SummerRAIsPEm Resource

From: Patel, Chandu
Sent: Monday, August 24, 2009 4:33 PM
To: 'MONROE, AMY'; 'Arice@scana.com'; 'jharrison2@scana.com'; 'jmgiles@scana.com'
Cc: SummerRAIsPEm Resource
Subject: Draft RAI 3440
Attachments: Draft RAI 3440.doc

To All,

Please see attached draft RAI 3440 related to SRP Section 2.4.13 for Summer Units 2 and 3. If you would like to schedule a conference call to discuss this RAI, please let me know before 5:00 PM on August 27, 2009. If no request for a conference call is received, this RAI will be issued as Final.

Chandu Patel

Hearing Identifier: Summer_COL_eRAIs
Email Number: 67

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From: Patel, Chandu

Created By: Chandu.Patel@nrc.gov

Recipients:
"SummerRAIsPEm Resource" <SummerRAIsPEm.Resource@nrc.gov>
Tracking Status: None
'"MONROE, AMY"' <AMONROE@scana.com>
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Request for Additional Information No. 3440 Revision 0

Virgil C. Summer Nuclear Station, Units 2 and 3
South Carolina Electric and Gas Company
Docket No. 52-027 and 52-028
SRP Section: 02.04.13 - Accidental Releases of Radioactive Liquid Effluents in Ground and Surface Waters
Application Section: 2.4.13

QUESTIONS for Hydrologic Engineering Branch (RHEB)

02.04.13-***

The response to RAI 02.04.13-2 states that the dilution factor for Mayo Creek was calculated using the 100-year low annual mean flow in Mayo Creek at Parr Road of 0.39 cubic feet per second. This 100-year low annual mean flow was estimated from a regional regression analysis of annual flow records for small watersheds in the Piedmont physiographic province of South Carolina (submittal NND-09-0171, page 21 of 72).

In order to demonstrate compliance with 10 CFR 100.20(c)(3) and 10 CFR 52.79(a), which, among other things, require a description of site hydrologic characteristics with sufficient margin for the limited nature of available data, please describe in greater detail the process used to estimate the 100-year low annual mean flow rate for Mayo Creek and the conservative nature of the resulting estimate.

02.04.13-***

In accordance with the requirement in 10 CFR 100.20(c) to describe site hydrologic characteristics, please provide additional information regarding the physical and hydrologic nature of the reach of Mayo Creek adjacent to the proposed location of Units 2 and 3. If possible, please specifically discuss the depth to bedrock beneath this reach and any evidence for Mayo Creek being a losing or gaining stream along this reach.

02.04.13-***

Water levels measured in well OW-627a increased approximately 40 feet during the June 2006 to June 2007 monitoring period. Well OW-627a is the deepest well installed during the Unit 2 and 3 investigation, is paired with OW-627b (installed in the saprolite/shallow bedrock zone) and is located along the bedrock flowpath from the proposed location of Unit 3 to the Broad River, which was elevated as part of the accidental effluent release analysis in FSAR Section 2.4.13. As a result, understanding groundwater levels and fluctuations in this well is important to aid in the characterization of the bedrock aquifer and groundwater movement onsite. Per 10 CFR 52.79(a) and more specifically Regulatory Guide 1.206 C.I.2.4.12.2 describing the characterization of

onsite aquifers, please provide any additional water level data from the bedrock well OW-627a measured since June 2007.

02.04.13-***

The response to RAI 2.4.13-2 states that though pathlines from Unit 2 and 3 through bedrock and to Mayo Creek were both analyzed as part of the accidental effluent release analysis, only the analysis and results for the Unit 2 bedrock pathline were presented because it was determined to be the most conservative and bounding (NND-09-0171, page 5 of 72). However, it appears that a more conservative travel time is possible from Unit 3 to Mayo Creek (36 years versus 51.2 years) for the bedrock pathline due to a higher hydraulic gradient (-0.0214 from OW-305a to the Mayo Creek bed) and shorter path length (2800 feet versus 2970 feet). The guidance within SRP for 2.4.13.I.2 specifies that the pathway creating the most severe potential impact should be identified and evaluated. Accordingly, please evaluate the potential for a more conservative pathline from Unit 3 to eastern compliance points and present the resulting radionuclide concentrations at these compliance points, if needed.