



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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January 30, 2014

Mr. Thomas D. Gatlin
Vice President, Nuclear Operations
South Carolina Electric & Gas Company
Virgil C. Summer Nuclear Station
Post Office Box 88, Mail Code 800
Jenkinsville, SC 29065

SUBJECT: VIRGIL C. SUMMER NUCLEAR STATION, UNIT 1 (VCSNS) – REQUEST FOR
ADDITIONAL INFORMATION (TAC NO. MF1112)

Dear Mr. Gatlin:

By letter dated March 12, 2013, South Carolina Electric and Gas (SCE&G) Company provided their reevaluated flood hazard report in response to Enclosure 2 of the March 12, 2012, Fukushima Lessons-Learned 50.54(f) letter.

The staff has determined that additional information is needed to continue the review as discussed in the Enclosure. We request that SCE&G respond by March 31, 2014.

Sincerely,

A handwritten signature in cursive script, reading "Shawn Williams", is positioned above the typed name.

Shawn Williams, Senior Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-395

Enclosure: Request for Additional Information

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION
REGARDING RECOMMENDATION 2.1 FLOOD HAZARD REEVALUATION REPORT
VIRGIL C. SUMMER NUCLEAR STATION, UNIT 1
SOUTH CAROLINA ELECTRIC & GAS CO.
DOCKET NO. 50-395 (TAC NO. MF1112)

On March 12, 2012, the U.S. Nuclear Regulatory Commission (NRC) staff issued a request for Information (RAI) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12053A340). Enclosure 2 of March 12, 2012, RAI contained a specific request associated with Recommendation 2.1, Flooding Reevaluation. South Carolina Electric & Gas Co. (SCE&G, the licensee) for Virgil C. Summer Nuclear Station, Unit 1 (VCSNS) responded to the request for information regarding Recommendation 2.1 in its letter dated March 12, 2013 (ADAMS Accession No. ML13073A117 – Redacted Version). The NRC Staff has reviewed SCE&G's response and has determined that additional information is necessary to complete its review.

RAI No. 1 - Local Intense Precipitation Flooding

Background: Given the significant role that the FLO-2D model performs in the licensee's analysis of the probable maximum flood (PMF) caused by local intense precipitation and the need to review the formulation of the model's complex spatially and temporally distributed input, the staff requests that the licensee provide FLO-2D input files.

Request: Provide electronic versions of the input files for the FLO-2D model in the Flood Hazard Reevaluation Report (FHRR) related to local intense precipitation analysis. Provide a discussion regarding assumptions associated with functionality of the site drainage system during the event.

RAI No. 2 - Local Intense Precipitation Flooding

Background: Given the significant role that elevation data is in defining slopes and flow paths, the staff requests that the licensee provide a description of the methods used to incorporate elevation measurements into the FLO-2D analyses.

Request: Provide a description of the methods used to incorporate elevation measurements and the likely magnitude of the errors associated with these elevations.

RAI No. 3 - Streams and Rivers Flooding

Background: Given the significant role that Frees Creek/Monticello Reservoir plays in the licensee's analysis of the PMF from rivers and streams and the need to review the formulation of the model's complex spatially and temporally distributed input, the staff requests that the licensee provide a detailed description of the analysis it completed to support its conclusions.

Request: Provide detailed information and model inputs, if applicable, to support the conclusion in the FHRR related to the estimation of flooding due to the PMF event on Frees Creek/Monticello Reservoir (including wind and wave effects).

RAI No. 4 - Streams and Rivers Flooding

Background: Given the control of the Service Water Pond (SWP) pool elevation by the operation of the isolation valve on the interconnecting pipe between the SWP and Monticello Reservoir, the staff requests that the licensee provide a detailed description of conditions leading to the valve's operation, frequency of operation, and any assumptions related to the state of the isolation valve used in the reevaluation of the PMF for the SWP.

Request: Provide a detailed description of conditions leading to the operation of the valve, frequency of operation, any assumptions related to the state of the isolation valve used in the reevaluation of the PMF for the SWP. Describe whether the conclusions made in the FHRR are affected by the assumptions about the state of the valve.

RAI No. 5 - Streams and Rivers Flooding

Background: Given the significant role that the SWP has in the licensee's analysis of the PMF from rivers and streams and the need to review the formulation of the model's complex spatially and temporally distributed input, the staff requests that the licensee provide a detailed description of the analysis it completed to support its conclusions.

Request: Provide detailed information and model inputs, if applicable, to support the conclusion in the FHRR related to the estimation of flooding due to the PMP (including wind effects) event on the SWP.

RAI No. 6 - Hazard Input for the Integrated Assessment

Background: The March 12, 2012, 50.54(f) letter, Enclosure 2, requests the licensee to perform an integrated assessment of the plant's response to the reevaluated hazard if the reevaluated flood hazard is not bounded by the current design basis.

Request: The licensee is requested to provide the applicable flood event duration parameters (see definition and Figure 6 of the Guidance for Performing an Integrated Assessment, JLD-ISG-2012-05) associated with mechanisms that trigger an Integrated Assessment. This includes (as applicable) the warning time the site will have to prepare for the event, the period of time the site is inundated, and the period of time necessary for water to recede off the site for the mechanisms that are not bounded by the current design basis. The licensee is also requested to provide a basis for the flood event duration parameters. The basis for warning time may include information from relevant forecasting methods (e.g., products from local, regional, or national weather forecasting centers).

RAI No. 7 - Hazard Input for the Integrated Assessment

Background: The March 12, 2012, 50.54(f) letter, Enclosure 2, requests the licensee to perform an integrated assessment of the plant's response to the reevaluated hazard if the reevaluated flood hazard is not bounded by the current design basis.

Request: The licensee is requested to provide the flood height and associated effects (as defined in Section 9 of JLD-ISG-2012-05) that are not described in the flood hazard reevaluation report for mechanisms that trigger an Integrated Assessment. This includes the following quantified information for each mechanism (as applicable):

- Debris impacts,
- Effects caused by sediment deposition and erosion (e.g., flow velocities, scour),
- Concurrent site conditions, including adverse weather, and
- Groundwater ingress

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/RA/

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ADAMS Accession No.: ML14023A740

* By email

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