INTERMEDIATE SHELL	C2753-2	40	0.04900	10	PLANT SPEC	14.8	0.290	51.00	Table	14.79	TABLE	0.080	0.500
	LOWER INTERMEDIATE SHELL	C2868-1	40	0.04900	10	PLANT SPEC	14.8	0.290	51.00	Table	14.79	TABLE	0.080	0.480
	LOWER INTERMEDIATE SHELL	C3307-2	58	0.04900	10	PLANT SPEC	23.8	0.290	82.00	Table	23.78	TABLE	0.120	0.[illegible]
	LOWER INT & LOWER SHELL AXIAL WELDS	PQ-1300 Prot. Qual	133	0.04900	40	PLANT SPEC	46.3	0.290	159.65	Table	46.29	TABLE	0.300	0.330
	LOWER INT/LOWER SHELL CIRC WELD	S-3986	-3	0.04900	-42	PLANT SPEC	19.7	0.290	68.00	Table	19.72	TABLE	0.050	0.960

References for Quad Cities 2

>>>>>GL 92-01 References<<<<<

Plant Name	Beltline Ident.	Heat No Ident.	RTpts @ EOL	ID Neut. Fluence @ EOL	IRTndt	Method of Determin. IRTndt	ΔRTndt at EOL	Fluence Factor @ EOL	Chemistry Factor	Method of Determin. CF	Margin	Method of Determin. Margin	Cu%	Ni%
References for Quad Cities 2 (continued)														
Chemical composition, UUSE, and fluence data are from July 1, 1992, letter from M. A. Jackson (CECo) to T. E. Murley (USNRC), subject: Dresden Station Units 2 and 3; Quad Cities Station Units 1 and 2; LaSalle County Station Units 1 and 2.														
River Bend	EOL: 08/29/25	Docket No.: 50-458												
	# 2 SHELL PLATES	C3054-1	65	0.66400	-20	PLANT SPEC	51.3	0.885	58.00	Table	34.00	TABLE	0.090	0.700
	# 2 SHELL PLATES	C3054-2	87	0.66400	2	PLANT SPEC	51.3	0.885	58.00	Table	34.00	TABLE	0.090	0.700
	# 2 SHELL PLATES	C3138-2	88	0.66400	9	PLANT SPEC	45.1	0.885	51.00	Table	34.00	TABLE	0.080	0.630
	AXIAL WELDS	492L4871/A4 21B27AE	36	0.66400	-60	PLANT SPEC	47.8	0.885	54.00	Table	47.79	TABLE	0.040	0.950
	AXIAL WELDS	492L4871/A4 21B27AF	23	0.66400	-50	PLANT SPEC	36.3	0.885	41.00	Table	36.28	TABLE	0.030	0.980
	AXIAL WELDS	5P6756	114	0.66400	-50	PLANT SPEC	108.0	0.885	122.00	Table	56.00	TABLE	0.090	0.920
References for River Bend														
>>>>>GL 92-01 References<<<<<														
Chemical composition, fluence, UUSE, and IRTndt data are from July 2, 1992, letter from W. H. Odell (GSUCo) to USNRC Document Control Desk, subject: River Bend--Unit 1, Docket No. 50-458														
Robinson 2	EOL: 07/31/10	Docket No.: 50-261												
	LOWER SHELL W9807-5	A5891-1	151	2.00000	33	PLANT SPEC	83.8	1.189	70.50	Table	34.00	TABLE	0.150	0.100
	UPPER SHELL W10201-2	A6520-1	162	1.80000	30	PLANT SPEC	98.4	1.161	84.75	Table	34.00	TABLE	0.150	0.250

Plant Name	Beltline Ident.	Heat No Ident.	Material Type	USE @ EOL @ 1/4T	1/4T Neut. Flu @ EOL	Unirr USE	Method Determ Unirr USE	% Drop USE @ EOL @ 1/4T	Method Determ % Drop	Cu		
Diablo Canyon 2 (Continued) Docket No.: 50-323												
	INTERMEDIATE SHELL WELDS 2-201B/C	12008/21935	LINDE 1092 *	77	0.608	121	DIRECT	36.7%	Surveillance data	0.22		
	LOWER SHELL AXIAL WELD 3-201B	33A277	LINDE 124	57	0.561	88	10 F DATA	34.9%	Position 1 of RG 1.99, Rev. 2	0.26		
	LOWER SHELL AXIAL WELDS 3-201A,C	33A277	LINDE 124	57	0.608	88	10 F DATA	35.6%	Position 1 of RG 1.99, Rev. 2	0.26		

References for Diablo Canyon 2

The ID fluence at EOL is the value projected for April 26, 2025. Upon approval of LAR 92-04, the EOL date will be changed from 12/9/10 to 4/26/25.

Chemical composition and IRTndt are from June 30, 1992 letter from G. M. Rueger (PG&E) to USNRC Document Control Desk, subject: Response to Generic Letter 92-01, Revision 1, Reactor Vessel Structural Integrity

Fluence and UUSE data are from December 4, 1992, letter from G. M. Rueger (PG&E) to USNRC Document Control Desk, subject: Response to Generic Letter 92-01, Revision 1, "Reactor Vessel Structural Integrity"--Supplemental Information.

Dresden 2 EOL: 01/10/06 Docket No.: 50-237 92-01 RAI 88-11												
	LOWER SHELL	A9128-1 ✓	A 302BM	EMA	0.025 ✓	EMA	EMA	EMA	EMA	0.20 ✓		
	LOWER SHELL	A9128-2 ✓	A 302BM	EMA	0.025 ✓	EMA	EMA	EMA	EMA	0.20 ✓		
	LOWER SHELL	B3990-2 ✓	A 302BM	EMA	0.025 ✓	EMA	EMA	EMA	EMA	0.18 ✓		
	LOWER INTERMEDIATE SHELL	B4030-1 ✓	A 302BM	EMA	0.025 ✓	EMA	EMA	EMA	EMA	0.20 ✓		

Plant Name	Beltline Ident.	Heat No Ident.	Material Type	USE @ EOL @ 1/4T	1/4T Neut. Flu @ EOL	Unirr USE	Method Determ Unirr USE	% Drop USE @ EOL @ 1/4T	Method Determ % Drop	Cu		
Dresden 2	(Continued)	Docket No.: 50-237										
	LOWER INTERMEDIATE SHELL	B4030-2 ✓	A 302BM	EMA	0.025 ✓	EMA	EMA	EMA	EMA	0.20 ✓		
	LOWER INTERMEDIATE SHELL	B4065-1 ✓	A 302BM	EMA	0.025	EMA	EMA	EMA	EMA	0.23 ✓		
	LOWER INTERMEDIATE SHELL	B5764-1 ✓	A 302BM	EMA	0.025	EMA	EMA	EMA	EMA	0.10 ✓		
	LOWER INT. SHELL AXIAL WELD	1P0661 ✓	LINDE 80 SAW	EMA	0.025	EMA	EMA	EMA	EMA	0.19 ✓		
	LOWER INT. SHELL AXIAL WELD	1P0815 ✓	LINDE 80 SAW	EMA	0.025	EMA	EMA	EMA	EMA	0.12 ✓		
	LOWER SHELL AXIAL WELD	1P0815 ✓	LINDE 80 SAW	EMA	0.025	EMA	EMA	EMA	EMA	0.25 ✓		
	LOWER INT./LOWER SHELL CIRC WELD	71249 ✓	LINDE 80 SAW	EMA	0.025	EMA	EMA	EMA	EMA	0.21 ✓		
	LOWER SHELL AXIAL WELD	PQ1092C-2 ✓ Proc. Qual	UNKNOWN ESW	EMA	0.025	EMA	EMA	EMA	EMA	0.18 ✓		
	LOWER INT. SHELL AXIAL WELDS	PQ1092C-2 ✓ Proc. Qual.	UNKNOWN ESW	EMA	0.025	EMA	EMA	EMA	EMA	0.18 ✓		

References for Dresden 2

Information on material types is from August 11, 1994 letter to the NRC (the response to GL 92-01 closeout letter).

Chemical composition, UUSE, IRTndt, and fluence data are from July 1, 1992, letter from M. A. Jackson (CECo) to T. E. Murley (USNRC), subject: Dresden Station Units 2 and 3; Quad Cities Station Units 1 and 2; LaSalle County Station Units 1 and 2

Plant Name	Beltline Ident.	Heat No Ident.	Material Type	USE @ EOL @ 1/4T	1/4T Neut. Flu @ EOL	Unirr USE	Method Determ Unirr USE	% Drop USE @ EOL @ 1/4T	Method Determ % Drop	Cu		

References for Dresden 2 (continued)

3.53

The IRT for electroslag welds (heat number PQ 1092C-2) and Linde 80 welds are from September 24, 1993 letter to NRC (Response to GL 92-01 RAI).

Dresden 3 EOL: 01/12/11 Docket No.: 50-249

	LOWER INTERMEDIATE SHELL	A0237-1 ✓	A 302BM	EMA	0.035 ✓	EMA	EMA	EMA	EMA	0.23 ✓		
	LOWER INTERMEDIATE SHELL	B5118-1 ✓	A 302BM	EMA	0.035	EMA	EMA	EMA	EMA	0.22 ✓		
	LOWER SHELL	B5159-2 ✓	A 302BM	EMA	0.035	EMA	EMA	EMA	EMA	0.24 ✓		
	LOWER SHELL	C1182-2 ✓	A 302BM	EMA	0.035	EMA	EMA	EMA	EMA	0.22 ✓		
	LOWER SHELL	C1256-2 ✓	A 302BM	EMA	0.035	EMA	EMA	EMA	EMA	0.11 ✓		
	LOWER INTERMEDIATE SHELL	C1290-2 ✓	A 302BM	EMA	0.035	EMA	EMA	EMA	EMA	0.15 ✓		
	LOWER INT./LOWER SHELL CIRC WELDS	299L44 ✓ SAW	LINDE 80	EMA	0.035	EMA	EMA	EMA	EMA	0.29 ✓		
	LOWER & LOWER INT. SHELL AXIAL WELDS	PQ 1300 ✓ ESW	UNKNOWN	EMA	0.035	EMA	EMA	EMA	EMA	0.30 ✓		

References for Dresden 3

Information on material types is from August 11, 1994 letter to the NRC (the response to GL 92-01 closeout letter).

Plant Name	Beltline Ident.	Heat No Ident.	Material Type	USE @ EOL @ 1/4T	1/4T Neut. Flu @ EOL	Unirr USE	Method Determ Unirr USE	% Drop USE @ EOL @ 1/4T	Method Determ % Drop	Cu		

References for Dresden 3 (continued)

Chemical composition, UUSE, IRTndt, and fluence data are from July 1, 1992, letter from M. A. Jackson (CECo) to T. E. Murley (USNRC), subject: Dresden Station Units 2 and 3; Quad Cities Station Units 1 and 2, LaSalle County Station Units 1 and 2

The IRTs for electroslag welds (heat number PG-1300) and Linde 80 welds are from September 24, 1993 letter to NRC (Response to GL 92-01 RAI).

Duane Arnold EOL: 02/21/14 Docket No.: 50-331

	LOWER SHELL 1-19	B0402-1	A 533B	EMA	0.359	EMA	EMA	EMA	EMA	0.13		
	LOWER INTERMEDIATE SHELL 1-20	B0436-2	A 533B	71	0.359	87	65%	18.8%	Position 1 of RG 1.99, Rev. 2	0.15		
	LOWER INTERMEDIATE SHELL 1-21	B0673-1	A 533B	87	0.359	107	65%	18.8%	Position 1 of RG 1.99, Rev. 2	0.15		
	LOWER SHELL 1-18	C6439-2	A 533B	EMA	0.359	EMA	EMA	EMA	EMA	0.09		
	CIRC WELD	07L669	E 8018	EMA	0.359	EMA	EMA	EMA	EMA	0.03		
	CIRC WELD	09L853	E 8018	EMA	0.359	EMA	EMA	EMA	EMA	0.03		
	AXIAL WELDS	43Z20471	E 8018	88	0.359	103	10 F DATA	14.9%	Position 1 of RG 1.99, Rev. 2	0.03		
	AXIAL WELDS	43Z24521	E 8018	EMA	0.359	EMA	EMA	EMA	EMA	0.01		

	Beltline Ident.	Heat No Ident.	Material Type	USE @ EOL @ 1/4T	1/4T Neut. Flu @ EOL	Unirr USE	Method Determ Unirr USE	% Drop USE @ EOL @ 1/4T	Method Determ % Drop	Cu		
inee	(Continued)	Docket No.:	50-305									
	LOWER SHELL B-6307	123X167VA1	A 508-2	75	2.173	97	65%	22.8%	Position 1 of RG 1.99, Rev. 2	0.06		
	INT./LOWER CIRC. WELD	1P3571	LINDE 1092	66	2.173	126	DIRECT	47.3%	Surveillance data	0.28		

erences for Kewaunee

Chemical composition, fluence, IRTndt, and UUSE data are from July 2, 1992, letter from C. R. Steinhardt (WPSCo) to USNRC Document Control Desk, subject: Kewaunee Nuclear Power Plant, Reactor Vessel Structural Integrity
Heat number for int. to lower shell circ. weld from June 4, 1993 letter from C. R. Steinhardt (WPSCo) to USNRC Document Control Desk, subject: Reactor Vessel Structural Integrity.

alle 1	EOL: 05/17/22	Docket No.:	50-373	see revised fluence calcs in								
	MIDDLE SHELL G-5605-1	A5333-1	A 533B	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.12		
	MIDDLE SHELL G-5605-2	B0078-1	A 533B	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.15		
	LOWER SHELL G-5603-1	C5978-1	A 533B	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.11		
	LOWER SHELL G-5603-2	C5978-2	A 533B	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.11		
	LOWER SHELL G-5603-3	C5979-1	A 533B	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.12		
	MIDDLE SHELL G-5605-3	C6123-2	A 533B	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.13		

see revised fluence values in GE report GE-NE-523-A166-1294, DRF 137-0010-7, Revision 1, "La Salle Unit 1 RPV Surveillance Materials Testing and Analysis," June 1995.

Plant Name	Beltline Ident.	Heat No Ident.	Material Type	USE @ EOL @ 1/4T	1/4T Neut. Flu @ EOL	Unirr USE	Method Determ Unirr USE	% Drop USE @ EOL @ 1/4T	Method Determ % Drop	Cu		
Lasalle 1 (Continued) Docket No.: 50-373												
	LOWER INTERMEDIATE SHELL G-5604-2	C6318-1 ✓	A 533B	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.12 ✓		
	LOWER INTERMEDIATE SHELL G-5604-1	C6345-1 ✓	A 533B	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.15 ✓		
	LOWER INTERMEDIATE SHELL G-5604-3	C6345-2 ✓	A 533B	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.15 ✓		
	LOWER SHELL AXIAL WELDS 2-307 A/C	12008 ✓	LINDE 1092	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.27 ✓		
	LOWER-INT. SHELL AXIAL WELDS 4-308 A/C	12008 ✓	LINDE 1092	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.28 ✓		
	MIDDLE SHELL AXIAL WELDS 3-308 A/C	1P3571 ✓	LINDE 1092	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.37 ✓		
	LOWER SHELL AXIAL WELDS 2-307 A/C	21935 ✓	LINDE 1092	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.21 ✓		
	LOWER INT. SHELL AXIAL WELDS 4-308 A/C	305414 ✓	LINDE 1092	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.33 ✓		
	MIDDLE SHELL AXIAL WELDS 3-308 A/C	305424 ✓	LINDE 1092	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.30 ✓		

See note p. 56

Plant Name	Beltline Ident.	Heat No Ident.	Material Type	USE @ EOL @ 1/4T	1/4T Neut. Flu @ EOL	Unirr USE	Method Determ Unirr USE	% Drop USE @ EOL @ 1/4T	Method Determ % Drop	Cu		
Lasalle 1 (Continued) Docket No.: 50-373												
	MIDDLE TO LOWER-INT. CIRC WELD 6-308	6329637 ✓	LINDE 1092	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.24 ✓		
	LOWER/LOWER INT. SHELL CIRC WELD 1-313	AP6519 ✓	LINDE 1092	EMA	~~0.040~~ 0.031	EMA	EMA	EMA	EMA	0.18 ✓		

References for Lasalle 1

See note p. 56 for new reference

Fluence data is from GE Report ~~MDE-89-0786, DRF A00-02764, "Flux Wire Dosimeter Evaluation for LaSalle Nuclear Power Station, Unit 1," July 1986.~~

✓ Chemical composition, IRTndt, and UUSE data are from July 1, 1992, letter from M. A. Jackson (CECo) to T. E. Murley (USNRC), subject: Dresden Station Units 2 and 3; Quad Cities Station Units 1 and 2; LaSalle County Station Units 1 and 2

Lasalle 2 EOL: 12/16/23 Docket No.: 50-374												
	LOWER-INT. SHELL 22-2	C9404-2 ✓	A 533B	EMA	0.044 0.042	EMA	EMA	EMA	EMA	0.07 ✓		
	LOWER SHELL 21-2	C9425-1 ✓	A 533B	EMA	0.044	EMA	EMA	EMA	EMA	0.12 ✓		
	LOWER SHELL 21-1	C9425-2 ✓	A 533B	EMA	0.044	EMA	EMA	EMA	EMA	0.12 ✓		
	LOWER SHELL 21-3	C9434-2 ✓	A 533B	EMA	0.044	EMA	EMA	EMA	EMA	0.09 ✓		
	LOWER-INT. SHELL 22-1	C9481-1 ✓	A 533B	EMA	0.044	EMA	EMA	EMA	EMA	0.11 ✓		

Plant Name	Beltline Ident.	Heat No Ident.	Material Type	USE @ EOL @ 1/4T	1/4T Neut. Flu @ EOL	Unirr USE	Method Determ Unirr USE	% Drop USE @ EOL @ 1/4T	Method Determ % Drop	Cu		
Lasalle 2 (Continued) Docket No.: 50-374												
	LOWER-INT. SHELL 22-3	C9601-2 ✓	A 533B	EMA	0.044 0.042	EMA	EMA	EMA	EMA	0.12 ✓		
	LOWER-INT. SHELL AXIAL WELDS BA/BC	3P400 ✓	LINDE 124	EMA	0.044	EMA	EMA	EMA	EMA	0.02 ✓		
	LOWER SHELL AXIAL WELDS BD/BF	3P4966 ✓	LINDE 124	EMA	0.044	EMA	EMA	EMA	EMA	0.03 ✓		
	CIRC WELD AB	5P6771 ✓	LINDE 124	EMA	0.044	EMA	EMA	EMA	EMA	0.04 ✓		

References for Lasalle 2

Chemical composition, IRTndt, and UUSE data are from July 1, 1992, letter from M. A. Jackson (CECo) to T. E. Murley (USNRC), subject: Dresden Station Units 2 and 3; Quad Cities Station Units 1 and 2; LaSalle County Station Units 1 and 2

Fluence data is from GE Report SASR 87-59, DRF A00-02764, "Flux Wire Dosimeter Evaluation for LaSalle Nuclear Power Station, Unit 2," October 1987.

Limerick 1 EOL: 10/26/26 Docket No.: 50-352												
	SHELL COURSE # 2 17-2	C7677-1	A 533B	EMA	0.119	EMA	EMA	EMA	EMA	0.11		
	SHELL COURSE # 1 14-1	C7688-1	A 533B	EMA	0.119	EMA	EMA	EMA	EMA	0.12		
	SHELL COURSE # 1 14-3	C7688-2	A 533B	EMA	0.119	EMA	EMA	EMA	EMA	0.12		
	SHELL COURSE # 2 17-1	C7689-1	A 533B	EMA	0.119	EMA	EMA	EMA	EMA	0.11		

Plant Name	Beltline Ident.	Heat No Ident.	Material Type	USE @ EOL @ 1/4T	1/4T Neut. Flu @ EOL	Unirr USE	Method Determ Unirr USE	% Drop USE @ EOL @ 1/4T	Method Determ % Drop	Cu		

References for Prairie Island 1 (continued)

The 1/4T fluence and the USE at EOL for the circumferential weld are from March 31, 1994 letter to NRC (Revised Respon. to Generic Letter 92-01, Revision 1).

The USE at EOL may be higher than 50 ft-lb if surveillance data were used.

Prairie Island 2 EOL: 10/29/14 Docket No.: 50-306

LOWER SHELL FORGING	22642	A 508-3	87	3.010	106	DIRECT	17.8%	Surveillance data	0.09		
INTERMEDIATE SHELL FORGING	22829	A 508-3	84	3.010	112	DIRECT	24.6%	Position 1 of RG 1.99, Rev. 2	0.08		
CIRC WELD	2721	UM 89, SAW	52	3.010	103	SURV WELD	49.7%	Surveillance data	0.09		

References for Prairie Island 2

>>>>>GL 92-01 References<<<<<
The USE at EOL for the circumferential weld was confirmed in the May 19, 1994 letter to USNRC. The USE may be higher than 68 ft-lb if surveillance data were used.
Fluence, chemical composition, and IRTndt data are from July 6, 1992, letter from T. M. Parker (NSP) to USNRC Document Control Desk, subject: Response to Generic Letter 92-01, Reactor Vessel Structural Integrity

UUSEs for lower shell forging (D) and circumferential weld are from reference cited immediately above

UUSE for intermediate shell forging (C) is from Table A-1 of WCAP-11343

Quad Cities 1 EOL: 12/14/12 Docket No.: 50-254

LOWER SHELL	A0610-1 ✓	A 302BM	EMA	0.024 ✓	EMA	EMA	EMA	EMA	0.21 ✓		
LOWER INTERMEDIATE SHELL	A0931-1 ✓	A 302BM	EMA	0.024	EMA	EMA	EMA	EMA	0.14 ✓		
LOWER SHELL	B5524-1 ✓	A 302BM	EMA	0.024	EMA	EMA	EMA	EMA	0.27 ✓		

Plant Name	Beltline Ident.	Heat No Ident.	Material Type	USE @ EOL @ 1/4T	1/4T Neut. Flu @ EOL	Unirr USE	Method Determ Unirr USE	% Drop USE @ EOL @ 1/4T	Method Determ % Drop	Cu		
Quad Cities 1 (Continued) Docket No.: 50-254												
	LOWER SHELL	C1485-2 ✓	A 302BM	EMA	0.024 ✓	EMA	EMA	EMA	EMA	0.23 ✓		
	LOWER INTERMEDIATE SHELL	C1498-2 ✓	A 302BM	EMA	0.024	EMA	EMA	EMA	EMA	0.17 ✓		
	LOWER INTERMEDIATE SHELL	C1505-2 ✓	A 302BM	EMA	0.024	EMA	EMA	EMA	EMA	0.18 ✓		
	LOWER INT./LOWER SHELL CIRC WELD	406L44 ✓	LINDE 80	EMA	0.024	EMA	EMA	EMA	EMA	0.22 ✓		
	LOWER INT/LOWER SHELL CIRC WELD	72445 ✓	LINDE 80	EMA	0.024	EMA	EMA	EMA	EMA	0.10 ✓		
	LOWER AND LOWER INT. AXIAL WELDS	PQ1300 ✓ Prior Qual.	UNKNOWN, ESW	EMA	0.024	EMA	EMA	EMA	EMA	0.30 ✓		
	LOWER INT. AND LOWER SHELL AXIAL WELDS	PQ2563 ✓ Prior. Qual	UNKNOWN, ESW	EMA	0.024	EMA	EMA	EMA	EMA	0.35 Not Reported in GE Check L, Assumed max?		

References for Quad Cities 1

>>>>>GL 92-01 References<<<<<

Chemical composition, UUSE, IRTndt, and fluence data are from July 1, 1992, letter from M. A. Jackson (CECo) to T. E. Murley (USNRC), subject: Dresden Station Units 2 and 3; Quad Cities Station Units 1 and 2; LaSalle County Station Units 1 and 2

The IRT for electroslag welds (heat number PQ-1300 and PQ-2563) is from September 24, 1993 letter to NRC (Response to GL 92-01).

The staff did not use surveillance weld data to calculate the chemistry factor for weld 406L44 because credibility of the surveillance weld was not established.

IRTndt for circ welds are reported in BAW-1803, Rev. 1 and is documented by the licensee in their September 24, 1993 letter to the USNRC (JI = 20oF).

Plant Name	Beltline Ident.	Heat No Ident.	Material Type	USE @ EOL @ 1/4T	1/4T Neut. Flu @ EOL	Unirr USE	Method Determ Unirr USE	% Drop USE @ EOL @ 1/4T	Method Determ % Drop	Cu		
Quad Cities 2	EOL: 12/14/12	Docket No.: 50-265										
	LOWER SHELL	C-1501-2 ✓	A 302BM	EMA	0.034 ✓	EMA	EMA	EMA	EMA	0.18 ✓		
	LOWER SHELL	C-1516-2 ✓	A 302BM	EMA	0.034	EMA	EMA	EMA	EMA	0.16 ✓		
	LOWER SHELL	C-1722-2 ✓	A 302BM	EMA	0.034	EMA	EMA	EMA	EMA	0.14 ✓		
	LOWER INTERMEDIATE SHELL	C2753-2 ✓	A 302BM	EMA	0.034	EMA	EMA	EMA	EMA	0.08 ✓		
	LOWER INTERMEDIATE SHELL	C2868-1 ✓	A 302BM	EMA	0.034	EMA	EMA	EMA	EMA	0.08 ✓		
	LOWER INTERMEDIATE SHELL	C3307-2 ✓	A 302BM	EMA	0.034	EMA	EMA	EMA	EMA	0.12 ✓		
	LOWER INT & LOWER SHELL AXIAL WELDS	PQ-1300 ✓	UNKNOWN, ESW	EMA	0.034	EMA	EMA	EMA	EMA	0.30 ✓		
	LOWER INT/LOWER SHELL CIRC WELD	S-3986 ✓	LINDE 124 SAW	EMA	0.034	EMA	EMA	EMA	EMA	0.05 ✓		

References for Quad Cities 2

>>>>>GL 92-01 References<<<<<

Chemical composition, UUSE, and fluence data are from July 1, 1992, letter from M. A. Jackson (CECo) to T. E. Murley (USNRC), subject: Dresden Station Units 2 and 3; Quad Cities Station Units 1 and 2; LaSalle County Station Units 1 and 2.