

December 11, 2007

APPLICANT: AREVA NP

PROJECT: U.S. EPR PRE-APPLICATION REVIEW

SUBJECT: SUMMARY OF AUGUST 29, 2007, MEETING WITH AREVA NP, INC. TO DISCUSS FUEL ASSEMBLY MECHANICAL DESIGN METHODOLOGY

On August 29, 2007, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives of AREVA NP, Inc. (AREVA) at NRC Headquarters, Two White Flint North, 11545 Rockville Pike, Rockville, Maryland.

The purpose of this meeting was to discuss the Fuel Assembly Mechanical Design Methodology topical report for the U.S. Evolutionary Power Reactor (U.S. EPR) standard design. This project is currently in the pre-application phase and AREVA personnel plans to submit the application for design certification in December of 2007. A list of meeting attendees is included as Enclosure 1. AREVA presented the proprietary version of the handout that is shown in Enclosure 2, which can be accessed through the NRC's Agencywide Documents Access and Management System (ADAMS) as ADAMS accession number ML072820681. The proprietary version is available to the NRC staff under ADAMS accession number ML072820690.

After introductions, AREVA personnel began their presentation by introducing the Topical Report's proposed content and its coordination with the U.S. EPR Design Certification final safety analysis report (FSAR.) A description of the proprietary fuel design was then presented. The Fuel Design is identified as being in compliance with Section 4.2 of NUREG-0800 and consistent with (developed in the same manner as) the design approved by the NRC in report BAW-10239PA.

The reference proprietary design information requested in Regulatory Guide 1.206 is included in this report, for reference in the Design Certification FSAR. The Design Certification will also include an exemption request for the M5 material used extensively in this fuel assembly design.

The fuel design was identified as having been derived from the European version which was developed for load following plants, but with 30 percent more plenum design. (However, the certified design will be for a base-loaded plant only.)

The NRC staff recommended that AREVA specifically address the issues recently found with the latest TMI-1 fuel, to ensure that the causal analysis does not raise issues that could compromise the U.S. EPR design.

The NRC staff will also be interested in how the debris trapping characteristics coordinate with the current sump strainer designs.

Fuel type operating experience was presented that shows significant experience with various aspects of the fuel assembly design but no U. S. plant currently has experience with this generation of fuel which incorporates all of the design characteristics as proposed for the U.S. EPR. Several European plants do now have full core loads of the subject fuel design. Discussion also centered around the proposed 14 foot core height design.

The NRC staff suggested that the report should focus on the differences between this design and current operating reactors in an evidentiary manner that includes supporting operational/test data.

The Public (Industry) attendee was given opportunity to comment prior to adjournment, but chose not to comment.

On October 2, 2007, AREVA submitted ANP-10285P, "U.S. EPR Fuel Assembly Mechanical Design Topical Report" for review and approval.

Questions regarding this meeting can be directed to Michael Canova at 301-415-0737 or [Mac6@nrc.gov](mailto:Mac6@nrc.gov).

*/RA/*

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Project No. 733

Enclosures: As stated

cc: DC AREVA - EPR Mailing List

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Enclosure 2: ML072820681

ADAMS ACCESSION NO.: ML073030229

Package: ML073030232 NRC-001

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Public Meeting with AREVA to Discuss  
U.S. EPR Fuel Assembly Mechanical Design Methodology  
August 29, 2007

Attendance List

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Chris Van Wert	NRC
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Sandra M. Sloan	AREVA
Shanlai Lu	NRC
Charles Brinkman	Westinghouse
John Voglwede	NRC
Charles Harris	NRC
Jack Donohue	NRC
Getachew Tesfaye	NRC
Joseph Colaccino	NRC
Jeff Tucker	AREVA
Michael A. Canova	NRC
Gary Williams	AREVA

Enclosure 2

AREVA Handout - U.S. EPR  
Pre-Application Review Meeting  
Fuel Assembly Mechanical Design Methodology

(ML072820681)

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