

  
**MITSUBISHI HEAVY INDUSTRIES, LTD.**  
16-5, KONAN 2-CHOME, MINATO-KU  
TOKYO, JAPAN

April 10, 2007

Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Attention: Mr. David B. Matthews

Project No.0751  
MHI Ref: UAP-HF-07037

**Subject: Transmittal of the Topical Report entitled "Defense-in-Depth and Diversity".**

With this letter, Mitsubishi Heavy Industries, LTD. (MHI) transmits to the U.S. Nuclear Regulatory Commission (NRC) the topical report entitled "Defense-in-Depth and Diversity" for review and approval. MHI seeks NRC approval of this document for reference in the US-APWR design control document (DCD) and for reference in License Amendment Requests for operating plants.

Based on the discussion in the pre-submittal meeting between the MHI and NRC staff on November 28, 2006, MHI has developed this topical report and looks forward to the upcoming discussion of the Defense-in-Depth and Diversity (D3) System design with the NRC staff in the pre-application review meeting in early June, 2007. MHI believes that the information enclosed herewith will be of value in NRC's review for the application of the US-APWR Design Certification.

As indicated in the enclosed materials, this topical report contains information that MHI considers proprietary, and therefore the entire Topical Report should be withheld from disclosure pursuant to 10 C.F.R. § 2.390 (a)(4) and 10 C.F.R § 9.17 (a)(4) as trade secrets and commercial or financial information which is privileged or confidential. A non-proprietary version of the topical report is also being submitted in this package (Enclosure 3). In the non-proprietary version, the proprietary information, bracketed in the proprietary version, is replaced by the rationale for non-disclosure.

In accordance with the NRC submittal procedures for Topical Reports, this letter includes a copy of the proprietary version (Enclosure 2), a copy of the non-proprietary version (Enclosure 3) and the Affidavit of Masahiko Kaneda (Enclosure 1) which identifies the reasons MHI respectfully requests that all materials bracketed in Enclosure 2 be withheld from disclosure pursuant to 10 C.F.R. § 2.390 (a)(4) and 10 C.F.R.§ 9.17(a)(4).

Please contact Dr. C. Keith Paulson, Senior Technical Manager, Mitsubishi Nuclear Energy Systems, Inc. if the NRC has questions concerning any aspect of the submittals. His contact information is below.

Sincerely,



Masahiko Kaneda,  
General Manager- APWR Promoting Department  
Mitsubishi Heavy Industries, LTD.

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**Enclosures:**

**Enclosure1 - Affidavit of Masahiko Kaneda (non-proprietary)**

**Enclosure2 - Defense-in-Depth and Diversity (proprietary) (MUAP-07006-P, Rev.0)**

**Enclosure3 - Defense-in-Depth and Diversity (non-proprietary) (MUAP-07006-NP, Rev.0)**

**CC: S. R. Monarque**

**L. J. Burkhart**

**C. K. Paulson**

**Contact Information**

**C. Keith Paulson, Senior Technical Manager**

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**MITSUBISHI HEAVY INDUSTRIES, LTD.**

**AFFIDAVIT**

I, Masahiko Kaneda, state as follows:

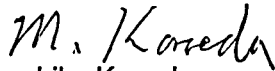
1. I am General Manager, APWR Promoting Department, of Mitsubishi Heavy Industries, LTD ("MHI"), and have been delegated the function of reviewing MHI's US-APWR documentation to determine whether it contains information that should be withheld from disclosure pursuant to 10 C.F.R. § 2.390 (a)(4) and 10C.F.R. § 9.17(a)(4) as trade secrets and commercial or financial information which is privileged or confidential.
2. In accordance with my responsibilities, I have reviewed the enclosed topical report dated April 10, 2007, entitled "Defense-in-Depth and Diversity" and have determined that portions of the report contain proprietary information that should be withheld from public disclosure. Those pages containing proprietary information are identified with the label "Proprietary" on the top of the page and proprietary information has been bracketed with an open and closed bracket as shown here "[ ]". The first page of the topical report indicates that all information identified as "Proprietary" should be withheld from public disclosure pursuant to 10 C.F.R. § 2.390 (a)(4).
3. The information identified as proprietary in the enclosed topical report has in the past been, and will continue to be, held in confidence by MHI and its disclosure outside the company is limited to regulatory bodies, customers and potential customers, and their agents, suppliers, and licensees, and others with a legitimate need for the information, and is always subject to suitable measures to protect it from unauthorized use or disclosure.
4. The basis for holding the referenced information confidential is that it describes the unique design of the Defense-in-Depth and Diversity ("D3") System, developed by MHI and not used in the exact form by any of MHI's competitors. This information was developed at significant cost to MHI, since it required the performance of Research and Development, detailed design for its software and hardware extending over several years.
5. The referenced information is being furnished to the Nuclear Regulatory Commission ("NRC") in confidence and solely for the purpose of supporting the NRC staff's review of the Topical Report.
6. The referenced information is not available in public sources and could not be gathered readily from other publicly available information. Other than through the provisions in article 3 above, MHI knows of no way the information could be lawfully acquired by organizations or individuals outside of MHI.
7. Public disclosure of the referenced information would assist competitors of MHI in their design of new nuclear power plants without incurring the costs or risks associated with the design of the subject systems. Therefore, disclosure of the information contained in

the referenced topical report would have the following negative impacts on the competitive position of MHI in the U.S. nuclear plant market:

- A. Loss of competitive advantage due to the costs associated with development of the D3 System. Providing public access to such information permits competitors to duplicate or mimic the D3 System design without incurring the associated costs.
- B. Loss of competitive advantage of the US-APWR created by benefits of enhanced plant safety, and reduced operation and maintenance costs associated with the D3 System.

I declare under penalty of perjury that the foregoing affidavit and the matters stated therein are true and correct to the best of my knowledge, information and belief.

Executed on this 10th day of April, 2007.



Masahiko Kaneda,  
General Manager- APWR Promoting Department  
Mitsubishi Heavy Industries, LTD.

## Enclosure 2

MHI Topical Report: MUAP-07006-P, Rev.0

### **Defense-in-Depth and Diversity**

April 2007  
(Proprietary Version)

#### [Important Notice]

This topical report contains proprietary information of Mitsubishi Heavy Industries, LTD (MHI). MHI requests that the NRC withhold this information from public disclosure. The first page of this topical report and those pages containing proprietary information are identified with the label "Proprietary" on the top of the page. The first page of the topical report also indicates that all information identified as "Proprietary" should be withheld from public disclosure pursuant to 10 C.F.R. § 2.390 (a)(4).

Enclosure 3

MHI Topical Report: MUAP-07006-NP, Rev.0

**Defense-in-Depth and Diversity**

April 2007  
(Non-Proprietary Version)

This is a non-proprietary version of MHI Topical Report, MUAP-07006-NP, Rev.0, with all proprietary information removed.

Portions of the report where proprietary information has been removed are identified by the designation “[ ]”.