

RELATED CORRESPONDENCE

July 5, 1985

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

In the Matter of :
:
GEORGIA POWER COMPANY, et al. : Docket Nos. 50-424
: 50-425
(Vogtle Electric Generating :
Plant, Units 1 and 2) :

APPLICANTS' FIRST SUPPLEMENTAL RESPONSE
TO INTERVENORS' THIRD SET OF INTERROGATORIES
AND REQUEST FOR PRODUCTION OF DOCUMENTS

On January 9, 1985, Joint Intervenor Campaign for a Prosperous Georgia and Georgians Against Nuclear Energy served upon Applicants their Third Set of Interrogatories and Requests to Produce. The Applicants served the Joint Intervenor with their responses to those discovery requests on February 13, 1985. The Applicants subsequently agreed to respond further to interrogatories B-6(p), B-10, and B-46 of the Joint Intervenor's Third Set of Interrogatories. In its Memorandum and Order dated June 4, 1985, the Atomic Safety and Licensing Board ("Board") directed the Applicants to respond further to certain other interrogatories and requests to produce contained in Joint Intervenor's Third Set of Interrogatories. In compliance with that order and their agreement with the Joint Intervenor, Applicants provide herein supplemental responses

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to interrogatories B-6(p), B-6(s), B-10, B-19, B-20, B-24, B-27, B-29, B-42, B-43, B-44, B-46, and B-47 of the Joint Intervenors' Third Set of Interrogatories.

INTERROGATORY 3-6

B-6. In "Applicants' First Response" the Applicants made available certain documents and numbered the pages therein. The following questions concerning TDI generators relate to these documents.

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(p) Page 1414811, Applicants state, "Suppliers were evaluated prior to award to assure that their quality assurance program and facilities complied with the procurement document requirements. . . . based on surveys, past performances, audits, and the review and approval of the suppliers' documented quality programs." Would the Applicants again choose TDI if ordering new emergency diesel generator for a new nuclear power plant today? If not, why not? If so, why? Provide the bases for the response.

SUPPLEMENTAL RESPONSE: Subject to the objections raised by Applicants to this interrogatory in Applicants' Response to Intervenors' Third Set of Interrogatories (Feb. 13, 1985), which Applicants incorporate herein by reference, Applicants provide this further response to interrogatory B-6(p).

Applicants cannot without further information predict whether they would purchase emergency diesel generators

from Transamerica Delaval, Inc. ("TDI") if they were "ordering new emergency diesel generators for a new nuclear plant today." A variety of factors about which the Applicants have no information would have to be evaluated before the Applicants could select a vendor for equipment such as emergency diesel generators. The Applicants would have to determine what possible sources of emergency power could be used and what capacity source would be required. The Applicants would have to identify potential vendors and evaluate their quality assurance programs and facilities. Those vendors that the Applicants considered qualified to provide the equipment needed would be requested to submit written proposals for the contract. The Applicants would evaluate those proposals, looking at such things as commercial terms and conditions, price, and delivery date, and select a vendor to be awarded the contract. Without such information, the Applicants cannot respond to the hypothetical question asked by interrogatory B-6(p).

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(s) Page 1410976, the Applicants state, "Should we not hear from Transamerica by this date, we will assume that there exist in your organization a lack of dedication to ensure a quality product per the specification and the contract." Do the Applicants believe that TDI is

dedicated to ensuring a quality product per the specifications, contracts and regulatory requirements? Provide the bases for the response.

SUPPLEMENTAL RESPONSE: Based upon the Applicants' interaction with TDI, the Applicants believe that TDI desires to provide a quality product pursuant to the contract specifications and regulatory requirements. The Applicants and TDI have on occasion, however, disagreed concerning whether TDI has met all of its contractual obligations to the Applicants. The document cited by joint Intervenor, document number 1410976, is the second page of a letter from H. H. Gregory, III of Georgia Power Company to Richard Pratt of TDI. That letter was part of negotiations between TDI and Georgia Power concerning which company had the contractual obligation to bear the expense of correcting potential deficiencies in certain components of the diesel generators. Georgia Power made the statement cited by the Joint Intervenor in an effort to convince TDI to assume responsibility for such expense.

INTERROGATORY B-10

B-10. Why does Research-Cottrell state that the expected drift rate is four times smaller than the expected drift rate used by the Applicants ("Applicants' First Response" p. 100)? Provide the bases for the response.

SUPPLEMENTAL RESPONSE: In preparing the estimated salt drift deposition rate presented in Amendment 1 to the

Operating License Stage Environmental Report ("OL-ER") in response to NRC Question E451.17, the Applicants used the expected drift rate of 0.015% established by the contract between the Georgia Power Company and Custodis-Cottrell (formerly Research-Cottrell), the supplier of the natural draft cooling towers used at the Vogtle Electric Generating Plant ("VEGP"). That contract was entered into in the early 1970's. In response to NRC Question E290.8 in Amendment 3 of the OL-ER, dated May 1984, the Applicants utilized an expected drift rate of 0.008% based upon oral communications with Custodis-Cottrell. More recently, Custodis-Cottrell has advised the Applicants that if it were to submit a bid today to supply natural draft cooling towers with drift eliminators of the same design as those used in the VEGP cooling towers, the expected drift rate would be 0.004% to 0.002%. The reasons for which Custodis-Cottrell would now expect the drift rate for the VEGP cooling towers to be lower than the expected drift rate set out in the contract are outlined in the following correspondence between Custodis-Cottrell and Southern Company Services, Inc.:

(1) letter from H.D. Burnum of SCS to M. Shuman of Custodis-Cottrell dated December 21, 1984; (2) letter from M. Shuman to H.D. Burnum dated December 21, 1984; (3) letter from H.D. Burnum to M. Shuman dated April 25, 1985; and (4) letter from M. Shuman to H.D. Burnum dated May 6,

1985. Copies of this correspondence will be furnished to Joint Intervenors with these discovery responses.

Despite Custodis-Cottrell's reduction in what it would expect the drift rate to be for the VEGP natural draft cooling towers to 0.004% or less, the Applicants have continued to use the more conservative expected drift rate of 0.008% in estimating drift deposition rates for the VEGP cooling towers.

INTERROGATORY B-19

B-19. List all wells used to map the marl aquiclude under VEGP. Provide marl data from each. Describe test techniques and whether the marl material brought to the surface was through corings or cuttings. Discuss well 42E. Discuss uncertainty ranges.

SUPPLEMENTAL RESPONSE: In accordance with the Board's order of June 4, 1985, this supplemental response addresses that portion of interrogatory B-19 that requests the Applicants to "[d]iscuss uncertainty ranges." For their response to the remainder of interrogatory B-19 the Applicants refer the Joint Intervenors to and incorporate herein their prior response to that interrogatory.

The extent and thickness of the marl aquiclude have been determined by means of several hundred exploratory drill holes, geologic reconnaissance along the Savannah River bluff upstream and downstream of the VEGP site, a seismic refraction survey, downhole geophysical logging,

and examination and mapping of the marl exposed in the excavations for the VEGP power block. Neither the Applicants nor their contractors have performed any analyses of "uncertainty ranges" with respect to the data acquired by these means. Nor have the Applicants or their contractors made any estimates of the dispersion of that data around central values. The data itself has been made available to the Joint Intervenors previously.

The data obtained by the Applicants from exploratory drill holes is set out in the geologic logs of those holes, which are contained in Volumes II and III of the VEGP Preliminary Safety Analysis Report ("PSAR"). Figure 2.5.1-12 of the VEGP Final Safety Analysis Report ("FSAR") contains the results of the geologic reconnaissance along the bluffs of the Savannah River. The data from the seismic refraction survey is reflected in Chapters 2B and 2C of the PSAR. Figures 2.5.1-32 through 2.5.1-37 of the FSAR and the "Studies of Postulated Millett Fault" (October 1982) include the data obtained by the downhole geophysical logging. The "Studies of Postulated Millett Fault" (October 1982) also contain geologic logs for additional exploratory holes drilled as part of that study. The mapping of the portion of the marl exposed during site excavations is shown graphically in Figures 2.5.1-23 through 2.5.1-28 of the VEGP Final Safety Analysis Report ("FSAR").

INTERROGATORY B-20

B-20. How many wells mapped the confined aquifer underlying the VEGP (the FSAR lists only MU-1 and 2). Discuss the uncertainty in the VEGP analysis of the confined aquifer mapping.

SUPPLEMENTAL RESPONSE: In accordance with the Board's order of June 4, 1985, this supplemental response addresses that portion of interrogatory B-20 that requests the Applicants to "[d]iscuss the uncertainty in the VEGP analysis of the confined aquifer mapping." For their response to the remainder of interrogatory B-20, the Applicants refer the Joint Intervenors to and incorporate herein their prior response to that interrogatory.

The presence and extent of the different aquifers and aquicludes beneath the VEGP site were determined from various published reports concerning the geology and ground water hydrology of the region and by site exploration as discussed in the Applicants' responses to interrogatories B-1 and B-24 of the Intervenors' First Set of Interrogatories and described in Sections 2.4 and 2.5 of the PSAR and FSAR. That site exploration consisted of the drilling of several hundred exploratory drill holes and the performance of in-situ permeability tests in some of the exploratory holes. To determine the contours of the piezometric surfaces of the Tertiary and Cretaceous aquifers, the Applicants installed observation wells.

Neither the Applicants nor their contractors have attempted to analyze the "uncertainty" associated with the data used to determine the presence and extent of the confined aquifers beneath VEGP or the contours of their piezometric surfaces. Nor have the Applicants or their contractors made any estimates of the dispersion of that data around central values. The Applicants have, however, previously made available to the Joint Intervenors the data itself.

Volumes II and III of the PSAR and the "Studies of Postulated Millett Fault" (October 1982) include the geologic logs from the drill holes. Section 2.4.12 of the FSAR characterizes regional and site ground water conditions. Section 3 of the Ground Water Supplement provided by the Applicants to the Nuclear Regulatory Commission ("NRC") staff and the Joint Intervenors in March, 1985 and Appendix 2C to the PSAR contain the data obtained by the Applicants from the permeability tests. The Ground Water Supplement also has water level readings and hydrographs for each observation well at VEGP.

INTERROGATORY B-24

B-24. RE: VEGP Response to IQB-2: Provide the laboratory permeability tests conducted on core samples from marl exploration holes; provide core sampling techniques, core sample depths, core sample locations and other pertinent data. Provide field test correlations for the same core sample locations.

The VEGP power block excavation exposed an upper 25 feet of marl with a surface area of about one million square feet exposed, approximately one-third of one percent of the VEGP areal site. Provide the uncertainty ranges in asserting that there are no voids, dissolution cavities, systematic fractures, or joints (exclusive of the multiple penetrations through the marl by confined aquifer observation and production well) that would provide a path for movement of ground-water contamination through the marl. Provide the uncertainty ranges inclusive of marl well penetration.

Discuss the consistently large water level differences in light of the lack of correlation between the active, confined aquifer observation well water levels. Why do the confined aquifer water levels vary and what is the source of variability?

SUPPLEMENTAL RESPONSE: In accordance with the Board's order of June 4, 1985, this supplemental response addresses those portions of interrogatory B-24 that ask the Applicants to provide "uncertainty ranges." For their response to the remainder of interrogatory B-24, the Applicants refer the Joint Intervenors to and incorporate herein their prior response to that interrogatory.

The Applicants and their contractors have not made any measures of uncertainty with respect to the data derived from the tests and measurements described in the

Applicants' response to interrogatory B-2 of the Joint Intervenors' First Set of Interrogatories. Nor have the Applicants or their contractors made any estimates of the variability in that data. As described in the Applicants' supplemental responses to interrogatories B-19 and B-20 of the Joint Intervenors' Third Set of Interrogatories above, the Applicants have previously made available to the Joint Intervenors all of the data derived from those tests. Additionally, the Ground Water Supplement (March, 1985) and the amendment to it transmitted by letter dated April 30, 1985 from J. Bailey of Southern Company Services, Inc. to E. Adensam of the NRC staff provide information concerning the status of all penetrations through the marl at the VEGP site.

INTERROGATORY B-27

B-27. Re: VEGP Response to IQB-18(c): The Savannah River Plant emissions of NOx, SOx, and TSP have been found to be within 20 to 80 percent of acceptable SRP boundary release limits measured at 30 to 40 kilometers from plant center southwest of the VEGP site. VEGP on the other hand is only fifteen km from SRP plant center, a likely location for SRP airborne hazardous and radionuclide depositions. Also, strontium-90 released from SRP in concentrations already exceeding EPA drinking water standard have been found in milk at Waynesboro, Georgia, 45 km from the SRP plant center. VEGP is between

Waynesboro and SRP. Therefore cumulative effects are relevant. Please respond to IQB-18(c).

SUPPLEMENTAL RESPONSE: The Applicants do not have any information that relates to possible cumulative effects of Plant Vogtle and the Savannah River Plant ("SRP") on ground water. The ground water beneath the SRP would not mix with any ground water that might be degraded by an accidental spill at VEGP.

As the Applicants have discussed in previous interrogatory responses, VEGP is located on an interfluvial high bounded by stream channels have cut down to or near the effectively impermeable Blue Bluff marl. This marl forms an aquiclude between the shallow water table aquifer and the deeper Tertiary and Cretaceous (or "Tuscaloosa") aquifers.

As evidenced in Figure 2.4.12-7 of the FSAR, the contours of the water table aquifer indicate that water within that aquifer directly underneath the power block moves to the northwest in the direction of Mathes Pond. Therefore, any spillage at the plant that infiltrated the ground would move downward through the unsaturated zone to the water table aquifer. After reaching the water table aquifer it would move laterally to Mathes Pond (the surface water system) and eventually discharge into the Savannah River.

The Blue Bluff marl would prevent migration of contaminants in the water table aquifer to the Tertiary and

Cretaceous aquifers beneath VEGP. Even if it were possible for these confined aquifers to become contaminated beneath VEGP, the contaminated ground water from those aquifers would not mix with ground water beneath the SRP but would discharge into the Savannah River.

As shown in Figures 7-19 and 7-20 of the Studies of Postulated Millett Fault (October 1982), the Tertiary and Cretaceous aquifers discharge to the Savannah River in the vicinity of VEGP. That direction of flow will persist. In the Atlantic Coastal Plain it has been estimated that from 40 to 95 percent of stream flow is maintained by rejected ground-water recharge that discharges to the streams (Cederstrom, et al., 1979, p. 9). Unless quantities in excess of the rejected recharge are extracted by wells (ground-water use) or are diverted from the aquifers by some other means, the direction of flow will continue to be from the aquifers to the river. The amount of extractions that would be required to stop this discharge from the Cretaceous aquifer has been estimated to be 20 bgd (billion gallons per day) (Callahan, 1969, p. 14). Comparable quantities of rejected recharge are discharged to the rivers by the Tertiary aquifer.

Present and projected future utilization of ground-water is only a small percentage of these quantities. For illustration, the withdrawal of fresh and saline ground water for all uses from all aquifers (not just the Cretaceous) of the Gulf Coast, as well as the Atlantic

Coast plains region, was a total of 5.5 bgd in 1975 (Cederstrom, et al, 1979 p. 10). Thus, the quantities of ground-water available in the confined aquifers of the coastal plain preclude the likelihood of a reversal of flow direction between the Savannah River and the underlying aquifers.

INTERROGATORY B-29

B-29. RE: VEGP Response to IQB-27, p. 39: VEGP states that the marl is an aquiclude and that the Cretaceous Aquifer is confined and isolated from VEGP releases. The Savannah River Plant made similar assurances in 1976 (C.H. Ice). What range of uncertainty exists with this VEGP claim? VEGP assumes a marl is non-existent under the Savannah River and that contaminants migrating in the water table aquifer would not penetrate the Tuscaloosa Aquifer underlying the Savannah River because of higher head differentials between the Tuscaloosa and the Savannah River. SRP has made similar assurances in the past but contamination has been found in Tuscaloosa wells. What range of uncertainty exists with the VEGP claim that the Tuscaloosa will be open under the Savannah River alongside VEGP but that downward contamination flow will be prevented.

SUPPLEMENTAL RESPONSE: In accordance with the Board's order of June 4, 1985, this supplemental response addresses those portions of interrogatory B-29 that ask

the Applicants to provide a "range of uncertainty." For their response to the remainder of interrogatory B-29, the Applicants refer the Joint Intervenor to and incorporate herein their prior response to that interrogatory.

The Applicants and their contractors have not made any measures of uncertainty with respect to the data derived from the tests and measurements described in the Applicants' response to interrogatory B-2 of the Joint Intervenor's First Set of Interrogatories. Nor have the Applicants or their contractors made any estimates of the variability in that data. As described in the Applicants' supplemental responses to interrogatories B-19 and B-20 of the Joint Intervenor's Third Set of Interrogatories above, the Applicants have previously made available to the Joint Intervenor all of the data derived from those tests.

INTERROGATORY B-42

B-42. To IQ L-1, Applicants argue that the question is irrelevant and outside the scope of this proceeding except for ASCO solenoid valves. In fact, the ASLB order does not limit this subcontention to ASCO solenoid valves, nor did the Intervenor limit the subcontention to ASCO. The contention made by Intervenor raises the question of environmental qualification of all solenoid valves, not just ASCO; the ASLB implicitly acknowledges this in its order's reference to "solenoid valves used at Vogtle," not "ASCO solenoid valves used at Vogtle." Please provide the

response to IQ L-1. For the same reasons , please provide the response to IQ L-2, L-3, L-4 and M-1 which are follow-ups to L-1.

SUPPLEMENTAL RESPONSE: Pursuant to the Board's order of June 4, 1985, which limited the scope of interrogatory B-42 to ASCO solenoid valves, the Applicants provide the following supplemental responses to interrogatories L-1, L-2, and L-4 of the Joint Intervenors' First Set of Interrogatories.

Interrogatory L-1 questioned the Applicants about the conditions under which ASCO solenoid valves were tested for purposes of environmental qualification. The reports referenced in the Applicants' prior response to interrogatory L-1 provide the information requested.

Interrogatory L-2 requested the Applicants to describe the maintenance and surveillance program for ASCO solenoid valves. Maintenance and surveillance will be performed on ASCO solenoid valves in accordance with VEGP procedure 26060-C, a copy of which will be furnished to Joint Intervenors with these interrogatory responses. The frequency of the maintenance has not yet been determined.

Interrogatory L-4 asked the Applicants to describe how physical orientation of the ASCO solenoid valves had been considered in the environmental qualification testing program. In their initial response to interrogatories L-3 and L-4 of the Joint Intervenors' First Set of Interrogatories, the Applicants stated that the ASCO solenoid

valves used to perform safety related functions at VEGP are designed to operate in any orientation. The only interface requirement for qualification is that the solenoid enclosure be sealed. Those statements apply to all of the ASCO solenoid valves identified in Attachment C to the March 13, 1985 letter from J.E. Joiner to L. Fowler. These valves are designed in such a manner that the operation of the solenoids will not be affected by gravity. Therefore, the valves will operate properly in any physical orientation.

The Applicants are now planning to use ASCO model 206-381-6F valves for valve numbers 7603A, 7603B, 7603C, and 7603D listed in Attachment C to the March 13, 1985 letter. The ASCO model 206-381-6F valve is designed to operate in a vertical and upright position only. The reports identified in the Applicants' initial response to interrogatory L-1 of the Joint Intervenor's First Set of Interrogatories describe the qualification testing performed on the model 206-381-6F valve. During the tests the valves were mounted in a vertical and upright position, as required for that model valve.

INTERROGATORY B-43

B-43. To IQ N-4, Applicants argue that the question is irrelevant and outside the scope of this proceeding. In fact, operating experience of this type recombiner is fundamentally relevant since this type recombiner is to be

used at Vogtle. Question N-5, a follow-up, is similarly relevant. Please provide the responses to IQ N-4 and N-5.

SUPPLEMENTAL RESPONSE: Pursuant to the Board's Memorandum and Order of June 4, 1985, the Applicants provide the following response to interrogatory N-4 of the Joint Intervenor's First Set of Interrogatories.

Interrogatory N-4 questioned the Applicants concerning other plants' operating experience with the Westinghouse electric hydrogen recombiner systems used at VEGP. No nuclear power plant that utilizes a Westinghouse electric hydrogen recombiner system has ever had to use that system following a loss-of-coolant accident to reduce the concentration of hydrogen inside containment. Westinghouse electric hydrogen recombiner systems installed at other plants have been operated only for testing purposes. After installation of a Westinghouse hydrogen recombiner system, its operation is verified by performing air flow and heat up tests. Westinghouse also recommends that, after plant startup, the recombiner system be tested annually for proper operation. Westinghouse is not aware of any operational failures of a Westinghouse hydrogen recombiner system.

INTERROGATORY B-44

B-44. In response to IQ N-6, Applicants argue that the question is irrelevant and outside the scope of this proceeding. In fact, maintenance and surveillance during

operations are crucial to assure that equipment is environmentally qualified, since operation of the facility could have an effect on the environmental qualification of the equipment. Surely, the Applicants plan some sort of maintenance and surveillance program; for this equipment; Intervenor merely ask what it is. Please provide the response to IQ N-6.

SUPPLEMENTAL RESPONSE: Interrogatory N-6 of the Joint Intervenor's First Set of Interrogatories questioned the Applicants concerning the maintenance and surveillance program for the Westinghouse electric hydrogen recombiner systems used at VEGP. Maintenance and surveillance will be performed on the electric hydrogen recombiner systems in accordance with the surveillance requirements established for that equipment by Technical Specification 4.6.4.2, which has not yet been finalized. Applicants will provide Joint Intervenor with a copy of the current draft of that portion of the Technical Specifications. That section of the Technical Specifications is still in the process of being finalized and could be changed prior to final issuance.

INTERROGATORY B-46

B-46. In response to IQ P-3, Applicants argue that the question is irrelevant and outside the scope of this proceeding. In fact, the maintenance and surveillance program is relevant to the degree that it affects

the possibility of vibration-induced fatigue cracking and bubble collapse. Within these confines, please provide the response to IQ P-3.

SUPPLEMENTAL RESPONSE: Technical Specification 3/4.4.5.0 will set out the Inservice Inspection Program to be performed on the steam generators at VEGP once the plant becomes operational. Applicants will furnish a copy of the current draft of that section of the Technical Specifications to the Joint Intervenors. That section of the Technical Specifications is still in the process of being finalized and could be changed prior to final issuance.

INTERROGATORY B-47

B-47. In response to IQ P-4, Applicants argue that the question is irrelevant and outside the scope of this proceeding. In fact, procedures for emergency action in steam generator tube rupture are relevant since the Applicants have not demonstrated basis for confidence that such an accident will not occur (cf. ASLB order). IQ P-5, P-6, Q-1 and Q-2 are similarly relevant. Please provide responses to IQ P-4, 5 and 6 and Q-1 and 2.

SUPPLEMENTAL RESPONSE: Pursuant to the Board's order of June 4, 1985, the Applicants provide the following supplemental responses to interrogatories P-4, P-5, and P-6 of the Joint Intervenors' First Set of Interrogatories.

Interrogatory P-4 requested the Applicants to "[j]ustify the procedures stated in the current Operators

Manual for Emergency Action during a steam generator tube rupture (SGTR), using technical reports and any other information you have available."

The Applicants developed the emergency operating procedures using the guidance provided by the implementation plan published by the Institute of Nuclear Power Operations. The Westinghouse Owners' Group supplied the Applicants with technical guidelines (emergency response guidelines) and supplemental information. The Applicants reviewed the technical guidelines for applicability to VEGP and, using the emergency operating procedures writer's guide, generated a plant-specific procedure (19030-1) entitled "Steam Generator Tube Rupture." Use of the Westinghouse Owners' Group technical guidelines and supplemental information in accordance with the emergency operating procedures action plan meets the intent of NUREG-0899, items I.C.1 and I.C.8, as clarified by NUREG-0737, Supplement 1.

The completed plant-specific procedures are subject to a two-part review in accordance with the emergency operating procedures verification program. The first part of this review verifies written correctness, while the second part ensures technical accuracy. Upon completion of the verification program, the procedures are tested in accordance with the emergency operating procedures validation program.

Interrogatory P-5 stated: Under what conditions would a SGTR accident cause activation of the ECCS? What additional problem would this cause in the management of the SGTR accident?

A Steam Generator Tube Rupture (SGTR) accident would cause activation of the Emergency Core Cooling System (ECCS) if the break flow rate exceeded the available charging capability. In the event of an SGTR, the pressurizer pressure and level would begin to decrease due to the flow of primary coolant through the break into the secondary side of the steam generator. The pressurizer low-pressure and low-level alarms would be actuated and the charging pump flow would be automatically increased in an attempt to maintain pressurizer level. If the tube rupture break flow rate exceeds the charging flow rate, the pressurizer pressure will continue to decrease due to the loss of reactor coolant. The continued decrease in pressurizer pressure will lead to a reactor trip on low pressurizer pressure or overtemperature delta T. A safety injection signal would be initiated by low pressurizer pressure soon after reactor trip, and the ECCS would be automatically actuated. The initial ECCS flow rate would exceed the tube rupture flow rate, and the pressure decrease would be reversed. The reactor coolant pressure would tend to stabilize when the pressure increased to a value where the ECCS flow rate equaled the break flow

rate. The operation of the ECCS would maintain reactor coolant inventory and assure that adequate core cooling was provided.

The ECCS is designed to assure that adequate core cooling is provided in the event of any loss of reactor coolant, whether it is due to a small break loss-of-coolant accident or an SGTR, and the ECCS will automatically initiate in such accidents. The automatic activation of the ECCS does not cause any additional problems in the management of an SGTR. Since actuation of the ECCS is expected for an SGTR, the emergency operating procedures for recovery from an SGTR consider operation of the ECCS. The SGTR recovery procedures are designed to equalize the reactor coolant system and ruptured steam generator pressures to terminate the break flow. These procedures provide for the termination of ECCS flow after it is determined that ECCS operation is not required.

Interrogatory P-6 stated: Based on several different levels of severity including the most severe case, what would be the expected consequences of a SGTR accident? Give details of all of the assumptions made, and include worse case analysis.

The most severe (design basis) SGTR accident is the complete severance of a single steam generator tube, which is the SGTR accident considered in VEGP FSAR § 15.6.3. Thus, the analysis of the SGTR accident presented in the

FSAR, including the conservative assumptions identified, represents a worse case analysis. The results of the SGTR accident presented in the FSAR indicates that the departure from nucleate boiling (DNB) limits are met, and therefore no core damage occurs for this accident. The analysis also demonstrates that the radiological consequences of an SGTR accident are well below the allowable guideline values in 10 C.F.R. part 100.

Respectfully submitted,

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DATED: July 5, 1985

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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	:	50-425
(Vogtle Electric Generating	:	
Plant, Units 1 and 2)	:	

CERTIFICATE OF SERVICE

I hereby certify that copies of Applicants' First Supplemental Response to Intervenor's Third Set of Interrogatories and Request for Production of Documents, dated July 5, 1985, were served upon those persons on the attached Service List by deposit in the United States mail, postage prepaid, or where indicated by an asterisk (*) by hand delivery, this 5th day of July, 1985.

James E. Joiner
James E. Joiner
Attorney for Applicants

Dated: July 5, 1985

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

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GEORGIA POWER COMPANY, <u>et al.</u>)	Docket Nos. 50-424
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