

REQUEST FOR ADDITIONAL INFORMATION 556-4269 REVISION 2

3/23/2010

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 09.05.07 - Emergency Diesel Engine Lubrication System
Application Section: 9.5.7

QUESTIONS for Balance of Plant Branch 1 (AP1000/EPR Projects) (SBPA)

09.05.07-24

In response to RAI 09.05.07-15, which questioned the bases for the 81 gallon inventory limit, the applicant proposed to add a design requirement to the US-APWR DCD to require that lube oil consumption be 0.053 gal/hr or less. This RAI also questioned the apparent discrepancy between the 74 gal minimum specified in MUAP-07024-P and the 72 gal that would be remaining after 7 days operation at the design consumption rate. The applicant responded that 74 gal is a typical minimum allowable level by the manufacturer. This response does not adequately resolve the staff's questions regarding the requirements for lube oil consumption and inventory. Therefore the applicant should address the following issues:

- a. The specified maximum design lube oil consumption rate of 0.053 gal/hr does not specify a corresponding design GT load or operating life. If the design operating load condition maximizes the lube oil consumption rate, then this should be included in the design basis. In addition, if the lube oil consumption increases with the operating life of the GT, then the design consumption rate should be based on operation just prior to engine overhaul or other appropriate basis.
- b. The minimum lube oil inventory should be more specifically defined in the FSAR as a design requirement. The engine design requirements should include the minimum lube oil inventory required for continuous full-load operation without damage to the engine. In addition, MUAP-07024-P should be revised to be consistent with the Technical Specifications.

REFERENCE: MHI's Responses to US-APWR DCD RAI No. 320-2010; MHI Ref: UAP-HF-09294; dated June 9, 2009; ML091630627.

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