

COMMENT RESOLUTION TABLE

BAW-2192, Supplement 1, Revision 0, "Low Upper-Shelf Toughness Fracture Mechanics Analysis of Reactor Vessels of B&W Owners Reactor Vessel Working Group for Level A&B Service Loads" & BAW-2178, Supplement 1, Revision 0, "Low Upper-Shelf Toughness Fracture Mechanics Analysis of Reactor Vessels of B&W Owners Reactor Vessel Working Group For Level C&D Service Loads"

BAW-2192							
Section Number	Section Title	Page/Line Number	Reviewer	Technical (T) or Editorial (E)	Comment	Proprietary Marking Comment	NRC Resolution
1.0	Introduction						
		1, 12	MR	E	Title for BAW-2192, Supplement 1, Revision 0, should be ... "Levels A & B" vs "Level A&B" The title is correct for BAW-2192PA, Revision 00	NA	Comment incorporated.
		1, 31	MR	E	n/cm2 should be n/cm ²	NA	Comment incorporated.
2.0	Regulatory Evaluation						
		1, 39	AN	E	"Regulation at" should be Regulation in"		Comment incorporated.
		2, 19	MR	E	NUREG-2192 (SRP-SLR), Section 4.2.2.1.2 provides guidance for USE vs NUREG-2191, which references Section 4.2.2.1.2 of the SRP-SLR	NA	Comment incorporated.
3.1	PWROG Evaluation						

BAW-2192							
Section Number	Section Title	Page/Line Number	Reviewer	Technical (T) or Editorial (E)	Comment	Proprietary Marking Comment	NRC Resolution
		2, 44	MR	T	The TR was performed in accordance with ASME Section XI, 2007 Edition, with 2008 Addenda; however, a reconciliation to the 2013 Edition of ASME Section XI is discussed in Section 2.2 of the TR. This reconciliation should be acknowledged in the SE since 10 CFR 50, Appendix G requires that the current 10 CFR 50.55a Edition of ASME Section XI shall be used, which is the 2013 Edition of ASME Section XI.	NA	Comment incorporated.
		2, 46	AN	E	E: "essentially identical to" instead of "are identical in"		Comment incorporated.
		3,35	MR	E	Suggest TR Sections 5.3 and 5.4 versus TR Section 5.4. Section 5.3 presents flaw extension results and 5.4 flaw stability results.	NA	Comment incorporated.
		3,45/46	MR	E	Appendix B should be revised to Appendix A and model 6 should be Model 6B	NA	Comment incorporated.
3.2.1	Applicability of the Original Model to 80 Years						
		4, 15	AN	E	"0.# inch" not "0.#" without any units	<-- proprietary value replaced	Comment incorporated.

BAW-2192							
Section Number	Section Title	Page/Line Number	Reviewer	Technical (T) or Editorial (E)	Comment	Proprietary Marking Comment	NRC Resolution
						with #, see mark-up of DSE for values	
		4,19	AB	E	#X10 ¹⁹ should be changed to ###X10 ¹⁹ or state ###X10 ¹⁹ , which is approximately #X10 ¹⁹	This section is appropriately marked as proprietary <-- proprietary value replaced with #, see mark-up of DSE for values	Comment incorporated.
		4,21	AB,MR	E	Suggest replacing "However, the 1/4t fluences..." with "However, one quarter thickness 80-year fluence estimates are approximately ## E+19 n/cm ² for ONS, #.#0E+19 n/cm ² for Surry, and ###E+19 n/cm ² for Turkey Point." Text is from TR Appendix A, Page A-4. Based on review of 1/4t ARTs for TP and Surry (source references for the TRs), only TP3 and TP4 each have one weld with 1/4T fluence > ## E19; all remaining welds in the TR are less than #.#E19 at 1/4t.	This section is appropriately marked as proprietary <-- proprietary value replaced with #, see mark-up of	Comment incorporated.

BAW-2192							
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						DSE for values	
		4,25	AB,MR	T	Revise the sentence as follows. Plots of the normalized J versus crack extension (Δa) for models 4B and 6B show that the model curves are very similar, with model 6B being slightly more conservative (i.e., lower values of J_d) at smaller crack extensions (<0.1 inch) and slightly more less conservative (i.e., higher values of J_d) at high crack extensions (> 0.# inch).	This section is appropriately marked as proprietary <-- proprietary value replaced with #, see mark-up of DSE for values	Comment incorporated.
		4,35-37	MR	E	In general bounds are either \pm #Se or \pm #SE in this paragraph.	This section is appropriately marked	Comment incorporated.

BAW-2192							
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						as proprietary <-- proprietary value replaced with #, see mark-up of DSE for values	
3.2.2	Consistency with ASME Code, Section XI, Appendix K						
		5,44	MR,AN	E	Revise sentence--This method was used in the TR.	NA	Comment incorporated.
3.2.3	Selection of Service Level A and B Transients						
		6, 47	MR,AN	E	Symbol "F" for fahrenheit missing		Comment incorporated.
3.2.4	Evaluation of Extended Beltline Materials						

BAW-2192							
Section Number	Section Title	Page/Line Number	Reviewer	Technical (T) or Editorial (E)	Comment	Proprietary Marking Comment	NRC Resolution
		7,34	MR,AN	E	Revise text as follows "For Surry and TP, not..." The lower transition weld was not evaluated for Surry	NA	Comment incorporated.
3.2.5.1	Material Chemistry						
		NA	RH	NA	No comments	No proprietary data	
3.2.5.3	Mechanical Properties						
		8, 36	MR,AN	E	"it is conservative" instead of "is conservative"		Comment incorporated.
3.2.6	Confirmatory Calculations						
		8, 43	MR	T	Please restrict the comparison/independent evaluation to the NUREG/CR-5729 copper-fluence model to the plants within the scope of the TR. Suggest adding "; this independent evaluation using the NUREG/CR-5729 copper-fluence model is restricted to the plants within scope of the TR."	NA	
		9, 4	AN	E		The "blue (top) curve appears to be gray in color in the figure	Comment incorporated.

BAW-2192							
Section Number	Section Title	Page/Line Number	Reviewer	Technical (T) or Editorial (E)	Comment	Proprietary Marking Comment	NRC Resolution
		9, Figure 1	MR	E	Figure 1 is missing from the figure heading	The J-R lower bound curve is proprietary so this Figure should be marked as proprietary. Reference BAW-2192P, Supplement 1, Revision 0, Figure 5-1	Comment incorporated.

BAW-2178							
Section Number	Section Title	Page/Line Number	Reviewer	Technical (T) or Editorial (E)	Comment	Proprietary Marking Comment	NRC Resolution
1.0	Introduction						
		1, 14	MR	E	Title for BAW-2178, Supplement 1, Revision 0, should be ..."Levels C & D" vs "..Level C & D" The title is correct for BAW-2178PA, Revision 00	NA	Comment incorporated.
3.1	Summary of the TR Content						
		2, 44	MR	T	The TR was performed in accordance with ASME Section XI, 2007 Edition, with 2008 Addenda; however, a reconciliation to the 2013 Edition of ASME Section XI is discussed in Section 2.2 of the TR. This reconciliation should be acknowledged in the SE since 10 CFR 50 Appendix G requires that the current 10 CFR 50.55a Edition of ASME Section XI shall be used, which is the 2013 Edition of ASME Section XI. Note same comment for BAW-2192.	NA	Comment incorporated.
		3,12	MR	E	Open parenthetical (since...	NA	Comment incorporated.
3.2.1	Applicability of the Original Model to 80 Years						

BAW-2178							
Section Number	Section Title	Page/Line Number	Reviewer	Technical (T) or Editorial (E)	Comment	Proprietary Marking Comment	NRC Resolution
		3, 46	MR	E	Change preposition--"4B of 80 years" to 4B for 80 years	NA	Comment incorporated.
3.2.3.1	Selection of Level C and D Transients						
		4, 45	MR	E	SRP 3.9.3, Revision 1 is referenced by RG 1.161. SRP 3.93 currently at Rev 3	NA	Comment incorporated.
		5, 10	MR	E	"transient" should be transients	NA	Comment incorporated.
3.2.3.2	Level C and D Service Loadings						
		7, 32	MR	E	"would resulted" should be would have resulted		Comment incorporated.
3.2.6	Confirmatory Calculations						

BAW-2178							
Section Number	Section Title	Page/Line Number	Reviewer	Technical (T) or Editorial (E)	Comment	Proprietary Marking Comment	NRC Resolution
		9, 44-50	MR	T	Please restrict the comparison/independent evaluation to the NUREG/CR-5729 copper-fluence model to the plants within the scope of the TR. Suggest to revise the sentence starting "The staff also" to read "The staff used the copper-fluence fracture toughness model for Linde 80 welds from NUREG/CR-5729 for comparison to B&W OG Model 4B; this independent evaluating using the NUREG/CR-5729 copper-fluence model is restricted to teh plants within the scope of the TR.	Appropriately marked	Comment incorporated.