

REQUEST FOR ADDITIONAL INFORMATION NO. 185-2031 REVISION 0

2/9/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 11.04 - Solid Waste Management System
Application Section: 11.4

QUESTIONS for Health Physics Branch (CHPB)

11.04-1

Staff review of DCD Tier 2 (Rev 1), Section 11.4 indicates insufficient information is provided in regards to cubical liners in spent resin storage tank (SRST) rooms of the solid waste management system (SWMS) for compliance with 10 CFR 20.1302; 10 CFR 20.1406; 10 CFR 50.34a; and 10 CFR 52.47(b)(1). Sections 11.4.1.2, 11.4.1.4, and 11.4.2.5 describe use of steel liners in the design of SRST rooms of the SWMS to ease decontamination, and minimize potential for accidental releases and groundwater contamination in the event of a tank failure. In comparison, Section 11.2 describes use of stainless steel liners in curbed cells/cubicles in the liquid waste management system (LWMS) design. Please address the following items and revise the DCD to include this information.

1. Justify the use of steel liners in the design of cubicles in SRST rooms of the SWMS when corrosion-resistant stainless steel is used in the design of lined curbed cells/cubicles housing LWMS components to minimize contamination of the facility, environment, and groundwater system.
2. Section 11.4, Table 11.4-4 presents some RG 1.143 codes and standards for SWMS components. However, codes for the design and construction, materials, welding, and inspection and testing of cubicle liners in SRST rooms of the SWMS used to minimize potential for accidental releases and cross contamination to the groundwater system are not provided. Provide the code and standards for cubicle liners in SRST rooms of the SWMS, or justify their exclusion.
3. DCD Tier 1 (Rev 1), Section 2.7.4.3, and DCD Tier 2 (Rev 1), Sections 11.4.5 and 14.2.12.1.82, the preoperational test and startup testing requirements associated with cubicle liners in SRST rooms of the SWMS for compliance with 10 CFR 52.47(b)(1) is not provided. Provide the ITAAC to ensure construction of cubicle liners in SRST rooms of the SWMS is complete and acceptable, or justify their exclusion.

11.04-2

Staff review of DCD Tier 2 (Rev 1), Section 11.4 indicates insufficient information is provided in regards to mobile or temporary equipment of the SWMS for compliance with 10 CFR 50.34(a) and 10 CFR 20.1406. Section 11.4.1.6 on mobile or temporary

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equipment states, "The SWMS is designed with permanently installed equipment (i.e., tanks and a crane, etc.), modular equipment (the spent resin de-watering subsystem), and some mobile equipment." In comparison, Section 11.2.1.6 provides a provision with a COL information item on the mobile system or temporary equipment not included in the permanently installed LWMS equipment that may be installed in the auxiliary building at the discretion of facility operation. Please address the following items and revise the DCD to include this information, or justify their exclusion.

1. Section 11.4.1.3 states, "design specifications of the tanks and piping are consistent with those in Table 1 of RG 1.143." However, in Section 11.4.4, the description of the SWMS components in Table 11.4-4 on the codes and standards for flexible hoses and hose connections used in conjunction with a mobile radwaste processing system in accordance with Table 1 of RG 1.143 are not provided. Provide the codes and standards for flexible hoses and hose connections used in conjunction with a mobile radwaste processing system in Table 11.4-4 of Section 11.4.
2. In Section 11.4.1.6, discuss the provision and conformance requirements for the mobile system or temporary equipment for solid radioactive waste processing that may be installed at the discretion of facility operation, and include an explicit statement to direct the COL applicant to take responsibility for this COL information item. In Section 11.4.7, provide the COL information item for the modular design and mobile system that is not included in the permanently installed SWMS equipment.

11.04-3

Staff review of DCD Tier 2 (Rev 1), Sections 11.4.5 and 14.2.12.1.82, and DCD Tier 1 (Rev 1), Section 2.7.4.3.1 indicates that the preoperational test and startup testing requirements associated with the nitrogen supply and mobile systems of the SWMS for compliance with 10 CFR 52.47(b)(1) is not provided. Section 11.4.6 on testing and inspection requirements of the SWMS states, "During initial testing of the system, performance of the nitrogen supply and mobile systems are tested to demonstrate conformance with design flows and process capabilities. An integrity test is performed on the system upon completion of construction." Please provide the ITAAC to ensure that the nitrogen supply and mobile systems of the SWMS demonstrate acceptable performance, or justify their exclusion.

11.04-4

DCD Tier 2 (Rev 1), Sections 11.4.2.1 and 11.4.2.2 discuss a margin of 40% included in the design of the total generation and storage of dry and solid wastes, respectively, to account for higher than normal operation rate of waste generation during some AOOs such as a refueling condition. Tables 11.4-2 and 11.4-1 present the volumes of dry and wet solid wastes, respectively, expected to be generated annually from operating experience and industry practices from similar PWR plants, but information on expected volumes of dry and solid wastes generated from AOOs such as a refueling condition is not provided. Please provide the basis and reference for the 40% design margin on the

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total generation and storage of dry and wet solid wastes, and describe the design and/or operational features used to satisfy this design margin. Please revise the DCD to include this information.

11.04-5

Staff review of DCD Tier 2 (Rev 1), Section 11.4 indicates insufficient information is presented in regards to COL information items on the SWMS. Although information items COL 11.4(4), COL 11.4(7), and COL 11.4(8) are presented in Section 11.4.8, there is no explicit statement in Section 11.4 to direct the COL applicant to take responsibility for these COL information items. Please address the following items and revise the DCD to include this information.

1. Identify where COL 11.4(4), COL 11.4(7), and COL 11.4(8), presented in Section 11.4.8, is discussed in Section 11.4.
2. Include a statement for the COL applicant to perform information items COL 11.4(4), COL 11.4(7), and COL 11.4(8) in the discussion of the relevant sections.