

June 25, 2007

APPLICANT: AREVA NP

PROJECT: U.S. EPR PRE-APPLICATION REVIEW

SUBJECT: SUMMARY OF MARCH 1, 2007, MEETING WITH AREVA NP TO DISCUSS  
DIGITAL PROTECTION SYSTEM DESIGN TOPICAL REPORT

On March 1, 2007, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives of AREVA NP (AREVA) at NRC Headquarters, Two White Flint North, 11545 Rockville Pike, Rockville, Maryland. The purpose of this meeting was to discuss the digital protection system design 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 plan to submit the application for design certification by the end of 2007. A list of meeting attendees is included as Enclosure 1. AREVA presented handouts that are shown in Enclosure 2 and can be accessed through the Agencywide Documents Access and Management System (ADAMS) accession number ML070720353.

This meeting was a follow-up to the August 31, 2006, meeting on digital instrument and control systems overview and special topics (ML062760615). At this meeting, AREVA personnel provided an overview of the U.S. EPR digital protection system design and overall I&C architecture. They explained that the U.S. EPR protection system is a digital, integrated reactor protection and engineered safety features actuation system and is implemented using TELEPERM XS technology. The TELEPERM XS platform has been generically approved by the NRC for use in safety-related instrumentation and control applications (ML003732662). AREVA explained that U.S. EPR protection system is organized into four redundant divisions located in separate safeguards buildings. Each division contains two functionally independent subsystems (A and B). These subsystems are used to implement functional diversity for reactor trip functions. Each subsystem is divided into functional units based on the types of functionality required.

AREVA then gave a section-by-section description of the content of the topical report they planned to submit in March of 2007, and as a followup to NRC feedback from the August 31, 2006, meeting, they described in detail the manual reactor trip actuation system and the manual engineered safety feature actuation system. Finally, AREVA described the application of TELEPERM XS system to U.S. EPR digital protection system architecture regarding inter-divisional communication and safety to non-safety interfaces.

AREVA concluded their presentation by re-stating their assertion that the U.S. EPR Digital Protection System is based on NRC approved technology, contains redundant divisions, functional diversity, independence, reliability, and availability, and complies with regulatory requirements and guidance including consideration of the latest developments in IEEE 603 and IEEE 7-4.3.2. The NRC staff provided feedback throughout the presentation.

Public attendees were given opportunity to comment prior to adjournment, but they chose not to comment.

Questions regarding this meeting can be directed to Getachew Tesfaye at 301-415-3361 or [gxt2@nrc.gov](mailto:gxt2@nrc.gov).

*/RA/*

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EPR Branch 1  
Division of New reactor Licenising  
Office of New Reactors

Project 733

Enclosures: As stated

cc: DC AREVA - EPR Mailing List

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**/RA/**

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DATE	06/ 21 /2007	06/ 25 /2007	06/ 25 /2007

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Public Meeting with AREVA to Discuss Digital Protection  
System - U.S. EPR Design  
March 1, 2007  
Attendance Lists

Name	Affiliation
Sandra Sloan	AREVA
Vic Fregonese	AREVA
Shelby Small	AREVA
Ryan Nash	AREVA
Tom Sliva	AREVA
Russell Wells	AREVA
Mark Burzynski	AREVA
Phil Liddle	AREVA
Jim McQuighan	UniStar
George Wrobel	UniStar
Getachew Tesfaye	NRC
Joseph Colaccino	NRC
Larry Burkhart	NRC
Ian Jung	NRC
Eugene Eagle, Jr.	NRC
Norbert Carte	NRC
Alison DeBree	NRC
Bill Kemper	NRC
Hulbert Li	NRC
Roman Shaffer	NRC
Mike Waterman	NRC
Dinesh Taneja	NRC

Enclosure 2

AREVA Handout - US-EPR  
Pre-Application Review Meeting  
DIGITAL PROTECTION SYSTEM DESIGN

(ML070720353)

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