

June 6, 2014

MEMORANDUM TO: John Segala, Chief  
Licensing Branch 1  
Division of New Reactor Licensing  
Office of New Reactors

FROM: Michael Eudy, Project Manager /RA/  
Licensing Branch 1  
Division of New Reactor Licensing  
Office of New Reactors

SUBJECT: SUMMARY OF APRIL 7, 2014, PUBLIC MEETING WITH AREVA INC.,  
TO DISCUSS U.S. EPR DESIGN CERTIFICATION TECHNICAL ISSUE  
RESOLUTION TOPICS

On Monday, April 7, 2014, the U.S. Nuclear Regulatory Commission (NRC) held a Category I public meeting with AREVA Inc., in the form of a meeting supported by a conference bridge line. The purpose of this public meeting was to discuss paths toward resolving technical issues currently being evaluated by NRC staff, and emergent issues related to Final Safety Analysis Report (FSAR) changes. AREVA provided slides titled, "U.S. EPR Design Certification Design Features Addressing Mid-Loop Operation," dated April 7, 2014. These slides are contained in Enclosure 1 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14143A340). The following items outline the discussion and actions pertaining to review issues discussed during the meeting:

Requests for Additional Information (RAIs) 605, 606 and 610:

- The NRC staff provided feedback to AREVA on the latest draft RAI responses to RAI 605 (ADAMS Accession No. ML14063A320). The NRC staff clarified that the response did not address the issue of assessing water hammer impacts when interfacing the fire protection water system into the existing emergency feedwater system.
- The NRC staff provided feedback to AREVA on the latest draft RAI responses to RAI 610 (ADAMS Accession Nos. ML14080A609 and ML14084A330). The NRC staff expressed the concerns that the response needed to better clarify non-safety-related and safety-related requirements in FSAR Tier 2, Section 10.4. The response should also consider inspections, testing, analysis, and acceptance criteria (ITAAC) accordingly. In addition, the response should better describe the purpose valve functions. Also, the NRC staff pointed out some editorial issues.
- The NRC staff and AREVA decided to discuss feedback on RAI 606 during the upcoming April 14, 2014, public teleconference.

## Discussion on RAI 579 Slides (ADAMS Accession No. ML14143A340):

- The NRC staff acknowledged that the applicant planned to remove the use of nozzle dams from the design.
- The NRC staff pointed out that the applicant would need to revise the FSAR to clarify any inspections or operations that would take place prior to full fuel off-load during mid-loop operations.
- The NRC staff noted that the applicant would need to clarify on how the Technical Specification 3.5.8 requirements will be implemented and if an operator action is required during Modes 5 and 6 operation.
- With respect to AREVA slide #3, the NRC staff clarified that the following additional concerns were identified during the March 19, 2014, public meeting:
  - The applicant is to describe decay heat removal during mid-loop operations
  - The applicant is to identify any COL Action Items or ITAAC necessary
  - The applicant is to provide engineering drawing showing set point levels and elevations related to the hot leg
- The NRC staff requested that the applicant clarify the two RHR protective trips identified in Technical Specification 3.3.9 as being a Safety Automation System (SAS) versus a Process Automation System (PAS). For example, SAS is a safety-related (SR) system and PAS is a non-safety-related (NSR) system.
- The NRC staff identified the need to audit the analyses regarding sufficient net positive suction head (NPSH) for residual heat removal (RHR) pumps in reduced inventory to protect from vortexing.
- The NRC staff clarified that mid-loop operations were a subset of reduced inventory with respect to Generic Letter (GL) 88-17, "Loss of Decay Heat Removal."

## Schedule and Review issues:

- AREVA would provide a partial final RAI response to RAI 579 by May 30, 2014, which would address issues discussed to date and mark-ups to Chapters 5, 7, and 16.
- AREVA identified that additional changes to Chapter 5 may be forthcoming due to Chapter quality assurance (QA) activities.
- AREVA anticipated that they would have FSAR Revision 7 of Chapter 5 by end of June 2014.

- The NRC staff to issue an audit plan in the near future regarding vortexing in reduced inventory and medium head safety injection (MHSI) function during mid-loop operations. This audit could most likely be handled in AREVA's electronic reading room.
- The NRC staff provided feedback on Item 5 in the AREVA Document, "Resolutions of NRC Feedback from the June 2013 public meeting (RAI 563)" (ADAMS Accession Nos. ML14112A167 and ML14112A170). The staff made the following comments to AREVA on this item:

With respect to Item #5, when low pressure feedwater from diesel fire pump is introduced into a dry Steam Generator (SG), explain mechanism of how and why flashing to steam and repressurizing does not stop inject of low pressure feed related to shutoff head of the diesel fire pump. In addition, address conflicting information in FSAR Section 4.1.5.2 regarding rising Reactor Coolant System (RCS) temperature.

The meeting ended at approximately 5:00 p.m. The NRC staff identified Mrs. Ruth Thomas as a public participant on the teleconference line. Mrs. Thomas asked some questions regarding the NRC's generic review of DCD and COL applications. The NRC staff answered her questions accordingly.

Docket No.: 52-020

Enclosure: AREVA Meeting Slides, "U.S. EPR Design Certification – Design Features Addressing Mid-Loop Operation", April 7, 2014

cc: See next page

Meeting Attendees:

<b>Name</b>	<b>Affiliation</b>	<b>Name</b>	<b>Affiliation</b>
Michael Eudy	NRO	Nathan Hottle	AREVA
George Wunder	NRO	Len Gucwa	AREVA
Marie Pohida	NRO	David Nixon	AREVA
Hien Le	NRO	David White	AREVA
John Budzynski	NRO	Tim Stack	AREVA
Shanlai Lu	NRO	David Kowalski	AREVA
Jim Kellum	NRO	Mike Bonfiglio	AREVA
Greg Makar	NRO	Robert Weiss	AREVA
Ruth Thomas	Public	Doug Brownson	AREVA
		George Pannell	AREVA
		Jeff Seals	AREVA
		Jim Ransom	AREVA

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Jim Kellum	NRO	Mike Bonfiglio	AREVA
Greg Makar	NRO	Robert Weiss	AREVA
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Peter Hearn	NRO	George Pannell	AREVA
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**ADAMS Accession No.: March 19, 2014, Meeting summary Pkg ML14112A150**

**April 7, 2014, Meeting summary Pkg ML14143A338 - \*via email NRC-001**

OFFICE	DNRL/LB1: PM*	DNRL/LB1: LA*	DNRL/LB1: PM
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DATE	05/30/2014	05/30/2014	06/06/2014

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(Revised 05/20/2014)

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