

## **PMTurkeyCOLPEm Resource**

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**From:** Comar, Manny  
**Sent:** Tuesday, April 12, 2011 9:42 AM  
**To:** orthen, Richard; Steve Franzone; STEVEN.HAMRICK; TurkeyCOL Resource; William Maher  
**Cc:** Comar, Manny  
**Subject:** Draft RAI 5643 related to SRP Section 02.04.12 - Groundwater for the Turkey Point Units 6 and 7 combined license application.  
**Attachments:** draft RAI 5643\_TPN.doc

To All,

Attached is the draft of RAI No:5643, regarding SRP section 02. 04.12 - Groundwater for the Turkey Point Units 6 and 7 combined license application.

If you need a conference call to discuss the question(s) of the draft RAIs please contact me at 301-415-3863. Unless you request additional clarification we will normally issue the RAI as final within 3 to 5 days, from today.

Thanks

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Request for Additional Information No. 5643

Turkey Point Units 6 and 7  
Florida P and L  
Docket No. 52-040 and 52-041  
SRP Section: 02.04.12 - Groundwater  
Application Section: FSAR 2.4.12

QUESTIONS from Hydrologic Engineering Branch (RHEB)

02.04.12-\*\*\*

The applicant estimated dewatering rates in the power block areas using a calibrated groundwater model. The hydraulic conductivity used in the model for the Freshwater Limestone is 0.0004 cm/s (FSAR Rev. 1 Table 2CC-205) which is substantially smaller than the geometric mean of 0.17 cm/s (FSAR Rev. 1 App. 2CC 5.7.1). Also, the thickness of this less-permeable formation appears to be significantly thicker under the excavation areas than elsewhere (FSAR Rev. 1 Figure 2CC-225). The applicant's construction dewatering rate of 9000 gpm per unit could be increased significantly depending on how the absent, fractured, or very thin nature of the Freshwater Limestone is considered. In order to meet the regulatory requirements of 10 CFR 100.20(c) and the guidance of RG 1.206, the staff requests the following information with markups for FSAR updates as applicable:

- (1) Estimates of construction dewatering rates to demonstrate a more realistic set of values consistent with the site characteristics.
- (2) Description of the bases for construction-stage subsurface hydrostatic loading analyses and the dewatering methods to be employed in achieving these loading limitations.
- (3) Discussion of the hydrodynamic design bases, if any, for protection against seismically introduced pressure waves during the construction stage.

02.04.12-\*\*\*

In order to meet the regulatory requirements of 10 CFR 100.20(c) and 10 CFR 20 App. B, provide information related to the analysis of the following accidental release of liquid radioactive effluents into surface and groundwaters. Assuming that one of the plausible conservative effluent release scenarios is that the wall of the Auxiliary Building which is not seismic Category I structure is breached and the effluent is released through the gaps in the wall to the groundwater and then to the cooling canal or to the Biscayne Bay directly, explain whether this scenario could result in concentrations that exceed the effluent concentration limits (ECLs) provided in 10 CFR Part 20, for Ba-137 and Cs-134.

In relation to the Biscayne Bay pathway, Turkey Point FSAR Rev. 1 states that "cooling canals are a groundwater sink and there is no net outflow to the Biscayne Bay." However, FSAR Rev. 1 Figures 2.4.12-222 through 226 show many higher groundwater levels at the Lower Biscayne Aquifer than the sea level, suggesting a positive hydraulic gradient towards Biscayne Bay occasionally. Therefore, revise the analysis provided in FSAR Section 2.4.13 to incorporate the pathway through the breached wall to the canal system or Biscayne Bay directly or provide adequate justification for not considering this pathway as plausible.

