

REQUEST FOR ADDITIONAL INFORMATION 631-5056 REVISION 2

9/13/2010

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 06.02.02 - Containment Heat Removal Systems

Application Section: 6.2.2

QUESTIONS for Component Integrity, Performance, and Testing Branch 1 (AP1000/EPR Projects)
(CIB1)

06.02.02-56

At the head loss testing performed in June 8-9 the NRC staff was informed that the test assumes no chemical debris is present when the sump fluid is above 140°F. Please provide the technical justification for assuming no chemical debris will exist above a containment sump fluid temperature of 140°F. According to Section 3.9 of MHI document 4CS-UAP-20080045, Rev. 4 ("Technical Information and Requirements for ECC/CS Sump Strainer"), the allowable head loss for the strainer system does not consider chemical debris when the temperature of the sump fluid temperature is above 140°F. It is not clear to the NRC staff that this temperature value is based on plant-specific conditions in accordance with the staff's guidance for crediting solubility in chemical effects evaluations (e.g., ML080380214, Section 9.d.iii, p 16)

06.02.02-57

Please clarify how the amount of chemical debris used during the head loss testing (Jun 8-9 2010), incorporated the amount expected to be lost during water level management. Attachment 4 to the test plan indicates the percentage of the debris that would be lost in water management, but it was not apparent how that percentage was used to calculate a debris mass that was included in the amount of chemical debris prepared.