

November 1, 2007

MEMORANDUM TO: Eileen McKenna, Chief  
AP1000 Projects Branch 2  
Division of New Reactor Licensing  
Office of New Reactors

FROM: Mark Thaggard, Chief **/RA/**  
Hydrologic Engineering Branch  
Division of Site and Environmental Reviews  
Office of New Reactors

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION ON THE AP1000  
STANDARD COMBINED LICENSE TECHNICAL REPORT NUMBER 98  
TITLED "COMPLIANCE WITH 10 CFR 20.1406"

The Hydrologic Engineering Branch has performed a review of the AP1000 COL Standard Technical Report that identifies and justifies standard changes to the AP1000 Design Control Document (DCD) to minimize radioactive fluid contamination in compliance with 10 CFR 20.1406. Our review covers the features of external radiologically controlled facilities (e.g., piping, canal, and conduits) and groundwater monitoring, as both of which are related to the NUREG 0800 Standard Review Plan Section 2.4.13 titled "Accidental Releases of Liquid Effluents in Ground and Surface Waters." Based on our review, we have identified additional information needed to complete our assessment of compliance with the regulation (Enclosure).

Enclosure:  
As stated

CONTACT: Hosung Ahn, NRO/DSER/RHEB  
301-415-1398

**Enclosure 1. RAIs on Table TR 98-1, AP1000 Features Applicable to 10CFR20.1406**

*From NRO/DSER/RHEB*

<b>RAI #</b>	<b>TR98-1 Item #</b>	<b>RAI Description</b>
1	6	(Minimum Floor Elevation and Exterior Concrete Sloping): Item 6 describes a system of drains and floor and exterior concrete slope that are to prevent surface water from entering the building through doors between the radiologically controlled area and the environment. In order to implement the proposed flood preventive features during the COL or detailed structural design stage, Westinghouse should specify a minimum relative floor level from the plant grade and a minimum exterior concrete slope as plant design parameters.
2	31	(Alternative Leakage Scenario): Item 31 identifies four potential leakage areas, namely the fuel transfer canal, the radwaste building, the auxiliary building rail bay, and the radwaste building truck doors. The corresponding contamination scenario from these areas will be quite different from the most severe tank failure scenario that was defined by SRP 11.2 and BTP 11-6. Moreover, at some sites, it is possible to have multiple contamination pathways to different directions due to the blockage of an original groundwater flow by the nuclear island basemat and backfill. To identify potential pathways and to set up a reasonable groundwater monitoring program during the COL stage, Westinghouse needs to provide an alternative potential leakage scenario by specifying the exact location and elevation of the potential leakages as well as the postulated maximum volume, species, and their concentrations of potential leakage at each contamination area identified by this item.
3	31	(Additional Monitoring Areas): The monitoring program should cover the potential leakage areas identified in Item 26, including the process piping to and from the radwaste building, drain lines from the radwaste building and annex building back to the auxiliary building, and radwaste discharge pipeline. Therefore, the second part of Item 31 should be revised to incorporate these requirements.

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