

**From:** Stephen Raul Monarque  
**To:** "Vogtle\_Public\_Emails"  
<Vogtle\_Public\_Emails.TWGWPO04.HQGWDO01@nrc.gov>  
**Date:** 5/7/2007 4:52:38 PM  
**Subject:** Fwd: Request for Additional Information Letter No. 7 - Southern Nuclear  
Operating Company Early Site

>>> Tony Wade 04/25/2007 11:19 AM >>>  
Permit (ESP) Application for the Vogtle ESP Site

To: J. A. "Buzz" Miller  
From: Christian Araguas  
Date: April 25, 2007  
Accession No.: ML071030338

**Hearing Identifier:** Vogtle\_Public  
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**Subject:** Fwd: Request for Additional Information Letter No. 7 - Southern Nuclear  
Operating Company Early Site  
**Creation Date:** 5/7/2007 4:52:38 PM  
**From:** Stephen Raul Monarque  
**Created By:** SRM2@nrc.gov

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**Priority:** Standard  
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None

**Concealed Subject:** No  
**Security:** Standard

April 19, 2007

Mr. J. A. "Buzz" Miller, Senior Vice President  
Nuclear Development  
Southern Nuclear Operating Company, Inc.  
40 Inverness Center Parkway  
P.O. Box 1295  
Birmingham, AL 35201

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 7 - SOUTHERN  
NUCLEAR OPERATING COMPANY EARLY SITE PERMIT (ESP)  
APPLICATION FOR THE VOGTLE ESP SITE

Dear Mr. Miller:

By letter dated August 14, 2006, Southern Nuclear Operating Company, Inc. (SNC) submitted an application for an early site permit (ESP) for the Vogtle ESP site. Subsequently, SNC submitted changes to the Vogtle ESP application by a letter dated September 13, 2006, and on November 13, 2006, submitted Revision 1 to the application.

The U.S. Nuclear Regulatory Commission (NRC) staff is performing a detailed review of your ESP application and has determined that it needs additional information, beyond what was requested during the first set of requests for additional information (RAIs), to continue portions of the safety and environmental review. Therefore, the NRC staff is requesting additional information with respect to the application. The topics covered in the enclosed RAIs are related to Sections 5.4 and 6.5 of the environmental report in the ESP application.

The NRC staff transmitted these RAIs to SNC in draft form via electronic mail on April 12, 2007, and conducted a followup teleconference on the same day. During the teleconference, the NRC staff addressed all clarification questions, and no substantive changes to the RAIs resulted from the discussion.

Receipt of the requested information within 30 days of the date of this letter will support the NRC's efficient and timely review of the SNC ESP application. Please note that failure to respond in a timely fashion may delay the completion of the staff's safety evaluation report.

J. A. Miller

-2-

If you have any questions or comments concerning this matter, you may contact me at (301) 415-3637 or [cja2@nrc.gov](mailto:cja2@nrc.gov).

Sincerely,

**/RA/**

Christian Araguas, Project Manager  
AP1000 Projects Branch  
Division of New Reactor Licensing  
Office of New Reactors

Docket No. 52-011

Enclosure:  
As stated

cc: See next page

J. A. Miller

-2-

If you have any questions or comments concerning this matter, you may contact me at (301) 415-3637 or [cja2@nrc.gov](mailto:cja2@nrc.gov).

Sincerely,

**/RA/**

Christian Araguas, Project Manager  
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Office of New Reactors

Docket No. 52-011

Enclosure:  
As stated

cc: See next page

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|--------|--------------|---------------|------------------|--------------|----------|--------------|
| NAME   | KGGoldstein  | SSchaffer     | TFrye            | CAraguas     | BPoole   | SCoffin      |
| DATE   | 04/16/07     | 04/17/07      | 04/18/07         | 04/19/07     | 04/18/07 | 04/19/07     |

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**Second Round Requests for Additional Information (RAIs) for Vogtle ESP**  
**ER Sections 5.4, 6.2**

| RAI Number | RAI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11-7       | The total 50-mile population in the LADTAPII input file (LADTVOG2.dat) is different than that cited in response to RAI 11-5d. Please clarify this inconsistency and include the correct value in Environmental Report (ER) Table 5.4-1. The population input in LADTAP II is 673,570 and the response to the RAI states 764,101.                                                                                                                                                                                                                                                                                                          |
| 11-8       | <p>Please explain how the population data for input into the collective exposure calculations were derived and provide justification for using the following populations. Currently, they are not cited in the application. These values should be included in ER Table 5.4.1.</p> <ul style="list-style-type: none"> <li>● sport fishing = 35,000</li> <li>● drinking water from Port Wentworth = 26,300</li> <li>● drinking water from BJWSA - Chelsea = 73,600</li> <li>● drinking water from BJWSA - Purrysburg = 55,000</li> <li>● shoreline usage = 960,000</li> <li>● swimming = 960,000</li> <li>● boating = 1,100,000</li> </ul> |
| 11-9       | Please justify why the collective exposures do not include the use of public water for gardening.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 11-10      | Please justify the use of a dilution factor of 1.28 for calculating collective dose, and include the value in Table 5.4.1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 11-11      | Doses to the Maximum Exposed Individual (MEI) from liquid pathways do not include the scenario where meat cattle drink Savannah River water directly. Please provide justification to eliminate this exposure pathway, particularly given that meat cattle are found in compass sectors that border the Savannah River downstream of the plant.                                                                                                                                                                                                                                                                                           |
| 11-12      | Response to RAI 11-5a states that the total plant discharge flow into the Savannah River is 9,608 gallons per minute (gpm). The LADTAPII input file (LADTVOG2.dat) and ER Table 5.4-1 lists the plant discharge as a much larger value - 9,229 cubic feet per second (cfs). Which is the correct discharge flow and why?                                                                                                                                                                                                                                                                                                                  |

Enclosure

|       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11-13 | Accounting for a single unit release, the thyroid dose listed in Table 5.4-5 is different than that shown in the LADTAPII output file (LADTVOG2.out). Please explain this apparent inconsistency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 11-14 | <p>When matching the GASPARI output files with the doses listed in ER Table 5.4-6, it appears that the applicant used the output file GAS2OUTC.dat for the MEI results. A detailed review of this file revealed several apparent inconsistencies, identified below:</p> <ul style="list-style-type: none"> <li>a) The population data in the GASPARI run has multiple inconsistencies when compared to ER Table 2.5.1-1. Which is correct?</li> <li>b) The source term data in the GASPARI run is inconsistent with ER Table 3.5-2 for Kr-85, Xe-135 and Cs-137. Which is correct?</li> <li>c) According to ER Table 2.7-15, the annual average dispersion and deposition values for the dose calculation EAB are 5.4 E-06 and 1.7 E-08, respectively. These values are in the NE sector at 0.5 miles. According to the GASPARI run, the MEI doses shown in Table 5.4-6 were calculated for the NE sector at 0.67 miles with corresponding dispersion and deposition values of 3.4 E-06 and 1.0 E-08, respectively. In addition, according to ER Table 2.7-17 the dispersion and deposition factors that match those used in the GASPARI run are for the NW sector at 0.5 mile. Please clarify these apparent inconsistencies and explain why the maximum values (NE at 0.5 mile) are not used to calculate the MEI doses.</li> <li>d) Sector dispersion and deposition values for collective dose in the GASPARI run do not match any of the values listed in ER Tables 2.7-18 through 24. Please explain these apparent inconsistencies.</li> <li>e) Even when accounting for the two unit releases, the gamma and beta air doses listed in Table 5.4-7 do not match the GASPARI run for the MEI. Please explain these apparent inconsistencies.</li> </ul> |
| 11-15 | The total maximum organ dose for the thyroid in ER Table 5.4-7 does not match the sum of the ground shine, vegetable, meat and inhalation doses in Table 5.4-6. They should be equal. Please clarify this apparent inconsistency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|       |                                                                                                                                                                                                                    |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11-16 | The comparison in ER Table 5.4-7 appears to be incorrect for gaseous effluents. Please include H-3 and C-14 in all pathways when making the comparison to the 10 CFR 50, Appendix I limits for the critical organ. |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Enclosure