

August 21, 2006

APPLICANT: MITSUBISHI HEAVY INDUSTRIES (MHI)

PROJECT: US-APWR PRESENTATION

SUBJECT: SUMMARY OF JULY 13, 2006, PUBLIC MEETING IN WHICH MHI PROVIDED INFORMATION ON THE US-APWR DESIGN

On July 13, 2006, the U.S. Nuclear Regulatory Commission (NRC) hosted a Category 1 public meeting in which representatives of Mitsubishi Heavy Industries (MHI) presented information about the US-APWR standard design. This meeting marked the first official interaction between the NRC staff and MHI regarding the US-APWR standard design. MHI personnel proposed additional meetings to discuss the US-APWR design with the NRC starting in September 2006 and they plan to submit a design certification application in March 2008. A list of meeting attendees is included as Attachment 1. Attachment 2 contains handouts provided by MHI at the meeting (ADAMS Accession Number ML062130070). A summary of the meeting is provided below.

MHI provided an overview of the company and its current activities in the nuclear arena in Japan and other countries, including the U.S. MHI personnel stated that MHI is currently constructing its twenty-fourth nuclear plant in Japan and is in the process of construction licensing review of two APWR nuclear plants that are planned to be built at the Tsuruga site in Japan.

MHI personnel stated that the US-APWR conceptual design is essentially the same as the APWR but that the US-APWR has a larger electrical generating capacity (1700 MWe for the US-APWR versus approximately 1538 MWe for the APWR). This larger capacity is a result of using larger, higher efficiency steam generators and turbine. MHI personnel further added that there are four independent trains of the high head safety injection system each having the capacity to fulfill fifty percent of the emergency core cooling requirements. The need for low head safety injection pumps is eliminated due to the uniquely designed advanced accumulators. MHI personnel stated that the design of the accumulators results in an automatic switch of the accumulator injection flow rate due to the use of a flow damper or vortex damper. MHI has half-scale test data regarding the performance of the advanced accumulator.

MHI personnel also stated that the control room design and instrumentation and controls portions of the US-APWR are essentially complete. At the conclusion of the presentation, MHI personnel proposed a schedule of meetings and topics as part of the pre-application review of the US-APWR.

The NRC staff provided feedback throughout the meeting including commenting about the challenge of having sufficient resources to sustain a review of the US-APWR given the large number of combined license applications and design certifications that the industry has already or expects to submit to the NRC over the next several years.

With respect to the technical information discussed at the meeting, the staff offered that any unique design features such as the advanced accumulators and the Mitsubishi Developed Alloy (MDA) cladding would need to be looked at very closely to ensure that all applicable U.S. regulations are met. The staff also offered that discussions of these unique design features may be useful during the pre-application review. The staff also stated that with respect to the proposed topics to be discussed during the pre-application review, it would be more beneficial to the staff if the methodologies and approaches utilized to license the US-APWR were discussed earlier in the pre-application review rather than at the end as proposed in the handouts.

Questions regarding this meeting can be directed to Larry J. Burkhart at 301-415-1311 or [ljb3@nrc.gov](mailto:ljb3@nrc.gov).

***/RA/***

Larry J. Burkhart, Project Manager  
AP1000/EPR Projects Branch  
Division of New Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachments: As stated

cc w/atts: see next page

Project No. 751

With respect to the technical information discussed at the meeting, the staff offered that any unique design features such as the advanced accumulators and the Mitsubishi Developed Alloy (MDA) cladding would need to be looked at very closely to ensure that all applicable U.S. regulations are met. The staff also offered that discussions of these unique design features may be useful during the pre-application review. The staff also stated that with respect to the proposed topics to be discussed during the pre-application review, it would be more beneficial to the staff if the methodologies and approaches utilized to license the US-APWR were discussed earlier in the pre-application review rather than at the end as proposed in the handouts.

Questions regarding this meeting can be directed to Larry J. Burkhart at 301-415-1311 or [ljb3@nrc.gov](mailto:ljb3@nrc.gov).

**/RA/**

Larry J. Burkhart, Project Manager  
AP1000/EPR Projects Branch  
Division of New Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachments: As stated

cc w/atts: see next page

Project No. 751

ADAMS ACCESSION NO.: ML062150212

OFFICE	NAPB: PM	NAPB: BC
NAME	LBurkhart	SCoffin
DATE	08/21/06	08/21/06

**OFFICIAL RECORD COPY**

Distribution for 07/13/2006, Meeting Summary dated

---

SUBJECT: SUMMARY OF JULY 13, 2006, PUBLIC MEETING IN WHICH MHI PROVIDED INFORMATION ON THE US-APWR DESIGN

Hard Copy

LBurkhart

E-Mail:

PUBLIC

J. Danna

L. Burkhart

J. Flack

NRR\_DNRL

F. Eltawila

G. Cranston

J. Jacobson

J. Nakoski

K. Welter

F. Akstulewicz

M. Waters

D. Solorio

G. Dick

C. Fong, R-II

G. Bagchi

M. Cullingford

E. Sullivan

T. Hiltz

C. Abbott

K. Foggie

K. Winsberg, OGC

J. Lee

C. Grimes

M. Scott

S. Bajorek

R. Dennig

S. Coffin

A. Hiser

T. Quay

T. Chan

H. Nieh

M. Mitchell

Y. Hsii

K. Gruss

S. Lee

K. Manoly

R. Karas

A. Howe

G. Wilson

D. Thatcher

H. Hamzehee

R. Martin

J. Wermiel

J. Grobe

B. Bateman

N. Salgado

M. Ross-Lee

T. Kobetz

T. Frye

M. Kotzalas

M. Rubin

L. Mrowca

M. Franovich

S. Weerakody

J. Lyons

M. Tschiltz

USAPWR

cc:

Mr. David Lochbaum,  
Nuclear Safety Engineer  
Union of Concerned Scientists  
1707 H Street, NW., Suite 600  
Washington, DC 20006-3919

Mr. Paul Gunter  
Nuclear Information & Resource Service  
1424 16th Street, NW, Suite 404  
Washington, DC 20036

Mr. James Riccio  
Greenpeace  
702 H Street, Suite 300  
Washington, DC 20001

Mr. Adrian Heymer  
Nuclear Energy Institute  
Suite 400  
1776 I Street, NW  
Washington, DC 20006-3708

Mr. Paul Leventhal  
Nuclear Control Institute  
1000 Connecticut Avenue, NW  
Suite 410  
Washington, DC 20036

Mr. Brendan Hoffman  
Research Associate on Nuclear Energy  
and Environmental Program  
215 Pennsylvania Avenue, SE  
Washington, DC 20003

Ms. Sandra Sloan  
Areva NP, Inc.  
3315 Old Forest Road  
P.O. Box 10935  
Lynchburg, VA 24506-0935

Ms. Patricia Campbell  
Morgan, Lewis & Bockius, LLP  
1111 Pennsylvania Avenue, NW  
Washington, DC 20004

Mr. Charles Brinkman, Director  
Washington Operations  
Westinghouse Electric Company  
12300 Twinbrook Parkway, Suite 330  
Rockville, MD 20852

Mr. Glenn H. Archinoff  
AECL Technologies  
481 North Frederick Avenue  
Suite 405  
Gaithersburg, MD. 20877

Mr. Gary Wright, Manager  
Office of Nuclear Facility Safety  
Illinois Department of Nuclear Safety  
1035 Outer Park Drive  
Springfield, IL 62704

Mr. Ronald P. Vijuk  
Manager of Passive Plant Engineering  
AP1000 Project  
Westinghouse Electric Company  
P. O. Box 355  
Pittsburgh, PA 15230-0355

Mr. Ed Wallace, General Manager  
Projects  
PBMR Pty LTD  
PO Box 9396  
Centurion 0046  
Republic of South Africa

Mr. Russell Bell  
Nuclear Energy Institute  
Suite 400  
1776 I Street, NW  
Washington, DC 20006-3708

Ms. Kathryn Sutton, Esq.  
Morgan, Lewis & Bockius, LLP  
1111 Pennsylvania Avenue, NW  
Washington, DC 20004

Mr. Robert E. Sweeney  
IBEX ESI  
4641 Montgomery Avenue  
Suite 350  
Bethesda, MD 20814

Mr. Yoshinobu Shibata  
Mitsubishi Heavy Industries, LTD.  
16-5, Konan 2-Chome  
Minato-Ku  
Tokyo, Japan

Dr. C. Keith Paulson  
Mitsubishi Heavy Industries America, Inc.  
4350 Northern Pike, Suite 301  
Monroeville, PA 15146

E-Mail:

tom.miller@hq.doe.gov or  
tom.miller@nuclear.energy.gov  
sandra.sloan@areva.com  
mwetterhahn@winston.com  
gcesare@enercon.com  
erg-xl@cox.net  
whorin@winston.com  
steven.hucik@ge.com  
david.hinds@ge.com  
chris.maslak@ge.com  
james1beard@ge.com  
louis.quintana@ge.com  
ckpaulson@aol.com  
tansel.selekler@nuclear.energy.gov  
bill.ascroft-hutton@hse.gsi.gov.uk  
rzentkowskig@cnsccsn.gc.ca  
kcrogers@aol.com  
mod@inel.gov  
patriciaL.campbell@ge.com  
bob.brown@ge.com  
jerald.holm@framatome-anp.com  
mark.beaumont@wsms.com

Attendees

Public Meeting to Discuss  
Mitsubishi Heavy Industries' (MHI's)  
US-APWR

July 13, 2006

<u>Name</u>	<u>Affiliation</u>
Kiyoshi Yamauchi	MHI
Toshisada Kato	MHI
Makoto Takashima	MHI
Makoto Toyama	MHI
Kenji Umeda	MHI
Yoshinobu Shibata	MHI
Masayuki Kambara	MHI
Takashi Naito	MHI
Akira Nagano	MHI
Takashi Kanagawa	MHI
Robert Fleishman	MHI
C. Keith Paulson	MHI
Hiroshi Yamazaki	Toshiba
Nobuyuki Ueda	IHI
Mark Beaumont	Washington Group
Jerry Phillabaum	Enercon Services
Alan Levin	AREVA
Norm Prillaman	AREVA
Jenny Weil	McGraw Hill
Andrea Jenetta	TriVis Inc
Charles Brinkman	Westinghouse
Shinichi Hayafune	Energy USA

<u>Name</u>	<u>Affiliation</u>
Ronald Huyer	DOE
Tansel Selekler	DOE
David Matthews	NRC
Stephanie Coffin	NRC
Larry Burkhart	NRC
Steven Bloom	NRC
Ralph Landry	NRC
Ed Throm	NRC
David Bessette	NRC
Malcolm Patterson	NRC
Lynn Mrowca	NRC
J. Bongarra	NRC
Tom Bergman	NRC
Brian Wagner	NRC
Kevin Robb	NRC
Jason Jennings	NRC
Steven Laur	NRC
Chris Speer	NRC
Simon Sheng	NRC
Kirk Foggie	NRC
George Dick	NRC
Matthew Mitchell	NRC
Jeff Jacobson	NRC
Jeff Ciocco	NRC
Eric Oesterle	NRC
Bruce Murico	NRC
Royce Beacom	NRC
Kiyoto Tanabe	NRC
John Cai	NRC



<u>Name</u>	<u>Affiliation</u>
Doug Huyck	NRC
Saiwah Ng	NRC
Scott Burnell	NRC
Jared Wermiel	NRC
Richard McIntyre	NRC
Hulbert Li	NRC
Nilesh Chokshi	NRC
Sud Basu	NRC
Pat Patnaik	NRC
Ramin Assa	NRC
Mauri Lemoncelli	NRC

# NAPB COVER PAGE

**DOCUMENT NAME:** E:\Filenet\ML062150212.wpd

**SUBJECT:** SUMMARY OF JULY 13, 2006, PUBLIC MEETING IN WHICH MHI PROVIDED INFORMATION ON THE US-APWR DESIGN

**ORIGINATOR:** L. Burkhart

**SECRETARY:** C. Nagel

**DATE:** August 22, 2006

## ●●● ROUTING LIST ●●●

	NAME	Room Number	DATE
1.	L. Burkhart	O-10-F-14	/ /06
2.	S. Coffin	O-12-D-4	/ /06
3.			/ /06
4.			/ /06
5.			/ /06
6.			/ /06
7.			/ /06
8.			/ /06
9.			/ /06

DOCUMENT DISPATCHED: \_\_\_ / \_\_\_ / \_\_\_ (Also see NRBA Tracking Log)  
 ADAMS Accession No. ML062150212

<b>Cheri Nagel, NRR/DNRL</b>	<b>415-1126</b>	<b>O4D9A</b>
<b>****CALL FOR PICK UP</b>		

For all documents going to the 5<sup>th</sup> floor for review, this Document has been reviewed by the Division Secretary (signature of Div. Secretary)

\_\_\_\_\_ Date \_\_\_\_\_