PMHarrisCOL PEmails

From: Manny Comar
Sent: Friday, September 12, 2008 8:16 AM
To: robert.kitchen@pgnmail.com; david.waters@pgnmail.com; Wilkins, Tillie
Cc: PMHarrisCOL PEmails; Manny Comar
Subject: Draft RAI 1166 related to SRP Section 02.04.12 - Groundwater
Attachments: RAI 1166.doc

To All,

Attached is the Draft RAI 1166 related to SRP Section 02.04.12 - Groundwater for Shearon Harris S-COL Units 2 and 3

Please let me know if you would like to discuss the RAI before it is made official.

Thanks

Manny Comar
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Hearing Identifier: ShearonHarris_COL_Public
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Mail Envelope Properties (3AF7DEF82ADA8944AD8247B7ED7FD65169835429B9)

Subject: Draft RAI 1166 related to SRP Section 02.04.12 - Groundwater
Sent Date: 9/12/2008 8:15:35 AM
Received Date: 9/12/2008 8:15:36 AM
From: Manny Comar

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Files	**Size**	**Date & Time**
MESSAGE	424	9/12/2008 8:15:36 AM
RAI 1166.doc	34810	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

Shearon Harris
Progress Energy Carolinas, Inc.
Docket No. 52-022 and 52-023
SRP Section: 02.04.12 - Groundwater
Application Section: 2.4.12

QUESTIONS from Hydrologic Engineering Branch (RHEB)

02.04.12-***

Provide a description of the process used to evaluate the conceptual site model of the subsurface environment. The description should include how this process was used as the basis for the calculation of the maximum water table elevation in FSAR Section 2.4.12, and how the most conservative conceptual model from the set of plausible conceptual models was applied to compute the maximum water table elevation. Staff also request that the applicant explain how the conservative assumptions employed in the conceptual site model compensate for observed spatial and temporal variability in hydrogeology (ie; fracture networks, diabase dikes, etc.) and the resulting uncertainty in describing the maximum water table elevation.

02.04.12-***

Describe the impact that the changes in site conditions will have on the post-construction piezometric heads and provide sufficient detail to support this impact. Some of these changes may result in a decrease the piezometric head elevation relative to current conditions and other factors may result in increase in the piezometric head elevation. The factors that could result in changes to the piezometric head include (but are not restricted to) the following: increase in Main Reservoir pool elevation, site grading, backfill, stormwater drains, and changes in recharge.

02.04.12-***

Describe the recharge to the aquifer based on the post-construction environment. A number of different types of surfaces and grading are planned for the site including impervious surfaces and gravel surfaces which will have different recharge relative to the current conditions. Unlined stormwater drains may intersect the aquifers during high water table conditions or result in water loss during lower water table conditions. The natural soil will be removed in portions of the site for site grading and replaced for backfill in other places. Gravel covered parking lots (overlying the bedrock aquifer) will be used in other portions of the site. The recharge estimates under post-construction conditions should be compared to recharge estimates under current conditions that correspond to the 2006/2007 water level measurements collected at the site.

02.04.12-***

Describe how the water level measurements collected during drought conditions in 2006/2007 may be representative relative to normal conditions. Describe the patterns of spatial and temporal variability in the water levels that are observed or expected in the surficial and Triassic bedrock wells in the area over a range of conditions (normal and most severe seasonal climatic variations for the period that has been historically reported) for both long and short term.