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Docket Nos. 50-424 & 50-425

NL-08-0109

U.S. Nuclear Regulatory Commission
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Washington, DC 20555-0001

Southern Nuclear Operating Company
Vogtle License Renewal Application
Follow Up to Severe Accident Mitigation Alternatives Request for Additional Information
Review Questions

Ladies and Gentlemen:

By letter NL-07-2255, dated December 20, 2007, Southern Nuclear Operating Company (SNC) provided responses to the U.S. Nuclear Regulatory Commission (NRC) Requests for Additional Information (RAIs) concerning the Severe Accident Mitigation Alternative (SAMA) analysis. Subsequently, NRC informally provided three (3) follow-up questions on the SAMA response. In a conference call on January 22, 2008, NRC and SNC discussed the proposed responses to the three follow up questions and NRC concurred with the responses proposed by SNC. Please find enclosed the SNC response to the referenced follow-up questions.

If you have any questions, please contact D. L. Fulton at 205-992-7536 or T. C. Moorer at 205-992-5807.

A129
NRC

Mr. T. E. Tynan states he is a Vice President of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and to the best of his knowledge and belief, the facts set forth in this letter are true.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY



Tom E. Tynan

TET/DLF/dmw

Sworn to and subscribed before me this 1st day of February 2008


Notary Public

Notary Public, Burke County, Georgia
My commission expires: November 11, 2011

Enclosure:

1. Response to Follow Up Questions to SAMA RAIs on the Vogtle Units 1 and 2 License Renewal Application Environmental Report.



cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President w/o Enclosures
Mr. T. E. Tynan, Vice President – Vogtle w/o Enclosures
Mr. D. H. Jones, Vice President – Engineering w/o Enclosures
Ms. M. M. Caston, Vice President and Corporate Counsel w/o Enclosures
Mr. B. J. George, Manager – Nuclear Licensing w/o Enclosures
Mr. N. J. Stringfellow, Licensing Supervisor – Vogtle w/o Enclosures
Mr. S. M. Blanton, Balch and Bingham LLP w/o Enclosures
Mr. C. R. Myer, Project Manager – License Renewal w/o Enclosures
Mr. T. C. Moorer, Project Manager – Environmental w/o Enclosures
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Nuclear Regulatory Commission
Mr. J. P. Leous, Environmental Project Manager - Vogtle w/ Enclosures
Mr. D. J. Ashley, License Renewal Project Manager – Vogtle w/ Enclosures
Dr. W. D. Travers, Regional Administrator w/ Enclosures
Mr. S. P. Lingam, NRR Project Manager – Vogtle w/ Enclosures
Mr. G. J. McCoy, Senior Resident Inspector – Vogtle w/ Enclosures

State of Georgia
Mr. N. Holcomb, Commissioner – Dept. of Natural Resources w/o Enclosures

Tetra Tech NUS. Inc.
Ms. K. K. Patterson, Project Manager w/o Enclosures

NL-08-0109
Enclosure 1
Follow Up RAI Responses

Southern Nuclear Operating Company

NL-08-0109

Enclosure 1

Response to Follow Up Questions to SAMA RAI Responses

On

Vogtle License Renewal Application

Environmental Report

NRC Follow Up Questions from the Review of SNC's SAMA Analysis Request for Additional Information response for the Vogtle Electric Generating Plant, Units 1 and 2 License Renewal Application

Based on the Nuclear Regulatory Commission's (NRC's) review of the December 20, 2007, Severe Accident Mitigation Alternatives (SAMA) Request for Additional Information (RAI) Response submitted by Southern Nuclear Operating Company (SNC) under letter NL-07-2255, the NRC has informally issued three (3) follow-up questions.

- 1. The response to RAI 4c only provided revised benefit results for a 3% discount rate. The environmental report (ER) also includes a 7% discount rate. Please provide the 7% calculations.**

Response:

The original real discount rate (RDR) of 3 percent has been changed to 7 percent and the modified maximum averted cost-risk was re-calculated using the methodology outlined in Section F.4 of the ER and summarized in the RAI 4c response. Implementation of the 7 percent RDR reduced the modified maximum averted cost risk (MMACR) by almost 20 percent compared with the case where a 3 percent RDR was used. This corresponds to a decrease in the MMACR from \$1,014,000 to \$820,000.

The Phase I SAMA list was reviewed to determine if such a decrease in the MMACR would impact the disposition of any SAMAs. Similar to the original assessment in the ER, it was determined that SAMA 7 (installation of enhanced RCP seals) would have more readily screened out in the Phase I analysis using a RDR of 7 percent, in place of the 3 percent value.

Additionally, similar to the original assessment, the determination of cost effectiveness does not change for any of the Phase II SAMAs when the 7 percent RDR was used in lieu of 3 percent. As shown below, SAMAs 2 and 4 are still shown to be cost beneficial, and the remaining SAMAs are not cost beneficial in the base case assessment.

VEGP 7% RDR Sensitivity

SAMA ID	Cost of Implementation	Averted Cost-Risk	Net Value
SAMA 1	\$2,700,000	\$347,502	-\$2,352,498
SAMA 2	\$25,000	\$336,164	\$311,164
SAMA 3	\$4,114,000	\$299,712	-\$3,814,288
SAMA 4	\$25,000	\$171,026	\$146,026
SAMA 5	\$1,760,000	\$93,680	-\$1,666,320
SAMA 6	\$525,000	\$240,682	-\$284,318
SAMA 7	\$1,050,000	\$384,026	-\$665,974
SAMA 8	\$13,045,000	\$322,470	-\$12,722,530
SAMA 9	\$250,000	\$20,780	-\$229,220
SAMA 10	\$25,000	\$4,850	-\$20,150
SAMA 11	\$520,000	\$74,410	-\$445,590
SAMA 12	\$100,000	\$14,458	-\$85,542
SAMA 13	\$100,000	\$14,402	-\$85,598
SAMA 14	\$425,000	\$14,458	-\$410,542
SAMA 15	\$900,000	\$347,502	-\$552,498
SAMA 16	\$25,000	\$14,458	-\$10,542

- 2. The ER only indicates that the cost estimates conservatively did not include the cost of replacement power during extended outages required to implement the modifications. No mention of contingency costs associated with unforeseen implementation obstacles in either the ER or the RAI responses. Please provide verification if these costs were included in the evaluation.**

Response:

A review of the VEGP specific implementation costs revealed that the implementation costs do not include any replacement power costs that may be incurred due to consequential shutdown time. Additionally, the VEGP specific implementation costs in general do not include contingency costs for unforeseen difficulties. However, it was noted that the larger efforts (SAMAs 3, 5, and 8), with greater potential for unknown implementation obstacles, did include an approximate 20% contingency based on the anticipated magnitude of those efforts (i.e. in excess of a million dollars). The incorporation of this contingency would not impact the results of the SAMA assessment, since SAMAs 3 and 8 would still screen out in the Phase I analysis without incorporating the contingency and SAMA 5 would still not be cost beneficial in the Phase II assessment.

- 3. The ER does not provide the sources for the year 2000 population census data and the county-level census data used to estimate the annual population growth rate. What sources were used?**

Response:

The year 2000 population census information was from the SECPOP2000 code. That population was distributed by distance and direction according to the code's output.

The population estimates for years 2010 onward were projected by calculating an annualized growth rate using 1980 and 2000 census data (by county) as the base. County-level census data from 1980 was taken from "1990 Census of Population and Housing, Population and Housing Unit Counts, United States, 1990 CPH-2-1." Table 30 of that document, "Population and Housing Units: 1940 to 1990," presents populations by state and county during the indicated 50-year period. That document was accessed for this analysis on June 1, 2005 at <http://www.census.gov/population/www/censusdata/hiscendata.html> and was still available as of 1/20/2008 at <http://www.census.gov/prod/cen1990/cph2/cph-2-1-1.pdf>. County-level census data from 2000 was taken from "Ranking Tables for Counties: Population in 2000 and Population Change from 1990 to 2000 (PHC-T-4)." That document was originally accessed on June 2, 2005 from <http://www.census.gov>. Table 1 of that document (available on 1/20/08 at <http://www.census.gov/population/cen2000/phc-t4/tab01.pdf>) presents populations by state and county for 1990 and 2000.