

SummerRAIsPEm Resource

From: Ravindra Joshi
Sent: Tuesday, April 07, 2009 7:26 AM
To: SummerRAIsPEm Resource
Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 044 RELATED TO SRP
SECTION 02.04.13 FOR THE VIRGIL C. SUMMER NUCLEAR STATION UNITS 2 AND 3
COMBINED LICENSE APPLICATION
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Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 044 RELATED TO
SRP SECTION 02.04.13 FOR THE VIRGIL C. SUMMER NUCLEAR STATION UNITS 2 AND 3
COMBINED LICENSE APPLICATION

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From: Ravindra Joshi

Created By: Ravindra.Joshi@nrc.gov

Recipients:

"SummerRAIsPEm Resource" <SummerRAIsPEm.Resource@nrc.gov>

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Reply Requested: No

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April 7, 2009

Mr. Alfred M. Paglia
Manager, Nuclear Licensing
MC P40
South Carolina Electric & Gas Company
PO Box 88
Jenkinsville, SC 29065

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 044 RELATED TO
SRP SECTION 02.04.13 FOR THE VIRGIL C. SUMMER NUCLEAR STATION
UNITS 2 AND 3 COMBINED LICENSE APPLICATION

Dear Mr. Paglia:

By letter dated March 27, 2008, South Carolina Electric & Gas Company submitted its application to the U. S. Nuclear Regulatory Commission (NRC) for a combined license (COL) for two AP1000 advance passive pressurized water reactors pursuant to 10 CFR Part 52. The NRC staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed application.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter.

To support the review schedule, you are requested to respond within 30 days of the date of this letter. If changes are needed to the final safety analysis report, the staff requests that the RAI response include the proposed wording changes.

If you have any questions or comments concerning this matter, you may contact me at 301-415-6191 or Ravindra.Joshi@nrc.gov.

Sincerely,

/RA/

Ravindra G. Joshi, Lead Project Manager
AP1000 Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-027
52-028

Enclosure:
Request for Additional Information

CC: see next page

If you have any questions or comments concerning this matter, you may contact me at 301-415-6191 or Ravindra.Joshi@nrc.gov.

Sincerely,

/RA/

Ravindra G. Joshi, Lead Project Manager
AP1000 Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-027
52-028

eRAI Tracking No. 2109

Enclosure:
Request for Additional Information

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NRO-002

OFFICE	RHEB/BC	NWE1/PM	OGC	NWE1/L-PM
NAME	RRaione*	RJoshi*	LGoldin*	RJoshi*
DATE	2/4/09	2/4/09	3/25/09	3/26/09

*Approval captured electronically in the electronic RAI system.

OFFICIAL RECORD COPY

**Request for Additional Information
Virgil C. Summer Nuclear Station Units 2 and 3
South Carolina Electric & 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: FSAR Section 2.4.13

QUESTIONS from Hydrologic Engineering Branch (RHEB)

02.04.13-2

In order to show compliance with 10 CFR 100.20(c) which requires consideration of the physical characteristics of the site, please 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 radionuclide transport in FSAR Section 2.4.13, and how the most conservative conceptual model from the set of plausible conceptual models was applied for the radionuclide transport analysis. Staff also request that the applicant explain how the conservative assumptions employed in the conceptual site model compensate for observed spatial and temporal variability and the resulting uncertainty in describing the subsurface radionuclide transport analysis.

02.04.13-3

In order to show compliance with 10 CFR 100.20(c) which requires consideration of the physical characteristics of the site, the staff requests that the applicant provide additional details to evaluate a possible bedrock pathway. In addition to the hydraulic conductivity comparison with the saprolite/shallow bedrock zone, this evaluation should include other factors important in transport (e.g. hydraulic gradients, effective porosity, Kd)

02.04.13-4

In order to show compliance with 10 CFR 100.20(c) which requires consideration of the physical characteristics of the site, the staff requests that the applicant describe the possible eastern pathway from Units 2 and 3 toward Mayo Creek in the saprolite/shallow bedrock zone.

02.04.13-5

In order to show compliance with 10 CFR 100.20(c) which requires consideration of the physical characteristics of the site, the staff requests that the applicant describe the possible eastern pathway from Units 2 and 3 toward Mayo Creek in the deep bedrock zone and the impact of possible receptors at Mayo Creek or private wells.

02.04.13-6

In order to demonstrate that the interface requirements set forth under 10CFR52.79(d)(2) have been met the staff requests that the applicant describe the impact of the post-construction / operational setting on water table elevations (site grading including infilling on east below cooling towers, removal of saprolite/shallow bedrock zone, hydraulic properties and use of common fill and structural fill, changes in surface recharge) and subsurface pathways. This would include descriptions of changes in site grading, land cover, recharge rates, and fill material properties.

02.04.13-7

In order to show compliance with 10 CFR 100.20(c) which requires consideration of the physical characteristics of the site, the staff request that the applicant describe the potential use, release, or occurrence of complexation and chelating agents in the groundwater at the site and how they could impact the sorption of radionuclides.

02.04.13-8

10 CFR 100.20(c) which requires consideration of the physical characteristics of the site, the staff requests that the applicant describe the uncertainties and selection of conservative effective porosity values used for the groundwater pathline analysis.