October 4, 1985

Docket Nos: 50-424
and 50-425

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Mr. Donald O. Foster
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Dear Mr. Foster:

Subject: Request for Additional Information Regarding Containment Purge and Vent Valves (SER Confirmatory Item 14f)

On April 16, 1985, the NRC and your staff conducted a telecon to discuss staff questions on a March 18, 1985, submittal dealing with containment purge and vent valves.

Because you have not yet responded to the questions as discussed in the telecon, we have provided them in the enclosure. The information in the enclosure should aid you in providing adequate responses. The responses to these questions should be provided well in advance of the site audit in order to allow the staff sufficient time to evaluate them and discuss any further questions with your staff.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

If there are any questions, contact the Project Manager, Melanie Miller, at 301-492-4259.

Sincerely,

Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Enclosure:
As stated

cc: See next page

DL:LB #4	LA:DL:LB #4	DL:LB #4
MMiller/ah	MDuncan	EAdensam
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REQUEST FOR ADDITIONAL INFORMATION
VOGTLE 1 DOCKET NO. 50-424
PURGE AND VENT VALVE OPERABILITY -TMI II.E.4.2(6)

Ref: J. A. Bailey, Project Licensing Manager, Georgia Power Company, letter to E. G. Adensam, Chief, Licensing Branch 4, Division of Licensing, U.S. Nuclear Regulatory, Commission, Vogtle Electric Generating Plant Units 1 and 2, DSER Open Item 26j - Dependability of Containment Isolation, NRC Accession No. 8503210362, March 18, 1985

1. The following information is needed in order to evaluate containment purge valve operability:

   a) Provide an isometric sketch of the piping configuration showing elbows, flow orifice, tees, and debris screens within 20 pipe diameters of the mini purge valves (HV-2626B, 2627B, 2628B, 2629B).

   b) Show valve stem position relative to piping system. Indicate direction of disc closure as viewed from actuator.

   c) Provide a vendor drawing or sketch of the valve assembly including actuator and supports. Identify materials used to construct the valve assembly, especially sealing surfaces, stem, disc, and bearing. Indicate yoke angle as a function of disc opening angle.

2. Identify the accident event and sequence which produce the peak containment pressure used in the Vogtle submittal.

   a) Cite the specific FSAR sections, tables, and figures associated with this worst case event.

   b) Indicate the containment pressure and temperature at 5 seconds from event initiation as well as the times at which the peak values are reached.

3. Table 2 of the submittal does not indicate the load combinations and acceptance criteria that were used to calculate the actuator torque requirements.

   a) Identify all loads and conditions that were used to demonstrate operability of the 14 inch purge valve.

   b) Identify the most highly stressed components, locations, applied loading condition, stress intensity, acceptance criteria, and material composition.

4. The response to Attachment 2, Item A3 does not provide enough detail to determine how load and environmental factors have been considered.

a) Provide a copy of Fisher Qualification Report FQP-11A for review. Clearly indicate those sections of the report which address parts a to f of item A3.

b) Confirm that the LOCA and seismic loads have been combined and applied in a manner which simulates the worst case condition.

c) Seismic loading was supplemented by analysis and testing of a Vogtle production valve. Identify this valve. State the purpose for each supplemental analysis and test. Describe how these findings were used to demonstrate operability of the 14 inch purge valve.

d) Confirm that the use of debris screens as well as the periodic inservice inspection of the valve assembly is sufficient to preclude the build-up of corrosion products or debris that could "lock up" the valve stem or damage the sealing surfaces.

e) Identify any materials, such as elastomers or lubricants, which could be adversely affected by environmental factors (temperature, pressure, radiation aging, containment spray composition, etc.)

f) Identify what specific measures will be taken to ensure that material degradation will not adversely affect the ability of the purge valve to perform its function when required.

5. Clarify how data was extrapolated from the 4 and 6 inch valve tests to demonstrate operability of the 14 inch purge valves.

a) Identify the combination of test loads and environmental conditions used to demonstrate operability of the 14 inch valve.

b) Identify the loads applied to the 14 inch valve, which were scaled up from test data of smaller valves. Describe the method of extrapolation used.

c) Compare the disc profile, closure time, and torque requirements for the 14 inch purge valve with the 4 and 6 inch valves used in the model tests.

6. The response to Attachment 2, Item 1, does not indicate the valve closure period or closure rate.

a) Indicate the maximum elapsed time from LOCA initiation to close the valve for the worst case conditions. Confirm that the valve closure period does not exceed the plant technical specifications.

b) Indicate the maximum lag time due to cylinder overpressure venting.

c) Although production valve stroking times have been taken, it is indicated that the "best stroking time data" could be obtained during a field stroking test at the plant site. Confirm that the production valve stroke times were within acceptable limits. Compare the loads and configuration used to time the production valves with the conditions associated with performing a field stroking test at the plant site.

7. The response to Attachment 1 Item A(b) suggests a scenario whereby failure of the solenoid to deenergize on demand could leave the purge valve in the open position.

   a) Confirm the ability of the solenoid to deenergize on demand for the scenario postulated in item A(b).

   b) In the event of a delay of solenoid deenergization as discussed in Item A(a), indicate the maximum elapsed time from LOCA initiation to close the 14 inch purge valve.

8. The brief discussion of piping system geometry given in responses 7 and 8, Attachment 2, does not address adequately the flow effects of upstream elbows or tee on the valve closing torque. Discuss or describe operability of the valves under this condition and the basis for any conclusions.