

September 24, 2007

LICENSEE: MITSUBISHI HEAVY INDUSTRIES (MHI)
FACILITY: US-APWR STANDARD DESIGN PRE-APPLICATION REVIEW
SUBJECT: SUMMARY OF JUNE 13, 2007, PUBLIC MEETING ON THE US-APWR
ELECTRICAL SYSTEM, DESIGN ACCEPTANCE CRITERIA, AND TECHNICAL
SPECIFICATIONS

On June 13, 2007, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives of Mitsubishi Heavy Industries (MHI) at NRC Headquarters, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. The purpose of the meeting was to discuss the electrical design, the technical specifications, and the design acceptance criteria for the US-APWR design certification application. 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, 3, and 4 and can be accessed through the Agency wide Documents Access and Management System (ADAMS) accession numbers ML072400545, ML072400509, and ML072400543.

Electrical System Design

MHI opened the meeting by discussing its design of the electrical system. MHI stated that the electrical system configuration will consist of an offsite power system, an onsite alternating current (AC) power system, and an onsite direct current (DC) and instrumentation and controls power system. The offsite power is provided from the main transformer through the unit auxiliary transformers, and from the switchyard through the reserve auxiliary transformers. The onsite AC power system is a Class 1E AC electrical power system that consists of four separate trains. Each train has one gas turbine generator that will serve as a Class 1E emergency power source. This gas turbine generator is an air cooled engine, which has a longer starting time than the standard diesel generator. The NRC staff expressed concerns that the gas turbine generator is not currently approved for use at U.S. nuclear plants, and about the lack of historical data on the gas turbine generators. MHI responded that the reliability of the gas turbine generator was higher than that of the standard diesel generator, and the gas turbine generator has about 1/3 less parts than the standard diesel generator. MHI plans to submit a technical report on the gas turbine generator to the NRC staff in November 2007.

MHI discussed the operation of the onsite AC power system. During normal plant operations, the onsite power systems will be energized from the main turbine generator through the unit auxiliary transformer. When the main turbine generator is out of service, the generator load break switch is opened and the onsite power distribution systems are energized through the main transformer and unit auxiliary transformer. Finally, during loss of offsite power conditions, the gas turbine generators and emergency power systems will provide back up power for the Class 1E buses.

Contents of Design Control Document

MHI presented a timeline for submitting technical reports for the US-APWR design control document. These technical reports typically include fuel assemblies, gas turbine generators, structures, Class 1 and 2 components and piping, and probabilistic risk assessment level 3. MHI also presented its plans for design acceptance criteria closure for instrumentation and controls, human factors engineering. MHI discussed plans for submitting stress evaluation reports for structures, piping, fuel assemblies, and components.

Technical Specifications

Finally, MHI discussed its plans to develop the technical specification guidelines for the US-APWR. The US-APWR technical specifications will be based on NUREG-1431, Revision 3, "Standard Technical Specifications Westinghouse Plants." MHI intends to utilize a configuration risk management program to determine the limited condition of operation outage times.

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/

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Division of New Reactors Licensing
Office of New Reactors

Project No. 751

Enclosures:
As stated

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Official Record Copy

Public Meeting on US-APWR
June 13, 2007
Attendance List

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Sang C Rhow	NRC/NRO/DE/ICE
A. H. Hsia	NRC/NRO/DE/EMB1
Denise McGovern	NRC/NRO/DE/ICE2
Om Chopra	NRC/NRO/DE/ICE1
Amar Pal	NRC/NRO/DE/ICE2
Mark Beaumont	Washington Group International
Hiroyuki Naito	NISA (Japan)
Alan Levin	AREVA
Jonathan Barr	NRC/Office of Research
K. N. Jabbour	NRC/NRO
Wesley Deschaine	NRC/NRO
Stephen Monarque	NRC/NRO
William R. Mills	NEC
Charles Brinkman	WEC
Albert Tardiff	NRC/NSIR
Tomoyuki Kitani	Mitsubishi Heavy Industries
Jon Johnson	Talisman
Makoto Takashima	Mitsubishi Heavy Industries
Shinji Niida	Mitsubishi Heavy Industries
Ladislau Hajos	Mitsubishi Nuclear Energy Systems
Masashi Kitamura	MELCO
Michael Bennett	Mitsubishi Nuclear Energy Systems
Akira Nagano	Mitsubishi Heavy Industries
Andy DuBouchet	NRO/DCIP/EGVP
Royce Beacom	NRC/NRO/DE/ICE2
C. K. Paulson	Mitsubishi Heavy Industries
Terry Beltz	NRC/NRO/DCIP
Michael Marshall	NRC/NRO/DCIP/CTSB
Charles Craig Harbuck	NRC/NRO/DCIP/CTSB
Kathreen Thome	NRO/DCIP

Enclosure 2

US-APWR Pre-Application Review Meeting

Electrical System Design

(ML072400509)

Enclosure 3

US-APWR Pre-Application Review Meeting

Electrical System Design

(ML072400545)

Enclosure 4

US-APWR Pre-Application Review Meeting

Electrical System Design

(ML072400543)

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