

January 19, 2018  
NRC:18:001

PROD 0728

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

**Response to Request for Comment on Draft Safety Evaluation for BAW-10247P-A Supplement 2P, Revision 0, "Realistic Thermal-Mechanical Fuel Rod Methodology For Boiling Water Reactors Supplement 2: Mechanical Methods"**

Ref. 1: Letter, Dennis C. Morey (NRC) to Gary Peters (AREVA), "Draft Safety Evaluation for AREVA Inc. Topical Report BAW-10247P-A, Supplement 2P, Revision 0, 'Realistic Thermal-Mechanical Fuel Rod Methodology For Boiling Water Reactors, Supplement 2: Mechanical Methods' (CAC No. MF7708)," October 26, 2017.

In Reference 1, the NRC requested Framatome Inc.'s (Framatome) ( f/k/a AREVA Inc.) review and comment on the draft safety evaluation for the topical report BAW-10247P-A Supplement 2P, Revision 0, "Realistic Thermal-Mechanical Fuel Rod Methodology For Boiling Water Reactors Supplement 2: Mechanical Methods." Framatome has reviewed the draft safety evaluation and offers the enclosed comments for consideration in preparing the final safety evaluation.

Framatome is requesting approval to use Zry-2 recrystallized material for cladding and Z4B™ material for water channels in addition to approval for the use of various mechanical models with this topical report. A telephone call was held with the NRC staff on December 15, 2017 and Framatome agreed to provide the following information:

- 1) Additional text in the topical report to clarify the use of the mechanical models for Zry-2 RXA cladding
- 2) A description of the material properties of Z4B™ and the mechanical analysis that would be performed for Z4B™ water channels in addition to fuel assembly growth
- 3) A summary of the additional data that Framatome has gathered for Z4B™ water channel fuel assembly growth and of the recalculation of the growth model.

Framatome proposes to provide the above described additional information by March 2, 2018. It is Framatome's understanding that this information will be used to support a modification of the draft safety evaluation to reflect approval 1) to use Zry-2 recrystallized material for cladding, 2) to use Z4B™ material for water channels, and 3) a higher burnup limit for the fuel assembly growth model for Z4B™ water channels. Framatome would appreciate the issuance of the final SE by June 2018.

A summary table of Framatome's comments on the draft safety evaluation is attached. A marked-up copy of the draft safety evaluation highlighting the proposed changes is enclosed. Framatome considers some of the material contained in the enclosure to be proprietary. As

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required by 10 CFR 2.390(b), an affidavit is enclosed to support withholding of information from public disclosure.

There are no regulatory commitments within this letter or its enclosures.

If you have any questions related to this information, please contact Ms. Gayle Elliott, Product Licensing Manager, by telephone at (434) 832-3347, or by e-mail at [Gayle.Elliott@areva.com](mailto:Gayle.Elliott@areva.com).

Sincerely,



Gary Peters, Director  
Licensing & Regulatory Affairs  
Framatome Inc.

cc: J. G. Rowley  
Project 728

Enclosures:

- 1) Summary table
- 2) Marked Copy – BAW-10247P-A Supplement 2P Draft Safety Evaluation  
(PROPRIETARY)
- 3) Notarized Affidavit

**Summary Table – Framatome Comments on BAW-10247PA Supplement 2P Draft Safety Evaluation**

Page	Line	Proposed Change/Comment
		Please revise the draft safety evaluation to reflect approval of the use of Zry-2 recrystallized material for cladding and Z4B™ material for water channels.
		Please revise the burnup limitation for fuel assembly growth to be consistent with the additional information to be provided as discussed in the letter accompanying this summary table.
1	24	Delete highlighted proprietary brackets, information is not proprietary
2	22	Delete highlighted proprietary brackets, information is not proprietary
3	5	Highlighted information is proprietary, add proprietary brackets
3	26	Highlighted information is proprietary, add proprietary brackets
2	29	Highlighted information is proprietary, add proprietary brackets
3	34	Highlighted information is proprietary, add proprietary brackets
3	35	Highlighted information is proprietary, add proprietary brackets
3	39	Highlighted information is proprietary, add proprietary brackets
4	1	Highlighted information is proprietary, add proprietary brackets
4	30	Delete highlighted proprietary brackets, information is not proprietary
4	38	Highlighted information is proprietary, add proprietary brackets
4	41	Highlighted information is proprietary, add proprietary brackets
5	31 to 34	Highlighted information is proprietary, add proprietary brackets
5	36	Highlighted information is proprietary, add proprietary brackets
5	39	Highlighted information is proprietary, add proprietary brackets
6	15	Highlighted information is proprietary, add proprietary brackets
6	39	Highlighted information is proprietary, add proprietary brackets
6	42	Highlighted information is proprietary, add proprietary brackets
6	43	Highlighted information is proprietary, add proprietary brackets
7	1	Highlighted information is proprietary, add proprietary brackets
7	8 to 11	Highlighted information is proprietary, add proprietary brackets
7	37-38	Highlighted information is proprietary, add proprietary brackets
8	17-18	Highlighted information is proprietary, add proprietary brackets
8	20-21	Highlighted information is proprietary, add proprietary brackets
8	29	Suggest replacing "non-ATRIUM" with "tie rod"
8	42	Highlighted information is proprietary, add proprietary brackets
9	1	Highlighted information is proprietary, add proprietary brackets
9	7	Highlighted information is proprietary, add proprietary brackets
9	12	Suggest deleting "ATRIUM type"
9	16	Suggest deleting "ATRIUM type"
9	17-18	Highlighted information is proprietary, add proprietary brackets
9	18-19	Suggest deleting "ATRIUM type"
9	20-21	Highlighted information is proprietary, add proprietary brackets
10	1-2	Highlighted information is proprietary, add proprietary brackets
10	5	Highlighted information is proprietary, add proprietary brackets
10	7	Suggest deleting "ATRIUM type"
10	8-9	Highlighted information is proprietary, add proprietary brackets
A1	5-6	Highlighted information is proprietary, add proprietary brackets
A1	20	Highlighted information is proprietary, add proprietary brackets

A3	14-15	Highlighted information is proprietary, add proprietary brackets
A7	24	Highlighted information is proprietary, add proprietary brackets
A9	18	Highlighted information is proprietary, add proprietary brackets
A9	25	Highlighted information is proprietary, add proprietary brackets
A10	1	Highlighted information is proprietary, add proprietary brackets
A10	16	Highlighted information is proprietary, add proprietary brackets
A10	24	Highlighted information is proprietary, add proprietary brackets
A10	26	Highlighted information is proprietary, add proprietary brackets

## AFFIDAVIT

STATE OF WASHINGTON    )  
                                  ) ss.  
COUNTY OF BENTON       )

1. My name is Alan B. Meginnis. I am Manager, Product Licensing, for Framatome 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 the Enclosures to the Letter NRC:18:001, Entitled, 'Response to Request for Comment on Draft Safety Evaluation for BAW-10247P-A Supplement 2P, Revision 0, "Realistic Thermal-Mechanical Fuel Rod Methodology For Boiling Water Reactors Supplement 2: Mechanical Methods",' referred to herein as "Documents." Information contained in these Documents 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. These Documents contain information of a proprietary and confidential nature and are 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 these Documents as proprietary and confidential.

5. These Documents have been made available to the U.S. Nuclear Regulatory Commission in confidence with the request that the information contained in these Documents 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 these Documents is considered proprietary for the reasons set forth in paragraphs 6(b), 6(d) and 6(e) above.

7. In accordance with Framatome's policies governing the protection and control of information, proprietary information contained in these Documents have 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.

Alan B. Meyer

SUBSCRIBED before me this 17<sup>th</sup>

day of January, 2018.

Hailey M Siekawitch

Hailey M Siekawitch  
NOTARY PUBLIC, STATE OF WASHINGTON  
MY COMMISSION EXPIRES: 9/28/2020

