

REQUEST FOR ADDITIONAL INFORMATION 411-2963 REVISION 1

6/24/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 18 - Human Factors Engineering

Application Section: DCD section 18.7.3.2

QUESTIONS for Operating Licensing and Human Performance Branch (AP1000/EPR Projects) (COLP)

18-50

Acceptance Criteria:

The minimum information to be provided shall be sufficient to provide information to plant operators about:

- (i) Reactivity control
- (ii) Reactor core cooling and heat removal from the primary system
- (iii) Reactor coolant system integrity
- (iv) Radioactivity control
- (v) Containment conditions

The specific parameters to be displayed shall be determined by the licensee.

Evaluation:

In DCD, section 8.7.3.2, the applicant states that the Radioactivity Control function identified in the acceptance criteria above is managed by maintaining all other critical safety functions, including containment integrity. This is an insufficient basis for not explicitly including the function because:

- It assumes that the other safety functions will be managed appropriately and thus there will be no need for radioactivity control information.
- It is not consistent with the fundamental defense in depth safety philosophy.
- It doesn't address the Steam Generator Tube Rupture accident that can bypass the containment.
- It doesn't address source term information needed to support emergency response actions

While there is no requirement for a specific set of critical safety functions there must still be specific parameters available to the operator to provide minimum information on the

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radioactivity control. It is not apparent how this minimum information is established and managed if it is not associated with a critical safety function.

Information Request:

1. Provide a complete basis for not including radioactivity control as a safety function. If you continue with the current design demonstrate/describe the specific radioactivity control