UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	**) Docket No. 52-011-ESP**
Southern Nuclear Operating Company	**) ASLBP No. 07-850-01-ESP-BD01**
(Early Site Permit for Vogtle ESP Site)	**) January 16, 2009**

SOUTHERN NUCLEAR OPERATING COMPANY'S RESPONSE
TO THE LICENSING BOARD'S ORDER OF DECEMBER 5, 2008

BACKGROUND

On December 5, 2008, the Atomic Safety and Licensing Board ("Board") issued a Memorandum and Order providing initial questions and potential presentation topics associated with the mandatory hearing on safety matters.[1] In Appendix A of the Order, the Board set out questions regarding safety matters. Pursuant to the Order and the extension of time granted in the Board's December 23, 2008 Order, Southern Nuclear Operating Company ("SNC") hereby responds to the Board's questions.[2] SNC's answers provide supplemental information to questions 19, 21, 27, and 28. No supplemental information is provided relative to NRC Staff's responses to the remaining questions.

As a preliminary matter, relative to the questions propounded by the Board regarding safety issues, SNC notes that the Commission has provided Atomic Safety and Licensing Boards with the scope of review for uncontested issues in proceedings on Early Site Permits:

[1] December 5, 2008 Memorandum and Order (Providing Initial Questions and Potential Presentation Topics Associated with Mandatory Hearing on Safety Matters) ("Order").

[2] SNC's responses are supported by the attached affidavit of Mr. James T. Davis, ESP Project Engineer.

> We hold that Boards should conduct a simple "sufficiency" review of uncontested issues, not a *de novo* review. … [W]hen considering safety and environmental matters not subject to the adversarial process - so-called "uncontested" issues – the boards should decide simply whether the safety and environmental record is "sufficient" to support license issuance. In other words, the boards should inquire whether the NRC staff performed an adequate review and made findings with reasonable support in logic and fact. "An analogy is to the function of an appellate court, applying the 'substantial evidence' test, although it is imperfect because the ASLB looks not only to the information in the record, but also to the thoroughness of the review that the Staff…has given it."[3]

Accordingly, the following responses are provided as a supplement to the NRC Staff's responses to assist the Board in conducting the required review of the sufficiency of the record.

RESPONSES TO BOARD'S QUESTIONS

Question No.	Inquiry:
19	**ITAAC 1.1 for both units states that the parameters specified in Table Annex V2H-1, Post Accident Monitoring Variables, are retrievable in the control room, TSC and [emergency operations facility (EOF)]." Will each control room have displays that provide data for all four units, or are the data in a given control room limited to that particular unit?**

Response: The basic AP1000 instrument and control architecture is depicted in Design Control Document (DCD) Figure 7.1-1, *Instrument and Control Architecture*. Each control room will have the capability to display data only from its own unit. Cyber security controls, as described in Westinghouse report APP-GW-GLR-104, *Cyber Security Implementation*, would prevent the transmission of data between units. The Emergency Offsite Facility (EOF) and the Technical Support Center (TSC) will receive data from all four units.

Question No.	Inquiry:
21	**What is the formal communication between the unaffected control rooms and the emergency response locations, including the affected control room, during an emergency? Does this include a dedicated data line and, if not, why not?**

Response: All unit personnel continually monitor plant conditions. Should a condition be detected that potentially requires action in accordance with the Emergency Plan, shift personnel

[3] *In the Matter of Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), et al., 62 NRC 5, 39, CLI - 05-17 (July 28, 2005) (footnotes and citations omitted).

would notify the Shift Manager. The Shift Manager would classify the event and initiate notifications as directed by the Emergency Plan. During the initial stages of a radiological emergency, unaffected unit control rooms would be informed of the emergency via the Public Address (PA) system in accordance with VEGP ESP Emergency Plan Subsection E.1, *Notification of Personnel*. Following the declaration of a radiological event, dedicated communication specialists would be dispatched to each control room. Each control room is provided with dedicated circuits to the TSC, OSC, and EOF. Unaffected control rooms would not normally communicate directly with the control room of an affected unit. Rather, communications would be through the TSC. During the initial stages of an event, the site shift manager would be responsible for ensuring unaffected units are informed of site conditions as necessary. After the TSC is manned, the Operations Supervisor would be responsible for maintaining communications with unaffected units. If necessary, normal plant communications systems such as the PBX and radios could be used for communication between control rooms. No dedicated circuit is provided for communications between control rooms.

Question No.	Inquiry:
27	**As referenced by the ASER, EP section 1 (at 1-2) discusses the use of the MIDRAC code (a version of the MIDAS code) to calculate the downwind dispersion of radioactive releases. How are releases from more than one unit, separated in time and magnitude, considered? Does the MIDRAC code have this capability?**

Response: The MIDRAC dose assessment system is capable of accepting release data from multiple sites and release points. Multiple release points may be configured within the code and selected as needed to address a variety of possible release points. The code can perform downwind dispersion calculations for radiological releases for up to four separate release points simultaneously. Time of release initiation is accounted for within the code. The code calculates and tracks the plume from each selected release point separately and provides a total integrated dose from all selected release points. The code will be configured to include all new release points from Units 3 and 4, as well as the existing release points for Units 1 and 2.

Question No.	Inquiry:
28	The ASER states that [w]hen precipitation is predicted or occurring in the area of the plume, the potential for significantly increased rates of radioactivity deposition will be considered by increasing the scope of environmental sampling, as required to quantify the effects of this potentially increased deposition." Please provide a fuller explanation of how the effects of precipitation will be measured, incorporated into the analyses, and considered in the emergency response decision making. In this regard, the current Vogtle offsite dose calculation manual does not appear to account for the affects of precipitation.

Response: Precipitation is important in defining the extent of removal (or washout) of particulate material from the plume. The dose assessment code requires the input of wind speed, wind direction, stability data and precipitation for each calculation performed.

The code categorizes the measured average rainfall rate over each hour into five groups, and each group is assigned a washout rate. For calculations using quarter-hour data, the washout rate is determined by multiplying the quarter-hour rain rate by four to get the rate per hour. Because these rates are averages for the hour, it is assumed that the appropriate rainout rate is applied over the whole time period. Snow is treated the same as rain.

Therefore, results from dose assessment calculations reflect the potential increases in radiological exposure from the ground deposition component. Results will be reviewed and verified through actual field measurement / environmental sampling and compared to the protective action guidelines. Decision makers will use the results of the calculations and/or field measurements to develop protective action decisions.

Respectfully submitted,

(Original signed by M. Stanford Blanton)

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Dated this 16th day of January, 2009.

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CERTIFICATE OF SERVICE

I hereby certify that copies of SOUTHERN NUCLEAR OPERATING COMPANY'S RESPONSE TO THE LICENSING BOARD'S ORDER OF DECEMBER 5, 2008 in the above captioned proceeding have been served by electronic mail as shown below and/or by e-submittal this 16th day of January, 2009.

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* And upon any other persons designated on the official service list compiled by the Nuclear Regulatory Commission in this proceeding.

(Original signed by M. Stanford Blanton)

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Counsel for Southern Nuclear Operating Company

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I, James T. Davis, do hereby state as follows:

1. I am employed as the ESP Project Engineer for Southern Nuclear Operating Company.

2. I am responsible for the responses to the Board's questions 19, 21, 27, and 28.

3. I attest to the accuracy of those statements, support them as my own, and endorse their introduction into the record of this proceeding. I declare under penalty of perjury that those statements, and my statements in this affidavit, are true and correct to the best of my knowledge, information, and belief.

James T. Davis

James T. Davis

Notary Public
State of Alabama

My commission expires: 9/14/10