

January 29, 2007

APPLICANT: MITSUBISHI HEAVY INDUSTRIES (MHI)

PROJECT: US-APWR STANDARD DESIGN PRE-APPLICATION REVIEW

SUBJECT: SUMMARY OF NOVEMBER 28, 2006, PUBLIC MEETING TO DISCUSS MHI'S PROPOSED TOPICAL REPORT (TR) ON THE INSTRUMENTATION AND CONTROL SYSTEM (ICS) (TAC NO. MD2767)

On November 28, 2006, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives of MHI at NRC Headquarters, in Rockville, Maryland. The purpose of the meeting was to discuss MHI's plans to submit a TR on the ICS, as part of their pre-application activities related to the US-APWR design certification. MHI announced its intention to submit a design certification application for the US-APWR in December 2007. A list of attendees is provided as Enclosure 1. MHI presented handouts that are shown in Enclosures 2 and 3 and can be assessed through the Agencywide Documents Access and Management System (ADAMS) accession numbers ML063420416 and ML063410428.

MHI opened the meeting by discussing their schedule for submitting pre-application TRs. MHI plans to submit these TRs for NRC staff review during calendar year 2007, and they would like have several public meetings with the NRC staff to discuss these upcoming TRs. In particular, MHI requested a public meeting with the NRC staff in January 2007, to discuss the TRs for large-break loss-of-coolant-accident (LOCA), thermal design, non-LOCA, and fuel system design.

Next, MHI presented an overview of the US-APWR digital ICS. The US-APWR digital system has a four train redundancy, fully computerized main control room, common digital platform for safety and non-safety instrumentation and control (I&C), and a fully multiplexed and duplicated signal transmission networks from the local areas to the I&C equipment rooms and main control room. MHI stated that the computerized main control room would include a large display panel, operator console, conventional human system interface, alarm visual display unit, and safety and non-safety visual display units. Although this particular digital ICS has not been implemented in the United States or Japan, MHI plans to use this design on three Japanese nuclear plants, beginning in 2009.

MHI plans to submit the following four digital ICS system TRs for the US-APWR and the operating reactor fleet: digital platform, safety digital ICS design process and description, defense-in-depth and diversity, and human factors engineering and human system interface system design. These four TR are scheduled to be submitted to the NRC staff during the months of April and May 2007.

MHI discussed the contents and technical points of each TR. During the discussion of the defense-in-depth and diversity TR, MHI stated that because of the capability of the diverse actuation system, MHI takes credit for the leak detection. This allows operators to detect and mitigate leakage even if safety systems have failed from undetected common mode failure. The NRC staff responded by indicating they have not seen this type of methodology before and this methodology could present a challenge to the NRC staff's review. During the discussion on multi-channel operator stations, the NRC staff questioned MHI on whether a non-safety operator station should be used to control safety systems. The NRC staff pledged to continue to communicate frequently with MHI during the TR review process.

Members of the public were in attendance, but Public Meeting Feedback forms were not received. Please direct any inquiries to me at (301) 415-1544, or srm2@nrc.gov.

/RA/

Stephen Raul Monarque
AP1000 Projects Branch 1
Division of New reactor Licensing
Office of New Reactors

Project No. 751

Enclosures:

1. List of Attendees
2. Mitsubishi Handout - US-APWR
3rd Pre-Application Review Meeting
(ML063420416)
3. Mitsubishi Handout - US-APWR
3rd Pre-Application Review Meeting
Instrumentation & Control Design (ML063410428)

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ADAMS Accession No.: ML063630240

Pkg ML063630264

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NAME	SGreen	SMonarque	SCoffin
DATE	01/22/2007	01/18/2007	01/29/2007

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Attendees

Public Meeting to Discuss

Mitsubishi Heavy Industries' (MHI's) US-APWR

Instrumentation and Control Topical Report

November 28, 2006

<u>Name</u>	<u>Affiliation</u>
Michelle Honcharik	NRC
R. A. Jervy	NRC
Ryuji Zwasaki	Toshiba
Masato Ando	Japan Atomic Power Company
Jerry Mauck	South Texas, Units 3 and 4
William Mills	Nuclear Energy Consultants
Getachew Tesfaye	NRC
Joe Mihalcik	Constellation Energy/ Unistar Nuclear
John M. Smith	NRC
Katsumi Akagi	Mitsubishi Electric Corporation
Shinji Kawanago	MHI Nuclear Energy Systems, Inc.
Toshisada Kato	MHI
Kiyoshi Yamauchi	MHI
C. Keith Paulson	MHI
Masayuki Kambara	MHI
Makoto Takashima	MHI
Dinesh Tanesa	NRC
Ken Scarola	MHI Nuclear Energy Systems, Inc.
Royce Bedcom	NRC
Allen Howe	NRC
Larry Burkhart	NRC
Mike Waterman	NRC
Bill Kemper	NRC
Stephen Monarque	NRC
Tolani Owusu	NRC
Paul Gaukler	Pillsbury Winthrop Shaw Pittman
Kunio Yugami	Mitsubishi Electric Corporation
Jon Johnson	Talisman International, LLC
Cliff Douth	NRC
Tony Harris	NEI
Alan Levin	AREVA
Matt Chiramal	NRC
Iqbal Ahmed	NRC

ENCLOSURE 2
MITSUBISHI HANDOUT - US-APWR 3RD
PRE-APPLICATION REVIEW MEETING
(ML063420416)

ENCLOSURE 3
MITSUBISHI HANDOUT - US-APWR 3RD
PRE-APPLICATION REVIEW MEETING
INSTRUMENTATION AND CONTROL DESIGN
(ML063410428)

Distribution for 11/28/2006, Meeting Summary dated January 29, 2007

SUBJECT: SUMMARY OF NOVEMBER 28, 2006, PUBLIC MEETING TO DISCUSS MHI'S
PROPOSED TOPICAL REPORT ON THE INSTRUMENTATION AND
CONTROL SYSTEM (TAC NO. MD2767)

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