


MITSUBISHI HEAVY INDUSTRIES, LTD.
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April 26, 2018

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

Attention: Mr. George Wunder

Docket No. 52-021
MHI Ref: UAP-HF-18003

Subject: MHI's Response to NRC's Request for Additional Information 1099

References: [1] "Request for Additional Information 1099" dated March 19, 2018.

With this letter, Mitsubishi Heavy Industries, Ltd. ("MHI") transmits to the U.S. Nuclear Regulatory Commission ("NRC") the document entitled "MHI's Response to NRC's Request for Additional Information 1099", which is related to Topical Report, the Advanced Accumulator, MUAP-07001 Revision 6.

As indicated in the enclosed material, this document contains information that MHI considers proprietary, and therefore should be withheld from public disclosure pursuant to 10 C.F.R. § 2.390 (a)(4) as trade secrets and commercial or financial information which is privileged or confidential. A non-proprietary version of the document is also being submitted with the information identified as proprietary redacted and replaced by the designation "[]".

This letter includes a copy of the proprietary version (Enclosure 2), a copy of the non-proprietary version (Enclosure 3), and the Affidavit of Takayuki Mori (Enclosure 1) which identifies the reasons MHI respectfully requests that all materials designated as "Proprietary" in Enclosure 2 be withheld from public disclosure pursuant to 10 C.F.R. § 2.390 (a)(4).

Please contact Mr. Joseph Tapia, Principal Consulting Engineer, Mitsubishi Nuclear Energy Systems, Inc. if the NRC has questions concerning any aspect of this submittal. His contact information is below.

Sincerely,



Takayuki Mori,
Engineering Manager
Global Nuclear Project Department
Nuclear Energy Systems Division
Power Systems
Mitsubishi Heavy Industries, Ltd.

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NRO

Enclosures:

- 1 - Affidavit of Takayuki Mori
- 2 - MHI's Response to NRC's Request for Additional Information 1099 (Proprietary)
- 3 - MHI's Response to NRC's Request for Additional Information 1099 (Non-Proprietary)

CC: G. Wunder
J. Tapia

Contact Information

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ENCLOSURE 1

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MITSUBISHI HEAVY INDUSTRIES, LTD.

AFFIDAVIT

I, Takayuki Mori, state as follows:

1. I am Engineering Manager of Global Nuclear Project Department, Nuclear Energy Systems Division, Power Systems, Mitsubishi Heavy Industries, Ltd., and have been delegated the function of reviewing Mitsubishi Heavy Industries, Ltd's ("MHI") US-APWR documentation to determine whether it contains information that should be withheld from public disclosure pursuant to 10 C.F.R. § 2.390 (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 document entitled "MHI's Response to NRC's Request for Additional Information 1099" dated April 2018, and have determined that portions of the document 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 the proprietary information has been bracketed with an open and closed bracket as shown here "[]". The first page of the document 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 document 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 Advanced Accumulator 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 and 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 information to the NRC staff.
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 paragraph 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 and testing of the subject systems. Therefore, disclosure of the information contained in the referenced document 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 and testing of the Advanced Accumulator. Providing public access to such information permits competitors to duplicate or mimic the Advanced Accumulator 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 Advanced Accumulator.

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 26th day of April, 2018.



Takayuki Mori,
Engineering Manager
Global Nuclear Project Department
Nuclear Energy Systems Division
Power Systems
Mitsubishi Heavy Industries, Ltd.

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Enclosure 3

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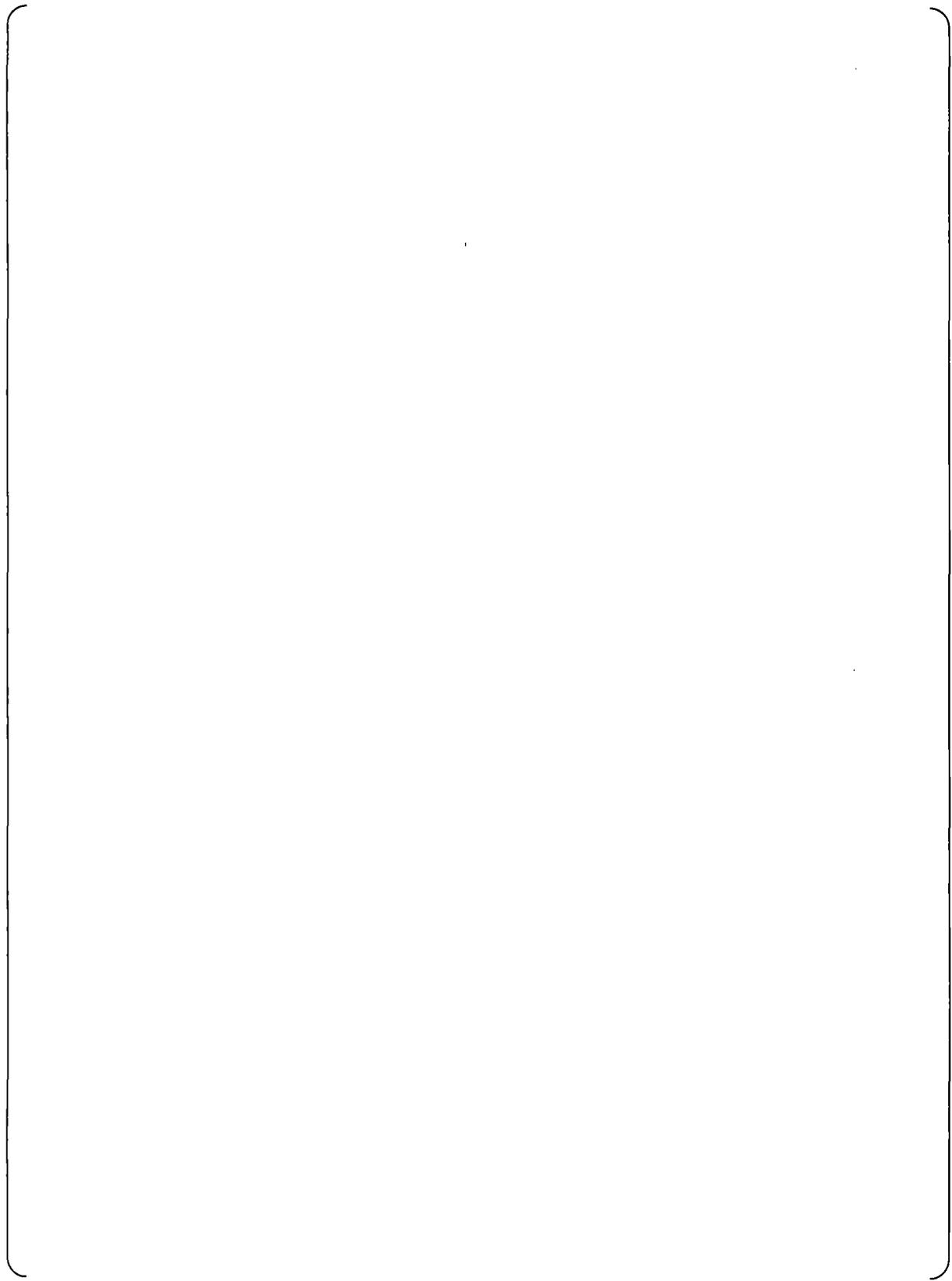
MHI's Response to NRC's Request for Additional Information 1099

April 2018
(Non-Proprietary)

RAI 1.

In Section 5.1.2 of the topical report, it is stated: "The total error of a measured value was evaluated according to GUM ISO/IEC Guide 98-3 (Ref. 5-3) ..." This approach and reference is introduced in Revision 6 of the TR and no explanation and justification is provided for the change from the Revision 5 approach where ANSI/ASME PTC19.1-1985 is used. Explain the difference and the reason for the change. In addition, discuss the overall impact of the full scale test on the estimation of uncertainty of the characteristics equations of flow rates.

Response



RAI 2.

For random errors, your presentation of the dispersion data in Rev 6, Table 5.1-1 is different from Rev 5 of the topical report. Explain the difference in approach and the resulting dispersion data.

Response

[Empty response box]

RAI 3.

For instrument uncertainties, your presentation of the results in Rev 6, Table 5.1-2 is different from Rev 5 of the topical report. Explain the difference in approach and the resulting instrument uncertainty associated with flow rate coefficient.

Response

[Empty response box]