UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

INTERVENORS CAMPAIGN FOR A PROSPEROUS GEORGIA AND GEORGIANS AGAINST NUCLEAR ENERGY RESPONSE TO APPLICANTS' THIRD SET OF INTERROGATORIES AND REQUEST FOR PRODUCTION

Intervenors Campaign for a Prosperous Georgia and Georgians Against Nuclear Energy provide herein their responses to Applicants' Third Set of Interrogatories and Request for Production of Documents.

Groundwater

7-35. Intervenors are referring to Cooke's study and to the thirteen-year-old water quality analyses.

7-36. Since the data is old, sample techniques have changed; therefore the data may change. More importantly, the FSAR does not list data for all of the nuclides that will be discharged from VEGP. Consequently, an adequate data base hasn't been established. VEGP must have a zero line data base to compare all nuclides that will be released from VEGP against zero line data base in order to calculate consequent levels of contamination. Depositions from other facilities, including the Savanahh River Plant, have been releasing hazardous and radioactive chemicals into the VEGP environment since 1971. Water percolation from the VEGP surface may then have dramatically changed the water quality analyses since 1971.

7-37. USGS geophysical well log data or any other well log data from any organization should be integrated into the FSAR data base regardless of the source of the data. It is important to know all of the data that is available for the VEGP area.

7-38. As is pointed out in the VEGP FSAR and the NRC DES, both sites have groundwater aquifers with similar intermittent layers of clay; both sites have marl clay layers; and both sites have a cretaceous (Tuscalloosa) Aquifer underneath the site. In addition, both sites have claimed that a contaminated groundwater aquifer could not contaminate the underlying Tuscaloosa Aquifer; in the case of the Savannah River Plant, in operation for thirty years, this has been found not to be so (L-Reactor EIS). At SRP, the three Tuscalloosa aquifer monitoring wells and three drinking wells drawing water from the Tuscaloosa Aquifer have been found to be contaminated. Further, the FSAR and DES make numerous references to Savannah River Plant hydrogeology.

7-39. Quoting from the L-Reactor EIS, p. M-267-270, "Wastewater discharged to this basin is primarily contaminated with radionuclides which contaminate the upper aquifer and eventually discharge to Steel Creek...there is no mention of how these groundwater discharges affect Four Mile Creek. This appears to demonstrate a method of discharging pollutants to a stream without a permit by using the groundwater as a medium of transport...The present practice of disposing low-level radioactive waste in combination with chemical waste into trenches in the ground does not represent state of the art technology and may violate RCRA requirements."

7-40. One possibility is discontinuities in the confining clays above Tusc. Aq.; a second possibility is defective well casings; a third possibility is communication by monitoring wells; and a fourth possibility is wehrever there are head reversals between aquifers.

7-41. This question basically requests that Intervenors present their entire case as given to date and thus presents an undue burden. Applicants should examine what Intervenors have already given them. A primary problem with the FSAR is that it is not independently peer reviewed.

7-42. The FSAR points out that the predominant well users draw water from the

groundwater aquifers but there are occasional users that draw water from the Tuscaloosa Aquifer. At least two concerns are raised by this question. First, if groundwater becomes contaminated, this will prevent the VEGP from being returned to the general public use (for industry, agriculture or other uses) until such timne that any groundwater contamination that results from the operation of VEGP drops below maximum EPA drinking water levels. Second, if the groundwater is contaminated by VEGP, future well users will be forced to draw drinking water from the lower Tuscalloosa, placing an unnecessary burden on future users of water underneath the VEGP, and increasing the potential exposure of surface contamination to users and aquifer conatmination.

7-43. The Applicants have this information; Intervenors have not performed independent well surveys.

7-44. This is stated in the FSAR.

7-45. The Applicants have this information; Intervenors have not performed independent well surveys.

7-46. Whenever releases into surface basins exceed drinking water standards or have the potential to concentrate to levels in excess of drinking water standards, as has happened at the Savannah River Plant, there is the potential for contaminants to contaminate the groundwater underneath a pond or a retentian basin. It is the responsiblity of VEGP to assure that no contaminants can escape their ponds or retentian basins, and if such contaminants do escape they will not exceed standards. The level of contaminants pointed out in the FSAR and DES to be held in the pond may lead to contamination of the groundwater. Of particular concern is the startup basin, the retention basin and cooling pond, and the settling ponds.

7-47. The old data VEGP determination which resulted from the few wells that VEGP sunk above, into and below the marl from which VEGP drew conclusions that may have exceeded the quality of the data.

7-48. It is well known that native data does not prove that contamination does not

exist nor that the water table aquifer is truly isolated. The appearance of contamination would prove that the water table aquifer is not isolated; however, lack of contamination does not mean it is isolated. The statement that there is no such thing as a truly isolated water table aquifer is a statement made by geologist Carol Gelbaum in a phone conversation with Tim Johnson.

7-49. This is well-known throughout the literature. For example, all Savannah River Plant monitoring data, including the SRP radioactive burial ground monitoring data base.

7-50. Dispersion plus gravitational gradients against groundwater flow rates; e.g. upgradient well data around many sampling sites often show positive readings which indicate contaminant migration against the groundwater flow.

7-51. Contamination migration rates are species dependent and environmentally dependent. It would be unduly burdensome for Intervenors to model such migration, since intervenors do not have the finances nor other resources to make specific models. This is the responsibility of the Applicants.

7-52. Contaminants are known to migrate in directions other than the primary groundwater flow based on release conditions, especially hydraulic head release conditions. Contaminants for instance could mushroom out underneath before beginning to travel with groundwater. The Applicants assume that the groundwater travels in only one direction. The Savannah River Plant's first predictions on groundwater migration in 1967 have been proved to be sufficiently incorrect to raise grave concerns.

7-53. See 7-40, above.

7-54. L-Reactor EIS, SRP Radioacative Wastes Monitoring data/reports, DOE Reports on Radioactive Migration, scientific literature on contaminant migration.

7-55. Numerous sources, for example Savannah River Plant Waste Management Operations Environmental Impact Statement (1977), W. F. Lawless report on Savannah

River Plant Radioactive Waste Burial Ground Management Appraisal (1982), and Savannah River Plant Waste Management Operations Program Plan.

7-56. Please see the response to 7-38, above.

7-57. Savannah River Plant radioactive waste burial ground well monitoring data base demonstrates this clearly. Intervenors draw a clear analogy between the situation and SRP and that at VEGP (please see the responses above).

7-58. Dupont historical literature on their claims that the clay barriers at the Savannah River Plant were impermeable when they in fact proved to be quite permeable. The similar geology at the Plant Vogtle site suggests that the Applicants' claims of impermeability are similarly groundless, particularly since the Applicants have not adequately addressed this concern. Certainly, the Applicants have not proved that the marl is not permeable.

7-59. Pages 517, 518, 519 and 521 and Appendix F.

7-60. Yes. At the Savannah River Plant, the modeling of the pressure differentials was not rigourous until the contamination of the Tuscaloosa Aquifer from the M-Area seepage basin became evident. Modelling has increased and has made it clear that head reversals are fairly common at the Savannah River Plant. If VEGP has inadequately modelled its Tuscaloosa Aqifer by an insufficient number of wells, then VEGP may indeed find reversals become evident with consequently contaminated aquifer water. There is nothing to indicate adequate modelling at VEGP, particularly in view of the Applicants' failure to acknowledge reversals.

7-61. M and A area. The three monitoring wells are MSB 23A, MSB 30A and MSB 34A. The three drinking water production wells are 53A, 20A and 31A.

7-62. The Applicants have presented nothing to demonstrate that they are not similar. See further the FSAR and L-Reactor EIS Appendix F.

7-63. Intervenors stated that there are fractures and permeable sections beneath the Savannah River Plant.

7-64. The Intervenors did not make such a claim.

7-65. Only that it could. There are fractures and permeabilities beneath the Savannah River Plant; due to the similar geology of the two sites, this raises the likelihood that there may be similar fractures and permeabilities beneath VEGP, a possibilty not adequately addressed by the Applicants.

7-66. Please see the FSAR and the DES for Plant Vogtle.

NOTE: Intervenors will respond to certain questions in a supplement to be provided to the Applicants in the near future.

Contention 14 (Diesel Generators)

14-9. Specific QA/QC problems in materials are described in the documents provided by the Intervenors to the Applicants, as well as the documents obtainted by the Intervenors from the Applicants, in the first round of discovery.

14-10. Specific QA/QC problems in manufacturing are described in the documents provided by the Intervenors to the Applicants, as well as the documents obtainted by the Intervenors from the Applicants, in the first round of discovery.

14-11. Specific QA/QC problems in installation of TDI generators are described in the documents provided by the Intervenors to the Applicants, as well as the documents obtainted by the Intervenors from the Applicants, in the first round of discovery.

14-12. The historic pattern of continuing, repeated problems with TDI generators points strongly to the likelihood that more problems will occur.

14-13. Intervenors will make available for Applicants' review and copying the many additional examples of problems demonstrated in the data obtained by Intervenors from Applicants.

General Interrogatories

G-4. William Lawless: a) and b) those related to groundwater, surface & airborne releases

c) LSU BSME 1970, MSME 1977; USC 1978-1981 (no degree); AC 1983 to present; USM Flight School.

d) Paine College 1983-present, Augusta College 1983-1984; United States Department of Energy (project engineer; technical appraiser; etc.) 1977-1983; State of Louisiana (industrial energy conservation/solar energy) 1976-1977. other nontechnical jobs.

professional engineer, State of Louisiana.

e. yes, those related to groundwater and surface and airborne releases.

f. yes, those related to groundwater and surface and airborne releases.

Dr. Howard Deutsch: (a) 10 (including all subcontentions), 11 and 12.

b. those related to contentions 10, 11 and 12

c. This information will be provided.

d. This information will be provided.

e. Yes; 10, 11 and 12

f. Yes; those related to contentions 10, 11 and 12

Carol Gelbaum a) 7

b. groundwater, geology and hydrogeology

c. This information will be provided when Intervenors obtain it.

d. This information will be provided when Intervenors obtain it.

e. Yes; 7

f. Yes; those related to contention 7

Dr. James Ruttenber: a. 7; 12

b. ecology; health; groundwater; contentions 7 and 12

c. This information will be provided when the Intervenors obtain it.

d. This information will be provided when the Intervenors obtain it.

e. No

f. No

Doug Teper: a. 8

b. contention 8 and matters related thereto

c. This information will be provided.

d. This information will be provided.

e. Yes; 8

f. Yes; those related to contention 8

Tim Johnson: a. each of those accepted by the ASLB

b. those related to each of the contentions accepted by the ASLB

c. Georgia Institute of Technology (no degree); Emory University (BA in political science and English, 1976); University of Michigan Regulatory Affairs Institute (completed intensive study of utility regulation, 1980)

d. Georgia Public Interest Research Group (administrative assistant, researcher specializing in energy issues); Southern Regional Council (research assistant on energy, discrimination and other issues); Consumers' Utility Counsel, State of Georgia (research assistant specializing in nuclear and related issues); Public Service Commission, State of Georgia (administrative aide to Commissioner Billy Lovett); Georgians for Billy Lovett for Governor (campaign coordinator, issues coordinator); Nuclear Freeze/Jobs with Peace Campaign (campaign manager); Atlanta College of Art (instructor, Human Ecology); Campaign for a Prosperous Georgia (executive director, responsible for numerous duties including coordination of technical aspects of various interventions); Educational Campaign for a Prosperous Georgia (numerous duties, including coordination of technical activities); author of various articles on utilities, computers and other topics; served on Advisory Committee to U.S. Nuclear Regulatory Commission (related to decommissioning of nuclear power facilities)

e. Yes; all of those accepted by the ASLB

f. Yes; all of them

Marc Merlin: a. 8 and 14

b. nuclear physics; contentions 8 and 14

c. This information will be provided when Intervenors obtain it.

d. This information will be provided when Intervenors obtain it.

e. Yes; 8 and 14

f. No.

Robert Pollard: a. 10 and 11.

b. Mr. Pollard was a safety engineer for the U.S. NRC and has knowledge about many of these areas.

c. This information is not now available to Intervenors.

d. With the exception of knowing that Mr. Pollard was a safety engineer with NRC and is now with the Union of Concerned Scientists, this information is not now available to Intervenors.

e. Yes; 10 and 11

f. Yes; 10 and 11

Document Requests

7-1 These have already been provided.

7-2 These have already been provided.

7-3 These have already been provided.

7-4 These have already been provided.

7-5 Those cited in the response have already been provided.

7-6 These have already been provided.

7-7 These have already been provied.

7-8 These have already been provided.

7-9 Intervenors referred to the Savannah River Plant fracturing; documents related thereto have already been provided.

7-10 Intervenors referred to the Savannah River Plant fracturing and permeability; documents related thereto have already been provided.

7-11 (a), (b) and (c) are available at the Department of Energy Public Reading Room

at USC in Aiken; (d) is available from the NRC (Applicants should already have a copy of it).

7-12 (a) has already been provided; (b), (c), (f), (g), (h), (j), (k), (l) and (n) are available at the DOE Public Reading Reading Room, USC, Aiken; (d) and (e) are available from DOE/IG; and (i), (m) and (o) are available from DOE/SROO.

7-13 (a) has been submitted for publication; (b) should already be in the possession of the Applicants (Intervenors do not have a copy of it and have relied on the copy in the Public Reading Room at SRP); (c) should be available from Representative Dingle.

14-1, 14-2 and 14-3. Intervenors will make available all documents responding to this Interrogatory which have not previously been made available, with the exception of any personal correspondence or similar document which might exist and which would violate the privacy or confidentiality of any individual.

General Document Requests

G-4 and G-5. Intervenors will make available those documents which have not already been provided and which are available to the Intervenors with the possible exception of any which might exist and would violate privacy or confidentiality.

Respectfully submitted this the 5th day of February, 1985,

Tim Johnson
for Intervenors
Campaign for a Prosperous Georgia
and Georgians Against Nuclear Energy