



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

October 1, 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 NO. 1 – REQUEST FOR  
ADDITIONAL INFORMATION REGARDING LICENSE BASIS CHANGES IN  
STEAM GENERATOR TUBE RUPTURE ANALYSIS (TAC NO. MF4699)

Dear Mr. Gatlin:

By letter dated August 27, 2014, the South Carolina Electric & Gas Company (SCE&G, the licensee) submitted a license amendment request (LAR) to revise Facility Operating License No. NPF-12 for the Virgil C. Summer Nuclear Station, Unit No. 1. The licensee requests approval to revise the licensing basis to incorporate a supplemental analysis to the steam generator tube rupture accident.

The NRC staff has determined that additional information is needed to continue the review as discussed in the Enclosure. We request that SCE&G respond to these RAIs within 30 days of the date of this letter. Please note that the NRC staff's review is continuing and further requests for information may be developed.

Sincerely,

A handwritten signature in cursive script that reads "Shawn Williams".

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

REQUESTS FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST

LICENSE BASIS CHANGES IN STEAM GENERATOR TUBE RUPTURE ANALYSIS

VIRGIL C. SUMMER NUCLEAR STATION, UNIT NO. 1

DOCKET NO. 50-395

The U.S. Nuclear Regulatory Commission (NRC) staff reviewed the Virgil C. Summer Nuclear Station License Amendment Request (LAR), LAR-12-04269, dated August 27, 2014, concerning the license basis changes required due to an update to the Steam Generator Tube Rupture (SGTR) analysis. The NRC staff has determined that the following request for additional information (RAI) is required to complete its review.

**RAI No. 1**

One of the reasons given by the licensee for the need to reanalyze the SGTR event was: "During plant simulator exercises, the operating crews are taking greater than 30 minutes to terminate primary to secondary break flow following a SGTR."

- a. How long were the crews taking to terminate primary to secondary break flow following a SGTR?
- b. What was the maximum time recorded?
- c. How were these times taken into account in the updated analysis?

**RAI No. 2**

Table 15 appears to reflect that all crews performed all actions in the simulator runs within the times assumed in the original analysis and within the overall 30 minute limit assumed in the original analysis.

- a. Given that the licensee stated that, "...operating crews are taking greater than 30 minutes to terminate primary to secondary break flow following a SGTR", explain how these simulator runs can be assumed to be realistic.
- b. Why was actual operating/training experience not used or, at least, included in the data?

**RAI No. 3**

In Table 16, credit is taken for monitoring equipment status by means of lights. In the aftermath of the TMI accident, it was found that many of the status lights in the control room did not reflect the actual state of equipment, but rather were demand signals, that is, a simple reflection of the position of the control handle, not the actual equipment status.

- a. For each instance where status lights are credited in Table 16, identify whether the light portrays actual equipment status or is simply a reflection of a demand signal.
- b. For those that are demand-only, identify alternative instruments that reflect actual equipment status, such as flow indicators, valve limit switch position indicators, and others.
- c. How are failed lights identified or prevented?

**RAI No. 4**

In Table 13, the licensee stated, "The CR ventilation emergency mode is initiated at 0.5 hours after the start of the accident." Is this an automatic or a manual action? If manual, describe the action including the alarm or cue that alerts the operator that action is necessary, the feedback that the action is working or not, the procedures that guide the action, and the time required to complete the action.

**RAI No. 5**

In Attachment 1 of the licensee's submittal, it is stated that certain equipment can be locally controlled if needed, e.g. the SG PORVs, compressors XAC-3A/B, XAC-4A/B, and XAC-12, and the EFW flow control valves. Have the environmental conditions at those local control stations been confirmed as benign for plant operators during an SGTR event, especially regarding heat, humidity, steam, and radiation?

**RAI No. 6**

The licensee has committed to include the timing of SGTR actions in the requalification training program. Why not also include it in the initial training program?

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**/RA/**

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