

November 29, 2012

APPLICANT: MITSUBISHI HEAVY INDUSTRIES, LTD.

APPLICATION: UNITED STATES - ADVANCED PRESSURIZED WATER REACTOR
DESIGN CONTROL DOCUMENT

SUBJECT: SUMMARY OF THE MAY 11 - 12, 2011, PUBLIC AND CLOSED
MEETING WITH MITSUBISHI HEAVY INDUSTRIES, LTD. TO DISCUSS
THE REVIEW STATUS AND DESIGN CHANGES RELATED TO THE
UNITED STATES - ADVANCED PRESSURIZED WATER REACTOR
DIGITAL INSTRUMENTATION AND CONTROLS

Between May 11 - 12, 2011, a closed and public meeting was held between the U.S. Nuclear Regulatory Commission (NRC), Mitsubishi Heavy Industries, Ltd. (MHI), Mitsubishi Nuclear Energy Systems, Inc., and members of the public. The meeting was held at the NRC Headquarters in Rockville, Maryland. The purpose of the meeting was to discuss issues related to planned design changes and the current status of the NRC staff's review of the United States - Advanced Pressurized Water Reactor (US-APWR) Digital Instrumentation and Controls (DI&C) Design. The meetings were announced on April 28, 2011, as documented in the Agencywide Documents Access and Management System (ADAMS) under accession number ML111180139. A list of attendees is provided as an enclosure.

On May 11, 2011, the meeting began as an open meeting, with one member of the public present. The NRC staff presented its concerns with the expectation of immediate operator actions in certain situations as assumed in the Defense-in-Depth and Diversity Coping Analysis (MUAP-07014, Revision 2). This presentation is available in ADAMS under accession number ML112061669. MHI then presented its response which is available in ADAMS under accession number ML112061445. After some discussion, MHI stated that it would provide a formal response to the stated concerns within two weeks (May 20, 2011, ML11144A099). MHI then presented its risk-based approach for safe shutdown using the Diverse Actuation System (DAS) during a common-cause failure of the DI&C system concurrent with an external event such as fire or flooding. This presentation is also available in ADAMS under accession number ML112061445. The NRC staff stated its concerns regarding the number of diverse actuation cabinets and DAS actuation logic. After some clarifying discussion, the NRC staff agreed to issue a Request for Additional Information (RAI) to formally state the concern and to obtain MHI's response (RAI 775-5836, issued June 28, 2011, ML111800476).

In the afternoon, MHI presented a summary of possible Mitsubishi Electric Total Advanced Controller (MELTAC) Platform upgrades. This presentation is also available in ADAMS under accession number ML112061445. The upgrades are needed for three primary reasons: In response to NRC comments and RAIs, to fulfill original design control document (DCD) commitments, and/or parts obsolescence. MHI stated that more information would be provided to the NRC staff in the closed portion of the meeting. A discussion regarding the actuation of safety equipment by non-safety signals (e.g., a steam generator blowdown valve being shut by a high radiation alarm) followed. The presentation for this discussion is also available in

ADAMS under accession number ML112061445. MHI stated that it would provide more information as part of the response committed to earlier (ML11144A099). The meeting was then closed to the public to allow for a proprietary discussion of MELTAC Platform upgrades and certain RAI responses.

On May 12, 2011, the meeting opened with a presentation and discussion of the MELTAC Re-evaluation Program. This presentation is available in ADAMS under accession number ML112061457. The discussion was in support of a planned NRC Quality Assurance inspection of Mitsubishi Electric Corporation and the MELTAC platform. Other aspects discussed included the US-APWR MELTAC supply chain, and various inspection procedures. MHI and the NRC staff agreed to exchange more information in preparation for the future inspection.

After a break, the NRC staff provided MHI the status of its evaluation of Post Accident Monitoring (PAM) system variables described in the DCD against the guidance in Regulatory Guide 1.97. The discussion focused on what is meant by a bounding list of PAM variables and the supporting documents which the NRC staff will need to review to verify the list. These documents may include the emergency response guidance (ERG), which MHI will prepare for future licensees. MHI stated it may be a year before the ERGs would be prepared. The NRC staff stated that this will likely be an Open Item in the Chapter 7 Safety Evaluation with Open Items currently being prepared.

The NRC staff then provided status updates of the RAIs in preparation and the RAI responses under review. The meeting concluded with planning discussions for future meetings, conference calls, an audit and an inspection.

Please direct any inquiries to me at 301-415-7038, or via e-mail at William.Ward@nrc.gov.

Sincerely,

/RA/

William R. Ward, Senior Project Manager
Licensing Branch 2
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-021

Enclosure:
List of Attendees

cc w/enclosure: See next page

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Sincerely,
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William R. Ward, Senior Project Manager
Licensing Branch 2
Division of New Reactor Licensing
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cc w/enclosure: See next page

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ADAMS Accession No.:

Pkg: ML12326A854

Meeting Summary: ML12307A273

via email*

NRC-001

OFFICE	DNRL/LB2: PM	DNRL/LB2: LA	DNRL/LB2: PM
NAME	WWard	CMurphy*	JCiocco for WWard
DATE	11/29/2012	11/20/2012	11/29/2012

OFFICIAL RECORD COPY

List of Attendees

Closed and Public Meetings with Mitsubishi Heavy Industries, Ltd. to Discuss the Status
of the Digital Instrumentation and Controls Design Review for the United States –
Advanced Pressurized Water Reactor, Held May 11 - 12, 2011

<u>NAME</u>	<u>AGENCY/AFFILIATION</u>	<u>May 11</u>	<u>May 12</u>
Chad Wilhelm	Bechtel Power Corporation	X	
Lynn Van-Derpool	Bechtel Power Corporation		X
Tim Butler (phone)	Dominion Virginia Power	X	
Wayne Donne	Dominion Virginia Power	X	X
Robert Byrd (phone)	Luminant Generation Company, LLC.	X	
Tim Clauser (phone)	Luminant Generation Company, LLC.	X	
Robert Reible	Luminant Generation Company, LLC.	X	X
Katsumi Akagi	Mitsubishi Electric Company	X	X
Hozumi Kadohara	Mitsubishi Electric Company	X	X
Hitomi Sasaki	Mitsubishi Electric Company	X	X
Yuji Ueki	Mitsubishi Electric Company	X	X
Kazufumi Yoshida	Mitsubishi Electric Company	X	X
Gil Remley	Mitsubishi Electric Power Products, Inc.	X	X
Gyota Yasoda	Mitsubishi Electric Power Products, Inc.	X	X
Makoto Takashima	Mitsubishi Heavy Industries, Ltd.	X	X
Yuji Maruta	Mitsubishi Heavy Industries, Ltd.	X	X
Bruce Geddes	Mitsubishi Heavy Industries, Ltd. / SES	X	X
Yuta Maruyama	Mitsubishi Nuclear Energy Systems, Inc.	X	X
C. Keith Paulson	Mitsubishi Nuclear Energy Systems, Inc.	X	
Hiroshi Shirasawa	Mitsubishi Nuclear Energy Systems, Inc.	X	X
Ryan Sprengel	Mitsubishi Nuclear Energy Systems, Inc.	X	X
Futoshi Tanaka	Mitsubishi Nuclear Energy Systems, Inc.	X	
Erin Wisler	Mitsubishi Nuclear Energy Systems, Inc.	X	
Ken Scarola	Mitsubishi Nuclear Energy Systems, Inc. / NAE	X	X
Joseph Ashcraft	U.S. Nuclear Regulatory Commission	X	X
Royce Beacom	U.S. Nuclear Regulatory Commission	X	X
Andrew Bielen	U.S. Nuclear Regulatory Commission		X
James Bongarra	U.S. Nuclear Regulatory Commission	X	
Greg Galletti	U.S. Nuclear Regulatory Commission		X
Hossein Hamzehee	U.S. Nuclear Regulatory Commission	X	
Terry Jackson	U.S. Nuclear Regulatory Commission	X	

Enclosure

<u>NAME</u>	<u>AGENCY/AFFILIATION</u>	<u>May 11</u>	<u>May 12</u>
Ian Jung	U.S. Nuclear Regulatory Commission	X	X
Jim Kellum	U.S. Nuclear Regulatory Commission	X	
Hulbert Li	U.S. Nuclear Regulatory Commission	X	X
Erick Martinez	U.S. Nuclear Regulatory Commission	X	X
Khoi Nguyen	U.S. Nuclear Regulatory Commission	X	X
Paul Pieringer	U.S. Nuclear Regulatory Commission	X	
Sang Rhow	U.S. Nuclear Regulatory Commission	X	X
Jeff Schmidt	U.S. Nuclear Regulatory Commission		X
Dinesh Taneja	U.S. Nuclear Regulatory Commission	X	X
Tung Truong	U.S. Nuclear Regulatory Commission		X
William Ward	U.S. Nuclear Regulatory Commission	X	X

DC Mitsubishi - US APWR Mailing List
cc:

(Revised 11/28/2012)

Ms. Michele Boyd
Legislative Director
Energy Program
Public Citizens Critical Mass Energy
and Environmental Program
215 Pennsylvania Avenue, SE
Washington, DC 20003

Mr. Tony Robinson
AREVA NP, Inc.
3315 Old Forest Road
Lynchburg, VA 24501

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

Mr. Gary Wright, Director
Division of Nuclear Facility Safety
Illinois Emergency Management Agency
1035 Outer Park Drive
Springfield, IL 62704

Email

acpasswater@aol.com (Al Passwater)
APH@NEI.org (Adrian Heymer)
atsushi_kumaki@mhi.co.jp (Atsushi Kumaki)
awc@nei.org (Anne W. Cottingham)
bgattoni@roe.com (William (Bill) Gattoni))
CumminWE@Westinghouse.com (Edward W. Cummins)
cwaltman@roe.com (C. Waltman)
david.hinds@ge.com (David Hinds)
david.lewis@pillsburylaw.com (David Lewis)
DeLaBarreR@state.gov (R. DeLaBarre)
donald.woodlan@luminant.com (Donald Woodlan)
eliza.seedcoalition@gmail.com (Elza Brown)
erg-xl@cox.net (Eddie R. Grant)
erin_wisler@mnes-us.com (Erin Wisler)
ewallace@nuscalepower.com (Ed Wallace)
gcesare@enercon.com (Guy Cesare)
hiroki_nishio@mhi.co.jp (Hiroki Nishio)
james1.beard@ge.com (James Beard)
jerald.head@ge.com (Jerald G. Head)
Joseph_Hegner@dom.com (Joseph Hegner)
joseph_tapia@mnes-us.com (Joseph Tapia)
jrappe@nuscalepower.com (Jodi Rappe)
jrund@morganlewis.com (Jonathan Rund)
karlg@att.net (Karl Gross)
kevin_lynn@mnes-us.com (Kevin Lynn)
KSutton@morganlewis.com (Kathryn M. Sutton)
kwaugh@impact-net.org (Kenneth O. Waugh)
lchandler@morganlewis.com (Lawrence J. Chandler)
lon.burnam@house.state.tx.us (Lon Burnam)
m.goto@mnes_us.com
maria.webb@pillsburylaw.com (Maria Webb)
mark.a.giles@dom.com (Mark Giles)
mark.beaumont@wsms.com (Mark Beaumont)
masanori_onozuka@mnes-us.com (Masanori Onozuka)
masatoshi_nagai@mnes-us.com (Masatoshi Nagai)
matias.travieso-diaz@pillsburylaw.com (Matias Travieso-Diaz)
media@nei.org (Scott Peterson)
michael_melton@mnes-us.com (Michael Melton)
MSF@nei.org (Marvin Fertel)
nirsnet@nirs.org (Michael Mariotte)
Nuclaw@mindspring.com (Robert Temple)
patriciaL.campbell@ge.com (Patricia L. Campbell)

DC Mitsubishi - US APWR Mailing List

Paul@beyondnuclear.org (Paul Gunter)
pbessette@morganlewis.com (Paul Bessette)
plarimore@talisman-intl.com (Patty Larimore)
rebecca_steinman@mnes-us.com (Rebecca Steinman)
RJB@NEI.org (Russell Bell)
ryan_sprengel@mnes-us.com (Ryan Sprengel)
sabinski@suddenlink.net (Steve A. Bennett)
sfrantz@morganlewis.com (Stephen P. Frantz)
stephan.moen@ge.com (Stephan Moen)
strambgb@westinghouse.com (George Stramback)
Tansel.Selekler@nuclear.energy.gov (Tansel Selekler)
tgilder1@luminant.com (Tim Gilder)
tmatthews@morganlewis.com (T. Matthews)
tom.miller@hq.doe.gov (Tom Miller)
trsmith@winston.com (Tyson Smith)
Vanessa.quinn@dhs.gov (Vanessa Quinn)
vijukrp@westinghouse.com (Ronald P. Vijuk)
Wanda.K.Marshall@dom.com (Wanda K. Marshall)
whorin@winston.com (W. Horin)
yoshiki_ogata@mhi.co.jp (Yoshiki Ogata)