



*Proj-728*

August 29, 2008  
NRC:08:065

Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

### **Update of the Empirical Assembly Growth Models Used for Assembly Designs**

Ref. 1: BAW-10227PA-01, "Evaluation of Advanced Cladding and Structural Material (M5) in PWR Reactor Fuel," June 2003.

Ref. 2: BAW-10186PA-02, "Extended Burnup Evaluation," June 2003.

References 1 and 2 require acquisition of additional post-irradiation examination (PIE) data including cladding oxide, rod and assembly growth, shoulder gap, rod bow, control rod drop time and cladding wear inspections. This data is used to update, as necessary, the performance models presented in References 1 and 2.

Specific to M5 fuel assembly growth, the Safety Evaluation Report for Reference 1 cites AREVA NP Inc.'s (AREVA NP) commitment to obtain M5 guide tube growth data up to approved burnup limits as a condition of approval. AREVA NP has acquired additional fuel assembly length measurements for the Advanced Mark-BW and Mark-BW fuel designs. This information has been used to update the empirical assembly growth model used for those assembly designs.

The updated growth model will be used to support AREVA NP's fuel licensing calculations in lieu of the M5 fuel assembly growth model depicted in References 1 and 2. The Advanced Mark-BW and Mark-BW fuel designs are classed together for purposes of fuel assembly growth rates since they are very similar in design with respect to guide tube growth. This similarity is further borne out by the measurements. Segregating the Advanced Mark-BW and Mark-BW fuel assembly designs for the purpose of updating the growth model does not constitute a departure from an approved method of evaluation since AREVA NP will continue to follow the methodology described in the Technical Evaluation Report and approved in the Safety Evaluation Report for Reference 2.

The updated design correlation for Advanced Mark-BW and Mark-BW fuel assembly axial growth is provided for your information in Figure 1.

**AREVA NP INC.**  
An AREVA and Siemens company

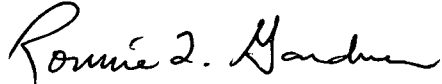
3315 Old Forest Road, P.O. Box 10935, Lynchburg, VA 24506-0935  
Tel.: 434 832 3000 - Fax: 434 832 3840 - www.aveva.com

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AREVA NP considers the information contained in the enclosed attachment to be proprietary. As required by 10 CFR 2.390(b), an affidavit is enclosed to support the withholding of the information from public disclosure.

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

Sincerely,



Ronnie L. Gardner, Manager  
Corporate Regulatory Affairs  
AREVA NP Inc.

Enclosure

cc: H. D. Cruz  
Project 728

AFFIDAVIT

STATE OF WASHINGTON            )  
  ) ss.  
COUNTY OF BENTON            )

1. My name is Gayle F. Elliott. I am Manager, Product Licensing, for AREVA NP Inc. (AREVA NP) and as such I am authorized to execute this Affidavit.

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

3. I am familiar with the AREVA NP information contained in the attachment to a letter from Ronnie L. Gardner (AREVA NP Inc.) to Document Control Desk (NRC) entitled "Update of the Empirical Assembly Growth Models Used for Assembly Designs," NRC:08:065, dated August of 2008 and referred to herein as "Document." Information contained in this Document has been classified by AREVA NP as proprietary in accordance with the policies established by AREVA NP 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 AREVA NP 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 AREVA NP to determine whether information should be classified as proprietary:

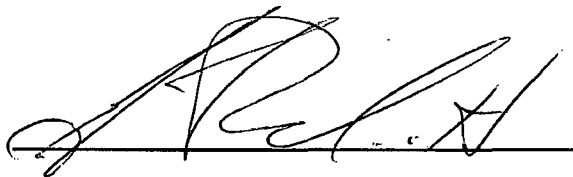
- (a) The information reveals details of AREVA NP's research and development plans and programs or their results.
- (b) Use of the information by a competitor would permit the competitor to significantly reduce its expenditures, in time or resources, to design, produce, or market a similar product or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

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

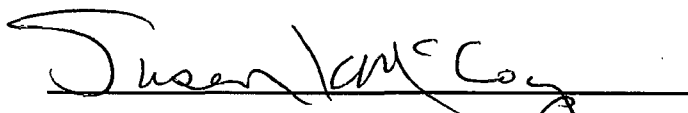
7. In accordance with AREVA NP's policies governing the protection and control of information, proprietary information contained in this Document have been made available, on a limited basis, to others outside AREVA NP only as required and under suitable agreement providing for nondisclosure and limited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

8. AREVA NP 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.

A handwritten signature in black ink, appearing to be 'A. R. H.', written over a horizontal line.

SUBSCRIBED before me this 28<sup>th</sup>  
day of August, 2008.

A handwritten signature in black ink, appearing to be 'Susan K. McCoy', written over a horizontal line.

Susan K. McCoy  
NOTARY PUBLIC, STATE OF WASHINGTON  
MY COMMISSION EXPIRES: 1/10/12

