



Program Management Office
20 International Drive
Windsor, Connecticut 06095

BAW-2192-P, Supplement 2, Revision 0
Docket Number 99902037

April 28, 2020

OG-20-132

U.S. Nuclear Regulatory Commission
Document Control Desk
11555 Rockville Pike
Rockville, MD 20852

Subject: PWR Owners Group
Comments on the Draft Safety Evaluations for BAW-2192, Supplement 2P, Revision 0, "Low Upper-Shelf Toughness Fracture Mechanics Analysis of Reactor Vessels of B&W Owners Reactor Vessel Working Group for Level A and B Service Loads" PA-MSC-1481

Reference:

1. Transmittal of BAW-2192 Draft Proprietary Safety Evaluation (Simplified Review) from Leslie Fields, NRC. (PROP BAW-2192 BOX Email Transmitting DSE, ML20097B331)

The PWROG acknowledges receipt of the Draft Safety Evaluation for Pressurized Water Reactor Owners Group Topical Reports BAW-2192-P, Supplement 2P, Revision 0, "Low Upper-Shelf Toughness Fracture Mechanics Analysis of Reactor Vessels of B&W Owners Reactor Vessel Working Group for Levels A & B Service Loads".

Thank you for the opportunity to review the document. The review has been completed by the technical vendor lead, Framatome Inc. and the program utility participant.

Comments for your consideration on the Draft Safety Evaluations are in the enclosed non-proprietary list of comments and a markup of the proprietary draft DSE with comments embedded. We respectfully request that the staff consider these comments in the completion of the Final Safety Evaluation, and look forward to an opportunity to discuss any of the comments directly with the staff.

The enclosed Draft Safety Evaluation with our comments (Enclosure 2) contains information proprietary to Framatome Inc.; which is supported by an affidavit signed by Framatome Inc., owner of the information. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b) (4) of Section 2.390 of the Commission's regulations. The affidavit is included as Enclosure 3.

D048
NRR

Accordingly, it is respectfully requested that the information which is proprietary to Framatome Inc. be withheld from public disclosure in accordance with 10 CFR Section 2.390 of the Commission's regulations.

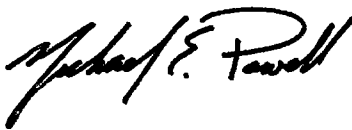
Correspondence with respect to the proprietary aspects of the information or supporting Framatome affidavit should reference this letter and should be addressed to Mr. Philip Opsal, Manager, Product Licensing, Framatome Inc., 3315 Old Forest Road, Lynchburg, Virginia 24506-0935.

All other correspondence related to this transmittal should be addressed to:

Mr. W. Anthony Nowinowski, Program Manager
PWR Owners Group, Program Management Office
Westinghouse Electric Company
1000 Westinghouse Drive
Cranberry Township, PA 16066

If you have any questions, please do not hesitate to contact me at (805) 545-4328 or Mr. W. Anthony Nowinowski, Program Manager of the PWR Owners Group, Program Management Office at (412) 374-6855.

Sincerely yours,



Mike Powell
Chief Operating Officer & Chairman
Pressurized Water Reactor Owners Group

MP:DPB:am

Enclosures (3):

1. Non-Proprietary list of comments, file "BAW-2192_Sup2P_DSE-Comments.xlsx"
2. Proprietary markups of Draft Safety Evaluation, file "Safety Eval – BAW-2192-Supp2 – PROPRIETARY SER – Comments.docx"
3. Affidavit for withholding Proprietary information in file "Safety Eval – BAW-2192-Supp2 – PROPRIETARY SER – Comments.docx"

cc with enclosures:

PWROG Materials Committee Representatives in MSC-1481 Rev 3-4
L. Fields, US NRC
B. Grambau, Framatome Inc.
D. Cofflin, Framatome Inc.
M. Rinckel, Framatome Inc.
A. Nana, Framatome Inc.
P. Opsal, Framatome Inc.

cc without enclosures:

PWROG Steering and Management Committee
PWROG PMO
T. Zalewski, W

AFFIDAVIT

1. My name is Philip A. Opsal. I am Manager, Product Licensing for Framatome Inc. (formally known as AREVA Inc.), and as such I am authorized to execute this Affidavit.

2. I am familiar with the criteria applied by Framatome to determine whether certain Framatome information is proprietary. I am familiar with the policies established by Framatome to ensure the proper application of these criteria.

3. I am familiar with the Framatome information contained in Proprietary Safety Evaluation for Topical Report, BAW-2192-P/NP, Rev. 0, Supplement 2, Title: "Low Upper-Shelf Toughness Fracture Mechanics Analysis of Reactor Vessel of B&W Owners Reactor Vessel Working Group for Levels A & B Service Loads", EPID L-2019-TOP-0055, DOCKET NO.: 99902037, referred to herein as "Document." Information contained in this Document has been classified by Framatome as proprietary in accordance with the policies established by Framatome for the control and protection of proprietary and confidential information.

4. This Document contains information of a proprietary and confidential nature and is of the type customarily held in confidence by Framatome and not made available to the public. Based on my experience, I am aware that other companies regard information of the kind contained in this Document as proprietary and confidential.

5. This Document has been made available to the U.S. Nuclear Regulatory Commission in confidence with the request that the information contained in this Document be withheld from public disclosure. The request for withholding of proprietary information is

made in accordance with 10 CFR 2.390. The information for which withholding from disclosure is requested qualifies under 10 CFR 2.390(a)(4) "Trade secrets and commercial or financial information."

6. The following criteria are customarily applied by Framatome to determine whether information should be classified as proprietary:

- (a) The information reveals details of Framatome's research and development plans and programs or their results.
- (b) Use of the information by a competitor would permit the competitor to significantly reduce its expenditures, in time or resources, to design, produce, or market a similar product or service.
- (c) The information includes test data or analytical techniques concerning a process, methodology, or component, the application of which results in a competitive advantage for Framatome.
- (d) The information reveals certain distinguishing aspects of a process, methodology, or component, the exclusive use of which provides a competitive advantage for Framatome in product optimization or marketability.
- (e) The information is vital to a competitive advantage held by Framatome, would be helpful to competitors to Framatome, and would likely cause substantial harm to the competitive position of Framatome.

The information in this Document is considered proprietary for the reasons set forth in paragraphs 6(b), 6 (c), 6(d) and 6(e) above.

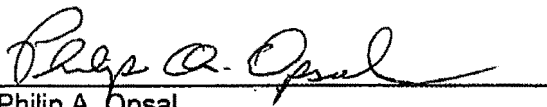
7. In accordance with Framatome's policies governing the protection and control of information, proprietary information contained in this Document has been made available, on a limited basis, to others outside Framatome only as required and under suitable agreement providing for nondisclosure and limited use of the information.

8. Framatome policy requires that proprietary information be kept in a secured file or area and distributed on a need-to-know basis.

9. The foregoing statements are true and correct to the best of my knowledge,
information, and belief.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on April 24, 2020


Philip A. Opsal

Comment No.	Page and Line No.	Comment Type (clarity, accuracy, proprietary)	Suggested Revision	NRC Disposition
	DSE does not contain line numbers so page numbers are provided below. See marked-up DSE for suggested		Suggested revised text highlighted in red	
1	1	clarity, accuracy	Suggest slightly re-wording the last sentence under Description of Topical Report Content to say: "The equivalent margins analyses for North Anna Unit 1 and 2 are not within the scope of BAW-2192-P/NP, Revision 0, Supplement 2 which focuses on demonstrating the applicability of B&WOG Model 6B to Rotterdam weld material used, in part, to fabricate North Anna and Surry reactor vessels."	
2	2	clarity, accuracy	Similar to comment #1. In Section 1.0, 2nd paragraph, first sentence "...Rotterdam welds used, in part, to fabricate..."	
3	2	clarity, accuracy	Typo In Section 2.2, first sentence. "To" should be removed.	
4	3	clarity, accuracy	In Section 3.2, the NRC text "future use in 80 year EMAs for Surry and North Anna Rotterdam weld material" requires clarification since the 80-year EMA for Surry was reviewed and approved by the NRC as reported in BAW-2192, Revision 0, Supplement 1P-A, and is referenced in the Surry Subsequent License Renewal Application. This 80-year evaluation was completed using Model 4B and a reconciliation to Model 6B for Surry is reported in BAW-2192 Supplement 1P, Appendix A, Section A.4, Table A-4. Model 4B was used beyond the range of explanatory values relative to fluence used to develop Model 4B. Use of a J-R model beyond the range of explanatory variables is not prohibited; however, it places use of Model 4B in an extrapolation mode versus an interpolation mode, and use of the model mean and standard errors must be justified. That justification was provided by the development of Model 6B and the reconciliation performed in Appendix A, Section A.4. Therefore, the 80-year Surry EMA was completed and justification was provided by considering both Models 4B and 6B. Since Models 4B and 6B were developed entirely using Linde 80 data it was considered to be a conservative model for application to Rotterdam weld data. The comparison of new Rotterdam J-R data to Model 6B reported in BAW-2192, Supplement 2P, Section 3.0, provides confirmation that Model 6B is a conservative model to use for Rotterdam weld data for North Anna and Surry. Note that the TR does not formally transmit 80-year USE values for North Anna, and Part 50, Appendix G, requires an equivalent margins analysis if the end-of-life USE drops below 50 ft-lbs. Therefore, the following clarification is suggested. "The NRC staff's review was limited to the applicability of the Model 6B J-R model for the future use in 80 year EMAs for Surry and North Anna Rotterdam weld material if required by 10 CFR Part 50, Appendix G."	
5	4	clarity	Line 12, the open proprietary brackets following Revision 0, Supplement 1 " [" need to be bolded	
6	4	clarity	Last paragraph, second sentence. "This includes the capsule specimens include XX..." Suggest changing to: "This includes XX additional irradiated specimens that were....." <i>XX is included above since the paragraph is proprietary</i>	
7	5	clarity, accuracy	Third paragraph, lines 4 and 5. Numbers in the following sentence are proprietary and the word document provide a comment to clarify the TR source reference-- "(1) bounds most of the original and new data [] used in its development, and (2) bounds all of the new Rotterdam J R data from Surry and North Anna [] in scope of TR"	
8	5	proprietary	Third paragraph, line 6: Add reference to BAW-2192-P-A, Revision 0, Supplement 1: "and includes data with fluences close to the highest predicted 1/4T fluence for the RPVs in scope of TR BAW-2192- P-A, Revision 0, Supplement 1."	
9	5	clarity, accuracy	See comment 4. Suggest adding the following at the end of the third paragraph: "Thus, the staff finds the use of the Model 6B curve acceptable for use in the 80-year EMAs for Surry and North Anna Rotterdam weld material within the limits of the B&WOG Model 6B explanatory variables (i.e., []). Use of Model 6B beyond the range of explanatory variables defined in the TR requires further justification by the licensee relative to demonstration of the applicability of Model 6B mean and standard errors."	

			Based on comments 4 and 9, <u>suggest revising the following text in Section 4.0...</u>	
			"The NRC staff concludes that BAW-2192- P/NP, Revision 0, Supplement 2 demonstrates that the use of the Model 6B J-R curve is acceptable for use in the 80-year EMAs for Surry and North Anna Rotterdam weld material within the limits of the B&WOG Model 6B explanatory variables." <i>Use of Model 6B beyond the range of explanatory variables defined in the TR requires further justification by the licensee relative to demonstration of the applicability of Model 6B mean and standard errors</i> "In accordance with Section IV.A.1.c of Appendix G to 10 CFR Part 50, the sitespecific application of the Model 6B J-R curve in the 80year EMAs for Surry and North Anna Rotterdam weld materials must be submitted to the NRC for review and approval <i>if required by 10 CFR Part 50, Appendix G.</i> "	
10	6	clarity, accuracy	The words "Surry and" could be removed since the SPS EMA for 80 years has already been submitted and approved by NRC.	