

Georgia Power Company
Route 2, Box 299A
Waynesboro, Georgia 30830
Telephone 404 554-9961
404 724-8114

Southern Company Services, Inc.
Post Office Box 2625
Birmingham, Alabama 35202
Telephone 205 870-6011



Vogtle Project

May 31, 1985

Director of Nuclear Reactor Regulation
Attention: Ms. Elinor G. Adensam, Chief
Licensing Branch #4
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

File: X6BK10
Log: GN-635

NRC DOCKET NUMBERS 50-424 AND 50-425
CONSTRUCTION PERMIT NUMBERS CPPR-108 AND CPPR-109
VOGTLE ELECTRIC GENERATING PLANT - UNITS 1 AND 2
REQUEST FOR ADDITIONAL INFORMATION: DSER OPEN ITEMS 3, 8, & 112

REF: LETTER GN-622 TO MR. DENTON FROM MR. BAILEY DATED MAY 21, 1985

Dear Mr. Denton:

Enclosed for your review is a plan for performing the task discussed in the above referenced letter.

If your staff requires any additional information, please do not hesitate to contact me.

Sincerely,

J. A. Bailey
Project Licensing Manager

JAB/caa

xc: D. O. Foster
R. A. Thomas
J. E. Joiner, Esquire
B. W. Churchill, Esquire
M. A. Miller
B. Jones, Esquire
L. T. Gucwa
G. Bockhold, Jr.
H. H. Gregory, III
T. Johnson
C. D. Teper
L. Fowler
Vogtle Project File

8506050272 850531
PDR ADOCK 05000424
E PDR

0025V

3001
1/1

A cluster of wells will be installed to the northwest and to the southeast of the powerblock. The tentative location of these well clusters is shown on Figure 1. Each of the two clusters will consist of three observation wells open to discrete intervals in the marl, one each in the upper, middle, and lower portions of the marl bed.

The first hole drilled at each cluster will be cored in the marl to within 5 to 10 ft of its base. This primary hole will be continuously cored and have in-situ permeability tests conducted in the cored interval. The occurrence of permeable zones and limestone interbeds will allow the designation of the monitoring intervals in the adjacent wells open to intervals in the upper and middle portions of the marl. The core will be used to evaluate the competency of the marl as a foundation material. The following describes this work:

- 1) A 10-inch diameter hole will be drilled using a tricone bit from the ground surface to a depth of 10-ft below the upper contact of the marl. Revert drilling fluid will be used to remove cuttings from the hole during drilling. Permanent casing will be placed into the hole and sealed into the marl with cement grout. The grout will set for 24 hours prior to continuation of drilling.
- 2) The hole will be flushed with clear water and any remaining Revert removed with 'Fast Break'. The hole will be advanced by diamond core drilling methods in accordance with ASTM D 2113. Core drilling shall be done with double tube, ball-bearing, swivel-type, 4-inch core barrels or larger fitted with bottom (face) discharge bits. The maximum amount of core recovery is required and the driller will perform the work in a manner to accomplish this purpose. Grinding of the core after a core barrel has become blocked will not be permitted. A blocked core barrel shall be pulled irrespective of the interval drilled. The driller will preserve all core samples in good condition in labeled boxes in conformance with ASTM D 2113. Core boxes will be clearly and permanently marked on the outside lid with project name, hole number, box number and depth of core within the box. The hole number and box number shall also be marked on both ends of the box and on the inside of the lid. Depth of runs shall be marked on spacer blocks between runs.

An engineering geologist will supervise the core drilling operation. He will record change in advance rate, fluid losses or gain, and other pertinent aspects of core drilling. The geologist will log the core samples in detail, verify its proper handling and photograph the core.

- 3) In situ permeability tests will be conducted in the marl as the core hole is advanced. The tests will be water pressure tested in accordance with procedures in the US Bureau of Reclamation "Earth Manual", Test Designation E-18. (These tests are in general agreement with US Corps of Engineers test procedures described in

020 (2)

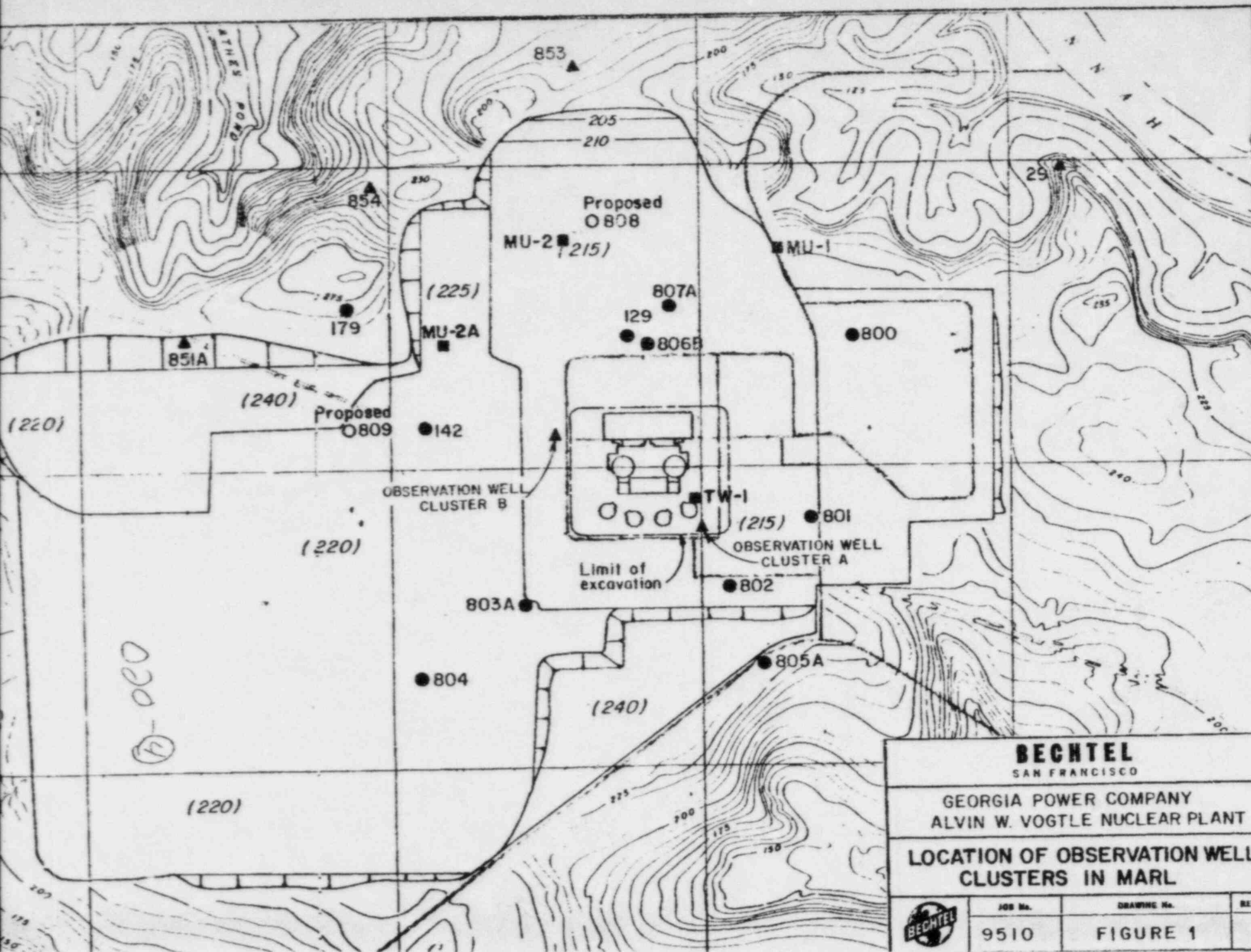
RTH 381-80 of the "Rock Testing Handbook"). A test will be conducted following 10 ft of coring in the marl. The core drilling tools will be pulled from the hole following flushing with clear water. a single pneumatic packer will be set approximately 10 ft off the bottom of the hole. Testing will be conducted according to the methods described in E-18. If significant permeable zones are found in the test interval, additional tests will be conducted using double packers to define the permeable zone. The drill core will be reviewed to aid in determining the permeable zone.

- 4) Based on the data collected during core drilling and permeability testing, the location of the discrete monitoring intervals in all three holes will be determined. The deep monitoring well will be placed in the primary hole, with the wells monitoring the upper and middle intervals of the marl in adjacent holes. The monitoring intervals will consist of zones of significant permeability and/or lenses of predominantly calcareous materials (limestone interbeds and shell zones). The upper and middle marl monitoring wells will be drilled a minimum of 10 to 15 ft from adjacent holes.
- 5) The wells will consist of Casagrande-type porous stone tubes 18 inches in length, 3/4-inch ID, and 1 1/2-inch OD. Riser shall be 3/8-inch standard schedule 80 PVC. The installation will be in accordance with US Bureau of Reclamation "Earth Manual" Designation E-28. Connection between lengths of PVC may be either threaded couplings or unthreaded, cement-sealed couplings. Appropriate measures shall be taken to insure that each coupling is water-tight and firmly attached to the ends of each connected length. The screen section shall be attached to the riser in accordance with the screen manufacturers recommendations, or in the manner described in Designation E-28, paragraph 3.

The open interval, monitoring hydrostatic conditions in the marl will not exceed 5 feet. Clean sand will be used as the filter pack material in the monitoring interval. An impermeable seal a minimum of 2 feet in thickness will be placed in the annular space immediately above the filter pack. The annular space above the seal will be filled with a neat cement grout mix of one part cement to one part water by volume. The grout will be placed using the tremie method.

Surface protective casing will be placed around each well. Each well will be clearly identified on the surface casing.

020-3



BECHTEL
SAN FRANCISCO

GEORGIA POWER COMPANY
ALVIN W. VOGTLE NUCLEAR PLANT

LOCATION OF OBSERVATION WELL CLUSTERS IN MARL



JOB No.

DRAWING No.

REV.

9510

FIGURE 1