



July 14, 2009
NRC:09:069

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

Informational Transmittal Regarding Requested White Papers on the Treatment of Exposure Dependent Fuel Thermal Conductivity Degradation in Legacy Fuel Performance Codes and Methods.

Attached for the NRC's information are two technical white papers that assess the current state of AREVA NP Inc.'s (AREVA NP's) RODEX2, RODEX2A, and RODEX3A fuel performance codes and methods' treatment of exposure dependent fuel thermal conductivity degradation. Attachment A provides the assessment for BWR licensing methodology. Attachment B provides the assessment for PWR licensing methodology. The attached white papers are provided as agreed to with the NRC Staff in the meeting held on April 21, 2009 at the AREVA NP offices in Lynchburg, Virginia.

A 10 CFR Part 21 defect determination on the implementation of the fuel thermal conductivity model in the RODEX2, RODEX2A, and RODEX3A codes was performed. The investigation determined that while exposure dependent thermal conductivity degradation was not explicitly modeled in these codes, sufficient conservatism existed in the implementation of these codes within the methods that utilize them to offset the absence of an explicit exposure dependent thermal conductivity model. Therefore, no defect exists with regard to the RODEX codes.

In the course of the Part 21 process evaluation of the RODEX codes, the TACO3 code was identified as another legacy thermal mechanical code currently in use by AREVA NP for reactor licensing analyses. An evaluation of this code has now been entered into the AREVA NP Corrective Action Program. Part 21 evaluations for TACO3 are currently in process.

Going forward it is the intention of AREVA NP to develop and implement new methods which incorporate more accurate models, like the exposure dependence of fuel thermal conductivity. A schedule is under development for implementation of these advanced methods.

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

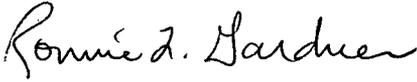
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NRR
Add: H. Cruz
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An AREVA and Siemens company

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If you have any questions related to this submittal, please contact Mr. Alan B. Meginnis, Product Licensing Manager at 509-375-8266 or by e-mail at alan.meginnis@areva.com.

Sincerely,



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

Enclosures

cc: H. D. Cruz
R. Subbaratnam
Project 728

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 these Documents is considered proprietary for the reasons set forth in paragraphs 6(b), 6(d) and 6(e) above.

7. In accordance with AREVA NP'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 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.

Air 3 McCoy

SUBSCRIBED before me this 8th
day of July, 2009.

Susan K McCoy

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

