

March 22, 2007

APPLICANT: AREVA NP

PROJECT: U.S. EPR PRE-APPLICATION REVIEW

SUBJECT: SUMMARY OF JANUARY 30, 2007, MEETING WITH AREVA NP TO DISCUSS INSTRUMENT SETPOINT METHODOLOGY TOPICAL REPORT

On January 30, 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, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. The purpose of this meeting was to discuss the instrument setpoint methodology topical report for the U.S. Evolutionary Power Reactor (U.S. EPR) standard design. This project is currently in the pre-application stages 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 ML070360218.

This meeting was a follow-up to the August 31, 2006, meeting on instrument and control systems overview and special topics (ML062760615). At this meeting, AREVA personnel provided an overview of the U.S. EPR setpoint methodology and previewed the scope and content of the planned topical report. AREVA plans to submit a topical report on setpoint methodology for NRC review and approval in March 2007. AREVA indicated that their objective is to develop an instrument setpoint methodology that conforms to the latest industry guidance and to ensure incorporation of applicable NRC regulatory guidance. As shown on the presentation slides, they cited several applicable industry and NRC guidance documents and discussed current issues currently under consideration regarding these documents.

In the general methodology portion of the presentation, AREVA provided an example of the equation they will use to calculate channel uncertainty. They described the eighteen inputs that go into the equation for normal and accident conditions of a typical sensor effects and for a normal condition of a digital protection system racks. They provided two examples of specific uncertainty equations for normal conditions and accident condition (harsh environment) protection system setpoint. They described the characteristics of the complex functions which they indicated often contain complex algorithms in the digital protection system such that other statistical methodologies are more appropriate for the error analysis. They indicated that the topical report that will be submitted in March will only address complex protection functions for safety injection signal actuation and rod position indication. Other complex functions will be addressed in a separate report that will be submitted later on in 2007.

Finally, AREVA presented the methodology for establishing limiting trip setpoint (LTSP) and nominal trip setpoint (NTSP) for increasing and decreasing processes, and the methodology for

the performance test acceptance criteria (PTAC) . They presented a chart for operations and surveillance testing of an increasing trip that illustrated the relationships of LTSP, NTSP, and PTAC with the safety limit, analytical limit, and allowable value.

The NRC staff provided feedback throughout the presentation. Areas of particular interest to the staff was AREVA's presentation of the setpoint relationship chart. The staff found AREVA's approach to be different from the guidance provided in Regulatory Guide 1.105, "Setpoint for Safety-Related Instrumentation." After a lengthy discussion on the matter, AREVA personnel indicated that they will revisit this portion of their methodology before they finalize the topical report.

Public attendees were given opportunity to comment prior to adjournment. One public attendant commented that setpoint methodology issues affect a wide range of stake holders and recommended continuing dialogue between the NRC staff and the industry, preferable in a workshop setting.

Questions regarding this meeting can be directed to Getachew Tesfaye at 301-415-3361 or gxt2@nrc.gov.

/RA/

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Project 733

Enclosures:
As stated

cc w/ enclos: See next page

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Public Meeting to Discuss Equipment Qualification - U.S. EPR Design
January 30, 2007
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Steven Black	AREVA
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Thomas Lotz	AREVA
Ronda Daflucas	AREVA
Martin Parece	AREVA
George Wrobel	UniStar
Satoshi Hanada	MHI Nuclear Energy Systems
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Carl Schulten	NRC

Name	Affiliation
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Dinesh Taneja	NRC
Steven Arndt	NRC
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Enclosure 2

AREVA Handout - US-EPR
Pre-Application Review Meeting
Instrument Setpoint Methodology

(ML070360218)

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