

# REQUEST FOR ADDITIONAL INFORMATION 794-5871 REVISION 0

8/1/2011

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 06.05.02 - Containment Spray as a Fission Product Cleanup System  
Application Section: 6.5.2, 15.6.5 and 15A

## QUESTIONS for Siting and Accident Conseq Branch (RSAC)

### 06.05.02-10

In the April 18, 2011 response to RAI 715-5262, Question 06.05.02-9, the applicant provided a table with the major input parameters used in the RWSP water pH analysis. In the case of the base case value for the NaTB concentration in the RWSP, the staff considers the number unrealistic, as the concentration of NaTB is expected to be higher. Provide an explanation of how the value was obtained.

### 06.05.02-11

In the response to RAI 715-5262, Question 06.05.02-9, the concluding sentence states: "Therefore, it is not necessary to include iodine re-evolution in the design basis." The staff considers that the response to the RAI itself constitutes an evaluation of iodine re-evolution. Please explain the basis for this statement.

### 06.05.02-12

Regarding the realistic dose analysis modeling of containment leakage provided in the response to RAI 715-5262, Question 06.05.02-9:

- a. Provide the basis and/or rationale for the assumed percentage of direct environmental leakage (bypass of secondary containment and filtration),
- b. Provide a reference for, or a derivation of, the time-dependent containment leak formula.

### 06.05.02-13

Describe in more detail how the values in Table 3 of the response to RAI 715-5262, Question 06.05.02-9, were calculated. The response should include at a minimum:

- a. How was the graph of iodine re-evolution as fraction of iodine in the recirculation water given in RAI response Figure 4 converted to input values of iodine released as a fraction of core iodine for use in RADTRAD? Give the basis for assumptions used.
- b. State which curve from RAI response Figure 4 was used, and why.
- c. In the licensing basis LOCA dose analysis, some iodine removal through natural processes is also credited. Would this additional potential iodine

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source to the recirculation water significantly change the iodine re-evolution fraction used in the RAI response realistic dose analysis?