

October 17, 2011

MEMORANDUM TO: Edwin M. Hackett, Executive Director  
Advisory Committee on Reactor Safeguards

FROM: David B. Matthews, Director */RA/*  
Division of New Reactor Licensing  
Office of New Reactors

SUBJECT: U.S. EPR DESIGN CERTIFICATION APPLICATION – SAFETY  
EVALUATION WITH OPEN ITEMS FOR CHAPTER 7,  
“INSTRUMENTATION AND CONTROLS”

By letter dated December 11, 2007, AREVA NP Inc. (AREVA) submitted an application to the U.S. Nuclear Regulatory Commission (NRC) for a standard design certification (DC) application for the U.S. EPR.

Based on our review of the application, the staff is providing the Advisory Committee on Reactor Safeguards (ACRS) its Safety Evaluation (SE) with Open Items for Chapter 7 of the U.S. EPR FSAR, “Instrumentation and Controls” (ML090780501). Unless otherwise stated in the SE with Open Items, the staff’s review was based on Revision 2 of the application. The SE with Open items is being provided to support a meeting of the subcommittee of the ACRS scheduled to be held in November 2011. The ACRS full committee meeting will be held at a later date.

In accordance with the memorandum to the ACRS dated March 17, 2010 (ML100700612), the staff has reviewed the submitted information against the categories for which the ACRS requested be used to highlight information for review by the committee. The staff’s assessment of this chapter is that while there are no items that meet the specific categories identified in the ACRS February 17, 2011, memorandum, the SE with Open items does address high level concerns for digital instrumentation and controls platforms; and this specific design’s ability to achieve functional independence, redundancy, diversity and defense-in-depth. A listing of the associated topical and technical reports related to this subject is provided in the Attachment to this memorandum.

CONTACT: Getachew Tesfaye, DNRL/NARP  
301-415-3361

The staff concludes that the referenced SE does not contain any information exempt from public disclosure. However, the NRC will withhold the referenced SE from public disclosure for ten working days to allow AREVA the opportunity to verify the staff's conclusion that the SE contains no such exempt information. Therefore, the staff requests that the ACRS withhold the attached information from public disclosure until the information has been released publicly in ADAMS.

The staff will inform the ACRS immediately if AREVA requests that any of the information in the SE be withheld from public disclosure.

Docket No. 52-020

The staff concludes that the referenced SE does not contain any information exempt from public disclosure. However, the NRC will withhold the referenced SE from public disclosure for ten working days to allow AREVA the opportunity to verify the staff's conclusion that the SE contains no such exempt information. Therefore, the staff requests that the ACRS withhold the attached information from public disclosure until the information has been released publicly in ADAMS.

The staff will inform the ACRS immediately if AREVA requests that any of the information in the SE be withheld from public disclosure.

Docket No. 52-020

DISTRIBUTION:

PUBLIC  
 DMatthews, NRO/DNRL  
 JColaccino, NRO/DNRL/NARP  
 JMcLellan, NRO/DNRL/NARP  
 MCanova, NRO/DNRL/NARP  
 GTesfaye, NRO/DNRL/NARP  
 PChowdhury, NRO/DNRL/NARP  
 TJackson, NRO/DCIP/ ICE1  
 DSpaulding-Yeoman, NRO/DCIP/ICE1  
 JZhao, NRO/DCIP/ ICE1  
 KMott, NRO/DCIP/ ICE1  
 DZhang NRO/DCIP/ ICE1  
 WMorton NRO/DCIP/ ICE1  
 TTruong NRO/DCIP/ ICE1  
 RWeisman, OGC

RidsOgcMailCenter  
 RidsNroDnrlNarp  
 RidsNroDnrl  
 RidsNrrOd

**ADAMS Accession Numbers:**

**PKG: ML112580265**

**MEMO: ML112580362**

**SER: ML090780501**

**NRO-002**

<b>OFFICE</b>	DNRL/NARP: PM	DNRL/NARP: LA	DNRL/NARP: PM
<b>NAME</b>	MCanova	JMcLellan	GTesfaye
<b>DATE</b>	9/16/11	10/17/11	10/17/11
<b>OFFICE</b>	DNRL/NARP: BC	DNRL: D	
<b>NAME</b>	JColaccino	DMatthews (FAkstulewicz for)	
<b>DATE</b>	10/17/11	10/17/11	

**OFFICIAL RECORD COPY**

**Referenced or Incorporated Reports for  
U.S. EPR Chapter 7 Safety Evaluation with Open Items**

<b>AREVA NP</b>	<b>Title</b>	<b>Rev</b>	<b>Public</b>	<b>Proprietary or Sensitive</b>
ANP-10272	Software Program Manual TELEPERM XS(TM) Safety Systems Topical Report	3	ML103000074	ML103000076
ANP-10275P	U.S. EPR Instrument Setpoint Methodology Topical Report	0	ML080590512	ML080590513
ANP-10287P	Incore Trip Setpoint and Transient Methodology for the U.S. EPR Topical Report	0	ML073410589	ML073410595
ANP-10304	U.S. EPR Diversity and Defense-In-Depth Assessment Technical Report	4	ML11188A198	N/A
ANP-10309P	U.S. EPR Digital Protection System Technical Report,	3	ML11195A295	ML11195A296
ANP-10310P	Methodology for 100% Combinatorial Testing of the U.S. EPR Priority Module Technical Report,	1	ML111010480	ML111010486
ANP-10315P	U.S. EPR Protection System Surveillance Testing and Teleperm XS Self-Monitoring Technical Report	0	ML110960423	ML110960430
<b>Siemens Power Corporation,</b>				
EMF-2110(NP)(A)	TELEPERM XS: A Digital Reactor Protection System Topical Report	1	ML003732662	N/A