

Executive Summary for Groundwater Drawdown Calculations included in Votgle ESP ER Sections 4.2.2 and 5.2.2 Groundwater Use Impacts During Construction and Operation

In order to determine potential offsite impacts of groundwater drawdown, cumulative well yield was used to calculate drawdown as though it had been pumped from a single onsite well. The well MU-2A location was used, due to its close proximity to the VEGP property boundary (5,700 feet) and because the well has been one of the site's primary production wells.

Data used to input to an analytical distance-drawdown model was taken from VEGP's updated Final Safety Analysis Report (SNC 2005). A Transmissivity value of 158,000 gpd/ft was used. The Storativity value (3.1×10^{-4}) is an average of the values listed in Table 2.4.12-8 of the SNC 2005 FSAR calculated for the deeper production wells. Total groundwater use reported to the Georgia Department of Natural Resources by VEGP from 2001 through 2004 averaged 730 gpm. (SNC 2000a,b, 2001a,b, 2002a,b,c, 2003a,b, 2004a,b) This value is considered the total groundwater use value for the existing units. A maximum construction pumping rate of 420 gpm was used (FSAR 2005). The total groundwater use rate for the proposed units is 752 gpm (ESP ER Table 3.3-1).

Therefore, the pumping rate used in the analysis for most of the construction phase is 1,150 gpm ($730 + 420 = 1150$ gpm). There will be a period, after completion of the first unit but before completion of the second unit, when the pumping rate will include the 730 gpm for the existing units, a construction rate for Unit 4, and an operational rate for Unit 3. For this construction/operational overlap period, the groundwater pumping rate will include the existing rate of 730 gpm, one-half the construction rate or 210 gpm, and one-half the proposed operational rate or 376 gpm. The total for this period will be 1,316 gpm. The pumping rate during the normal operation of all four units will be 1,482 gpm (730 gpm + 752 gpm).

A nonleaky aquifer scenario was used using the Theis equation to simulate site conditions. The equation assumes that the aquifer is homogeneous, isotopic, with negligible recharge and gradient, and that boundary impacts do not occur. The equation was run for each pumping rate scenario described above. The first simulation assessed the the initial pumping rate for Units 1 and 2 plus construction water usage; the second included pumping for Units 1 and 2, the initial startup of one unit, plus construction; and the third assumed the total use for all four units. The drawdown values calculated are very conservative because the pumping times for each of the simulations was initiated as being the start of Unit 1 operations and not adjusted to accommodate when actual changes in pumping rates would occur. Therefore the drawdowns at the property boundary modeled here are the result of a much longer pumping period for each scenario

than will actually occur. The result is a larger drawdown value than would actually be observed, resulting in a very conservative analysis.

Off-normal operations (Table 2.9-1) for the existing units would require approximately 2,300 gpm of groundwater for both units and off-normal operations for both the proposed units would use approximately 3,140 gpm. Off-normal usage for all four units would be 5,540 gpm. However, off-normal operations would likely affect only one unit, therefore SNC believes that groundwater needs for any off-normal operations plus normal operations of the other units can be accomplished within the existing groundwater permit issued by the State of Georgia. Since off-normal operations would be short lived, this scenario has not been modeled. SNC believes that a scenario where all four operating units would be under off-normal operations would be extremely unlikely. Therefore, this scenario has not been modeled although it would greatly exceed the maximum groundwater pumping rates [6 million gallons per day monthly average (MGD) [4,167 gpm] and average 5.5 MGD annually (3,819 gpm)] established under SNC's existing permit.

DEPARTMENT OF NATURAL RESOURCES
STATE OF GEORGIA

GROUNDWATER USE REPORT

(Print or type all information)

This form shall be submitted to the Division within fifteen (15) days after the reporting period specified on the permit under Standard Condition No. 3

Permittee Southern Nuclear Operating Company - Vogtle Electric Generating Plant

Permit No. 017-0003 For six month period from 09-01-1999 thru 02-29-2000

This report is on the Cretaceous Sand Aquifer used by well(s) numbered: Make-up Wells #1 and #2A, Construction Well #3, Irrigation Well #4, Tactical Training Well #5, Training Center Well, Recreation Area Well, & Well TW-1.

Specific Conductivity NA mmhos/cm

Static water level (SWL) 45.1 ft. Elevation 155.4 ft. Well no. MU-1 Date measured 2-15-2000

Pumping water level (PWL) 52.6 ft. Elevation 147.9 ft. Well no. MU-1 Date measured 2-15-2000

(Use additional sheet if necessary)

Number of hours shutdown for SWL measurement 57 min Number of continuous hours pumped for PWL measurement 64 min

Method of measurement: () Air Line; () Probe; () Tape; () Other (Specify) _____

Measurement from: () Top of casing; () Ground; () Other (Specify) _____

*Obtain and submit appropriate sets of measurements as indicated below

From 1-5 wells-a set from

ONLY 1 WELL

From 6-10 wells-a set from

ONLY 2 WELLS

From 11-15 wells-a set from

ONLY 3 WELLS

From 16-20 wells-a set from

ONLY 4 WELLS

Take readings from the highest yield well(s), using the same well(s) each time. For additional wells, follow this format

MONTH	Monthly amount of water pumped from aquifer in thousands of gal.			Method used to determine pumpage
	TOTAL	MAX. DAY	Monthly Avg./Day	
September	26431.6	1525.2	881.1	(<input checked="" type="checkbox"/>) Flow meter Other (Specify) Use: <u>For a consumptive use for central water supply, cooling water, process water for operation of Units 1 & 2, and irrigation of ornamental vegetation.</u>
October	22841.8	1017.0	736.8	
November	24859.4	1841.4	828.6	
December	25365.4	1418.4	818.2	
January	51070.8	3158.9	1647.5	
February	25035.5	1521.5	863.3	
GRAND TOTAL	175604.5	ANNUAL AVG. / DAY	919.0	

SUCH OTHER PERTINENT INFORMATION FURNISHED BY THE PERMITTEE OR REQUIRED BY THE DIVISION.

I certify that the above information is true to best of my knowledge and belief.

Signed

Title

Date

AT Dan

General Manager - Vogtle Electric Generating Plant

13 March 2000

DEPARTMENT OF NATURAL RESOURCES
STATE OF GEORGIA

GROUNDWATER USE REPORT

(Print or type all Information)

This form shall be submitted to the Division within fifteen (15) days after the reporting period specified on the permit under Standard Condition No. 3

Permittee Southern Nuclear Operating Company - Vogtle Electric Generating Plant

Permit No. 017-0003 For six month period from 09-01-1999 thru 02-29-2000

This report is on the Creaceous Sand Aquifer used by well(s) numbered: Make-up Wells #1 and #2A, Construction Well #3, Irrigation Well #4, Tactical Training Well #5, Training Center Well, Recreation Area Well, & Well TW-1.

Specific Conductivity NA mmhos/crr

Static water level (SWL) 63.5 ft. Elevation 162.2 ft. Well no. MU-2A Date measured 1-13-2000

Pumping water level (PWL) 93.5 ft. Elevation 132.2 ft. Well no. MU-2A Date measured 1-13-2000

(Use additional sheet if necessary)

Number of hours shutdown for SWL measurement 40.5 hr Number of continuous hours pumped for PWL measurement 45 min

Method of measurement: () Air Line; () Probe; () Tape; () Other (Specify) _____

Measurement from: () Top of casing; () Ground; () Other (Specify) _____

*Obtain and submit appropriate sets of measurements as indicated below

From 1-5 wells-a set from

ONLY 1 WELL

From 6-10 wells-a set from

ONLY 2 WELLS

From 11-15 wells-a set from

ONLY 3 WELLS

From 16-20 wells-a set from

ONLY 4 WELLS

Take readings from the highest yield well(s), using the same well(s) each time. For additional wells, follow this format

MONTH	Monthly amount of water pumped from aquifer in thousands of gal.			Method used to determine pumpage
	TOTAL	MAX. DAY	Monthly Avg./Day	
				<input checked="" type="checkbox"/> Flow meter Other (Specify) Use: <u>For a consumptive use for central water supply, cooling water, process water for operation of Units 1 & 2, and irrigation of ornamental vegetation.</u>
		N		
			A	
GRAND TOTAL	ANNUAL AVG. / DAY			

SUCH OTHER PERTINENT INFORMATION FURNISHED BY THE PERMITTEE OR REQUIRED BY THE DIVISION.

I certify that the above information is true to best of my knowledge and belief.

Signed

Title

Date

AT Dan

General Manager - Vogtle Electric Generating Plant

13 March 2000

DEPARTMENT OF NATURAL RESOURCES
STATE OF GEORGIA

GROUNDWATER USE REPORT

(Print or type all information)

This form shall be submitted to the Division within fifteen (15) days after the reporting period specified on the permit under Standard Condition No. 3

Permittee Southern Nuclear Operating Company - Vogtle Electric Generating Plant

Permit No. 017-0003 For six month period from 03-01-2000 thru 08-31-2000

This report is on the Cretaceous Sand Aquifer used by well(s) numbered: Make-up Wells #1 and #2A, Construction Well #3, Irrigation Well #4, Tactical Training Well #5, Training Center Well, Recreation Area Well, & Well TW-1.

Specific Conductivity 172 mmhos/cm

Static water level (SWL) 44.7 ft. Elevation 155.8 ft. Well no. MU-1 Date measured 08-25-00

Pumping water level (PWL) 51.0 ft. Elevation 149.3 ft. Well no. MU-1 Date measured 08-25-00
(Use additional sheet if necessary)

Number of hours shutdown for SWL measurement 30 min Number of continuous hours pumped for PWL measurement 31 min

Method of measurement: () Air Line; () Probe; () Tape; () Other (Specify) _____

Measurement from: () Top of casing; () Ground; () Other (Specify) _____

*Obtain and submit appropriate sets of measurements as indicated below.

From 1-5 wells-a set from	ONLY 1 WELL
From 6-10 wells-a set from	ONLY 2 WELLS
From 11-15 wells-a set from	ONLY 3 WELLS
From 16-20 wells-a set from	ONLY 4 WELLS

Take readings from the highest yield well(s), using the same well(s) each time. For additional wells, follow this format

MONTH	Monthly amount of water pumped from aquifer in thousands of gal.			Method used to determine pumpage
	TOTAL	MAX. DAY	Monthly Avg./Day	
March	28895.5	1690.6	932.1	(<input checked="" type="checkbox"/>) Flow meter Other (Specify) Use: <u>For a consumptive use for central water supply, cooling water, process water for operation of Units 1 & 2, and irrigation of ornamental vegetation.</u>
April	34849.1	1966.8	1161.6	
May	31720.8	1321.5	1023.3	
June	33911.1	1701.5	1130.4	
July	35342.1	1677.7	1140.1	
August	40264.9	1792.2	1298.9	
GRAND TOTAL	204983.5	ANNUAL AVG. / DAY	1038.5	

SUCH OTHER PERTINENT INFORMATION FURNISHED BY THE PERMITTEE OR REQUIRED BY THE DIVISION.

I certify that the above information is true to best of my knowledge and belief.

Signed

Title

Date

ATB

General Manager - Vogtle Electric Generating Plant

15 Sept 2000

DEPARTMENT OF NATURAL RESOURCES
STATE OF GEORGIA

GROUNDWATER USE REPORT

(Print or type all information)

This form shall be submitted to the Division within fifteen (15) days after the reporting period specified on the permit under Standard Condition No. 3

Permittee Southern Nuclear Operating Company - Vogtle Electric Generating Plant

Permit No. 017-0003 For six month period from 03-01-2000 thru 08-31-2000

This report is on the Cretaceous Sand Aquifer used by well(s) numbered: Make-up Wells #1 and #2A, Construction Well #3, Irrigation Well #4, Tactical Training Well #5, Training Center Well, Recreation Area Well, & Well TW-1.

Specific Conductivity 175 mmhos/cm

Static water level (SWL) 58.5 ft. Elevation 162.5 ft. Well no. TW-1 Date measured 08-24-00

Pumping water level (PWL) 72.3 ft. Elevation 148.8 ft. Well no. TW-1 Date measured 08-24-00

(Use additional sheet if necessary)

Number of hours shutdown for SWL measurement 8 mo. Number of continuous hours pumped for PWL measurement 31 min

Method of measurement: () Air Line; (X) Probe; () Tape; () Other (Specify) _____

Measurement from: (X) Top of casing; () Ground; () Other (Specify) _____

*Obtain and submit appropriate sets of measurements as indicated below.

From 1-5 wells a set from	ONLY 1 WELL
From 6-10 wells a set from	ONLY 2 WELLS
From 11-15 wells a set from	ONLY 3 WELLS
From 16-20 wells a set from	ONLY 4 WELLS

Take readings from the highest yield well(s), using the same well(s) each time. For additional wells, follow this format

MONTH	Monthly amount of water pumped from aquifer in thousands of gal.			Method used to determine pumpage
	TOTAL	MAX. DAY	Monthly Avg./Day	
				(X) Flow meter Other (Specify) Use: <u>For a consumptive use for central water supply, cooling water, process water for operation of Units 1 & 2, and irrigation of ornamental vegetation.</u>
		N		
			A	
GRAND TOTAL	ANNUAL AVG. / DAY			Average hours pumped per day:

SUCH OTHER PERTINENT INFORMATION FURNISHED BY THE PERMITTEE OR REQUIRED BY THE DIVISION.

I certify that the above information is true to best of my knowledge and belief.

Signed

Title

Date

AT Man

General Manager - Vogtle Electric Generating Plant

15 Sept 2000

DEPARTMENT OF NATURAL RESOURCES
STATE OF GEORGIA

GROUNDWATER USE REPORT

(Print or type all information)

This form shall be submitted to the Division within fifteen (15) days after the reporting period specified on the permit under Standard Condition No. 3

Permittee Southern Nuclear Operating Company - Vogtle Electric Generating Plant

Permit No. 017-0003 For six month period from 09-01-2000 thru 02-28-2001

This report is on the Cretaceous Sand Aquifer used by well(s) numbered: Make-up Wells #1 and #2A, Construction Well #3, Irrigation Well #4, Tactical Training Well #5, Training Center Well, Recreation Area Well, & Well TW-1.

Specific Conductivity NA mmhos/cm

Static water level (SWL) 70.7 ft. Elevation 155.0 ft. Well no. MU-2A Date measured 2-09-2001

Pumping water level (PWL) 105.3 ft. Elevation 120.4 ft. Well no. MU-2A Date measured 2-09-2001

(Use additional sheet if necessary)

Number of hours shutdown for SWL measurement 30 min Number of continuous hours pumped for PWL measurement 30 min

Method of measurement: () Air Line; (X) Probe; () Tape; () Other (Specify) _____

Measurement from: (X) Top of casing; () Ground; () Other (Specify) _____

*Obtain and submit appropriate sets of measurements as indicated below

From 1-5 wells-a set from
From 6-10 wells-a set from
From 11-15 wells-a set from
From 16-20 wells-a set from

ONLY 1 WELL
ONLY 2 WELLS
ONLY 3 WELLS
ONLY 4 WELLS

Take readings from the highest yield well(s), using the same well(s) each time. For additional wells, follow this format

MONTH	Monthly amount of water pumped from aquifer in thousands of gal.			Method used to determine pumpage
	TOTAL	MAX. DAY	Monthly Avg./Day	
September	44868.7	2172.7	1495.6	(X) Flow meter Other (Specify) Use: For a consumptive use for central water supply, cooling water, process water for operation of Units 1 & 2, and irrigation of ornamental vegetation.
October	53298.9	3170.2	1719.3	
November	47151.2	3161.3	1571.7	
December	48712.8	3288.7	1571.4	
January	37495.5	2605.7	1209.5	
February	37756.6	2124.8	1348.5	
GRAND TOTAL	269283.7	ANNUAL AVG. / DAY	1300.2	

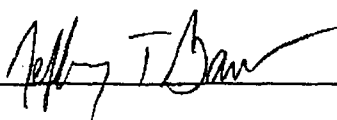
SUCH OTHER PERTINENT INFORMATION FURNISHED BY THE PERMITTEE OR REQUIRED BY THE DIVISION.

I certify that the above information is true to best of my knowledge and belief.

Signed

Title

Date



General Manager - Vogtle Electric Generating Plant

3/14/2001

DEPARTMENT OF NATURAL RESOURCES
STATE OF GEORGIA

GROUNDWATER USE REPORT

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Specific Conductivity NA mmhos/crr

Static water level (SWL) 58.9 ft. Elevation 162.1 ft. Well no. TW-1 Date measured 2-26-2001

Pumping water level (PWL) 71.2 ft. Elevation 149.8 ft. Well no. TW-1 Date measured 2-26-2001

(Use additional sheet if necessary)

Number of hours shutdown for SWL measurement 35 min Number of continuous hours pumped for PWL measurement 30 min

Method of measurement: () Air Line; () Probe; () Tape; () Other (Specify) _____

Measurement from: () Top of casing; () Ground; () Other (Specify) _____

*Obtain and submit appropriate sets of measurements as indicated below

From 1-5 wells a set from	ONLY 1 WELL
From 6-10 wells a set from	ONLY 2 WELLS
From 11-15 wells a set from	ONLY 3 WELLS
From 16-20 wells a set from	ONLY 4 WELLS

Take readings from the highest yield well(s), using the same well(s) each time. For additional wells, follow this format

MONTH	Monthly amount of water pumped from aquifer in thousands of gal.			Method used to determine pumpage
	TOTAL	MAX. DAY	Monthly Avg./Day	
				<input checked="" type="checkbox"/> Flow meter Other (Specify) Use: <u>For a consumptive use for central water supply, cooling water, process water for operation of Units 1 & 2, and irrigation of ornamental vegetation.</u>
		N		
			A	
GRAND TOTAL	ANNUAL AVG. / DAY			Average hours pumped per day:

SUCH OTHER PERTINENT INFORMATION FURNISHED BY THE PERMITTEE OR REQUIRED BY THE DIVISION.

I certify that the above information is true to best of my knowledge and belief.

Signed

Title

Date

Nelly T. Brown

General Manager - Vogtle Electric Generating Plant

3/14/2001

DEPARTMENT OF NATURAL RESOURCES
STATE OF GEORGIA

GROUNDWATER USE REPORT

(Print or type all information)

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Permittee Southern Nuclear Operating Company - Vogtle Electric Generating Plant

Permit No. 017-0003 For six month period from 03-01-2001 thru 08-31-2001

This report is on the Cretaceous Sand Aquifer used by well(s) numbered: Make-up Wells #1 and #2A, Construction Well #3, Irrigation Well #4, Tactical Training Well #5, Training Center Well, Recreation Area Well, & Well TW-1.

Specific Conductivity 185 mmhos/cm
 Static water level (SWL) 46.5 ft. Elevation 154.0 ft. Well no. MU-1 Date measured 08-31-01
 Pumping water level (PWL) 52.6 ft. Elevation 147.9 ft. Well no. MU-1 Date measured 08-31-01
 (Use additional sheet if necessary)

Number of hours shutdown for SWL measurement 23 day Number of continuous hours pumped for PWL measurement 31 min

Method of measurement: () Air Line; (X) Probe; () Tape; () Other (Specify) _____
 Measurement from: (X) Top of casing; () Ground; () Other (Specify) _____

*Obtain and submit appropriate sets of measurements as indicated below
 From 1-5 wells-a set from ONLY 1 WELL
 From 6-10 wells-a set from ONLY 2 WELLS
 From 11-15 wells-a set from ONLY 3 WELLS
 From 16-20 wells-a set from ONLY 4 WELLS

Take readings from the highest yield well(s), using the same well(s) each time. For additional wells, follow this format

MONTH	Monthly amount of water pumped from aquifer in thousands of gal.			Method used to determine pumpage
	TOTAL	MAX. DAY	Monthly Avg./Day	
March	43253.6	2553.3	1395.3	(X) Flow meter Other (Specify) Use: For a consumptive use for central water supply, cooling water, process water for operation of Units 1 & 2, and irrigation of ornamental vegetation.
April	42933.3	1786.8	1431.1	
May	45649.5	2086.3	1472.6	
June	46330.7	2433.8	1544.4	
July	47227.6	1876.3	1523.5	
August	47554.1	2161.6	1534.0	
GRAND TOTAL	272948.8	ANNUAL AVG. / DAY	1484.7	

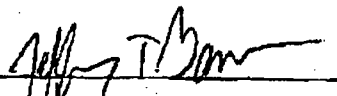
SUCH OTHER PERTINENT INFORMATION FURNISHED BY THE PERMITTEE OR REQUIRED BY THE DIVISION.

I certify that the above information is true to best of my knowledge and belief.

Signed

Title

Date



General Manager - Vogtle Electric Generating Plant

12 September

DEPARTMENT OF NATURAL RESOURCES
STATE OF GEORGIA

GROUNDWATER USE REPORT

(Print or type all information)

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Permittee Southern Nuclear Operating Company - Vogtle Electric Generating Plant

Permit No. 017-0003 For six month period from 03-01-2001 thru 08-31-2001

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Specific Conductivity 165 mmhos/cm

Static water level (SWL) 68.9 ft. Elevation 157.1 ft. Well no. MU-2A Date measured 08-31-01

Pumping water level (PWL) 79.0 ft. Elevation 153.0 ft. Well no. MU-2A Date measured 08-31-01

(Use additional sheet if necessary)

Number of hours shutdown for SWL measurement 41 min Number of continuous hours pumped for PWL measurement 193 min

Method of measurement: () Air Line; (X) Probe; () Tape; () Other (Specify)

Measurement from: (X) Top of casing; () Ground; () Other (Specify)

*Obtain and submit appropriate sets of measurements as indicated below

- From 1-5 wells a set from ONLY 1 WELL
- From 6-10 wells a set from ONLY 2 WELLS
- From 11-15 wells a set from ONLY 3 WELLS
- From 16-20 wells a set from ONLY 4 WELLS

Take readings from the highest yield well(s), using the same well(s) each time. For additional wells, follow this format

MONTH	Monthly amount of water pumped from aquifer in thousands of gal.			Method used to determine pumpage
	TOTAL	MAX. DAY	Monthly Avg./Day	
				(X) Flow meter Other (Specify) Use: <u>For a consumptive use for central water supply, cooling water, process water for operation of Units 1 & 2, and irrigation of ornamental vegetation.</u>
		N		
			A	
GRAND TOTAL	ANNUAL AVG. / DAY			Average hours pumped per day:

SUCH OTHER PERTINENT INFORMATION FURNISHED BY THE PERMITTEE OR REQUIRED BY THE DIVISION.

I certify that the above information is true to best of my knowledge and belief.

Signed

Title

Date

Jeffrey T. ...

General Manager - Vogtle Electric Generating Plant

13 Sept 01

DEPARTMENT OF NATURAL RESOURCES
STATE OF GEORGIA

GROUNDWATER USE REPORT

(Print or type all information)

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Permittee Southern Nuclear Operating Company - Vogtle Electric Generating Plant

Permit No. 017-0003 For six month period from 09-01-2001 thru 02-28-2002

This report is on the Cretaceous Sand Aquifer used by well(s) numbered: Make-up Wells #1 and #2A, Construction Well #3, Irrigation Well #4, Tactical Training Well #5, Training Center Well, Recreation Area Well, & Well TW-1.

Specific Conductivity N/A mmhos/cm

Static water level (SWL) 45.9 ft. Elevation 154.6 ft. Well no. MU-1 Date measured 02-21-02

Pumping water level (PWL) 51.2 ft. Elevation 149.3 ft. Well no. MU-1 Date measured 02-21-02

(Use additional sheet if necessary)

Number of hours shutdown for SWL measurement 19 day Number of continuous hours pumped for PWL measurement 31 min

Method of measurement: () Air Line; () Probe; () Tape; () Other (Specify)

Measurement from: () Top of casing; () Ground; () Other (Specify)

*Obtain and submit appropriate sets of measurements as indicated below

From 1-5 wells a set from	ONLY 1 WELL
From 6-10 wells a set from	ONLY 2 WELLS
From 11-15 wells a set from	ONLY 3 WELLS
From 16-20 wells a set from	ONLY 4 WELLS

Take readings from the highest yield well(s), using the same well(s) each time. For additional wells, follow this format

MONTH	Monthly amount of water pumped from aquifer in thousands of gal.			Method used to determine pumpage
	TOTAL	MAX. DAY	Monthly Avg./Day	
September	45363.4	1952.6	1512.1	(X) Flow meter Other (Specify) Use: For a consumptive use for central water supply, cooling water, process water for operation of Units 1 & 2, and irrigation of ornamental vegetation.
October	45673.7	1827.6	1473.3	
November	43513.8	1753.1	1450.5	
December	45081.4	1728.5	1454.2	
January	39731.1	1684.6	1281.6	
February	38994.6	1998.7	1392.7	
GRAND TOTAL	258358.0	ANNUAL AVG. / DAY	1455.4	

SUCH OTHER PERTINENT INFORMATION FURNISHED BY THE PERMITTEE OR REQUIRED BY THE DIVISION.

I certify that the above information is true to best of my knowledge and belief.

Signed

Title

Date

A. J. Dan

General Manager - Vogtle Electric Generating Plant

13 March 02

DEPARTMENT OF NATURAL RESOURCES
STATE OF GEORGIA

GROUNDWATER USE REPORT

(Print or type all information)

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Permit No. 017-0003 For six month period from 09-01-2001 thru 02-28-2002

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Specific Conductivity N/A mmhos/cm
 Static water level (SWL) 75.1 ft. Elevation 150.9 ft. Well no. MU-2A Date measured 02-27-02
 Pumping water level (PWL) 92.7 ft. Elevation 133.3 ft. Well no. MU-2A Date measured 02-27-02
 (Use additional sheet if necessary)

Number of hours shutdown for SWL measurement 8 days Number of continuous hours pumped for PWL measurement 72 min

Method of measurement: () Air Line; (X) Probe; () Tape; () Other (Specify) _____
 Measurement from: (X) Top of casing; () Ground; () Other (Specify) _____

*Obtain and submit appropriate sets of measurements as indicated below

- | | |
|-----------------------------|--------------|
| From 1-5 wells-a set from | ONLY 1 WELL |
| From 6-10 wells-a set from | ONLY 2 WELLS |
| From 11-15 wells-a set from | ONLY 3 WELLS |
| From 16-20 wells-a set from | ONLY 4 WELLS |

Take readings from the highest yield well(s), using the same well(s) each time. For additional wells, follow this format

MONTH	Monthly amount of water pumped from aquifer in thousands of gal.			Method used to determine pumpage
	TOTAL	MAX. DAY	Monthly Avg./Day	
				(X) Flow meter Other (Specify) Use: <u>For a consumptive use for central water supply, cooling water, process water for operation of Units 1 & 2, and irrigation of ornamental vegetation.</u>
		N		
			A	
GRAND TOTAL	ANNUAL AVG. / DAY			Average hours pumped per day:

SUCH OTHER PERTINENT INFORMATION FURNISHED BY THE PERMITTEE OR REQUIRED BY THE DIVISION.

I certify that the above information is true to best of my knowledge and belief.

Signed

Title

Date

ATB

General Manager - Vogtle Electric Generating Plant

13 March 02

Southern Nuclear
Operating Company, Inc.
P. O. Box 1295
Birmingham, Alabama 35201-1295
Tel 205.992.5000



ENV-02-187

September 13, 2002

FEDERAL EXPRESS

Vogtle Electric Generating Plant
Ground Water Use Permit No. 017-0003
Semi-Annual Report

Mr. Bill Frechette
Senior Geologist
Water Resources Management Branch
State of Georgia Environmental Protection Division
205 Butler Street, S.E., Room 1166
Atlanta, Georgia 30334


Dear Mr. Frechette:

In accordance with standard condition #3 of the Vogtle Electric Generating Plant Ground Water Use Permit (No. 017-0003), enclosed is the semi-annual Ground Water Use Report.

Additionally, due to problems encountered in measuring water levels in Make-up Well 2A, we have designated the Recreation Center well for measuring and reporting static and pumping water levels and specific conductivity required by the permit. This change was discussed with you by Ms. Amy Greene, of my staff, in a telephone call on August 30, 2002. It is understood that this change is acceptable to EPD.

If you have any questions, please contact Amy Greene at (205) 992-5809.

Sincerely,


Wayne C. Carr, Manager
Environmental Services

WCC/ABG

Enclosure

ENV-02-187

Mr. Bill Frechette

State of Georgia Environmental Protection Division

Page Two

bcc: J. T. Gasser (w/o)

G. R. Frederick

W. F. Kitchens (w/o)

J. A. Bailey (w/o)

I. A. Kochery (w/o)

B. D. Carter (w/o)

M. E. Wilder (w/o)

S. Sundaram (w/o)

C. M. Burke

REES Route: T. C. Moorer / K. W. McCracken / A. H. Lovoy

ES Files E.03.34

SNC Document Management - Vogtle

DEPARTMENT OF NATURAL RESOURCES
STATE OF GEORGIA

GROUNDWATER USE REPORT

(Print or type all information)

This form shall be submitted to the Division within fifteen (15) days after the reporting period specified on the permit under Standard Condition No. 3

Permittee Southern Nuclear Operating Company - Vogtle Electric Generating Plant

Permit No. 017-0003 For six month period from 03-01-2002 thru 08-31-2002

This report is on the Cretaceous Sand Aquifer used by well(s) numbered: Make-up Wells #1 and #2A, Construction Well #3, Irrigation Well #4, Tactical Training Well #5, Training Center Well, Recreation Area Well, & Well TW-1.

Specific Conductivity 150 mmhos/cm

Static water level (SWL) 49.7 ft. Elevation 150.8 ft. Well no. MU-1 Date measured 08-14-02

Pumping water level (PWL) 54.7 ft. Elevation 145.8 ft. Well no. MU-1 Date measured 08-14-02
(Use additional sheet if necessary)

Number of hours shutdown for SWL measurement 0.5 hr. Number of continuous hours pumped for PWL measurement 0.5 hr.

Method of measurement: () Air Line; () Probe; () Tape; () Other (Specify) _____

Measurement from: () Top of casing; () Ground; () Other (Specify) _____

*Obtain and submit appropriate sets of measurements as indicated below

- | | |
|-----------------------------|--------------|
| From 1-5 wells a set from | ONLY 1 WELL |
| From 6-10 wells a set from | ONLY 2 WELLS |
| From 11-15 wells a set from | ONLY 3 WELLS |
| From 16-20 wells a set from | ONLY 4 WELLS |

Take readings from the highest yield well(s), using the same well(s) each time. For additional wells, follow this format

MONTH	Monthly amount of water pumped from aquifer in thousands of gal.			Method used to determine pumpage
	TOTAL	MAX. DAY	Monthly Avg./Day	
March	45179.6	2886.6	1457.4	(<input checked="" type="checkbox"/>) Flow meter Other (Specify) Use: <u>For a consumptive use for central water supply, cooling water, process water for operation of Units 1 & 2, and irrigation of ornamental vegetation.</u>
April	40141.8	1906.2	1338.1	
May	39821.4	3020.9	1284.6	
June	42286.3	2492.5	1409.5	
July	36365.8	1821.5	1173.1	
August	28338.0	1690.8	914.1	
GRAND TOTAL	232132.9	ANNUAL AVG. / DAY	1345.1	

SUCH OTHER PERTINENT INFORMATION FURNISHED BY THE PERMITTEE OR REQUIRED BY THE DIVISION.

I certify that the above information is true to best of my knowledge and belief.

Signed

Title

Date

George R. Grednich

General Manager - Vogtle Electric Generating Plant

9/12/02

DEPARTMENT OF NATURAL RESOURCES
STATE OF GEORGIA

GROUNDWATER USE REPORT

(Print or type all information)

This form shall be submitted to the Division within fifteen (15) days after the reporting period specified on the permit under Standard Condition No. 3

Permittee Southern Nuclear Operating Company - Vogtle Electric Generating Plant

Permit No. 017-0003 For six month period from 03-01-2002 thru 08-31-2002

This report is on the Cretaceous Sand Aquifer used by well(s) numbered: Make-up Wells #1 and #2A, Construction Well #3, Irrigation Well #4, Tactical Training Well #5, Training Center Well, Recreation Area Well, & Well TW-1.

Specific Conductivity 405 mmhos/cm

Static water level (SWL) 33.8 ft. Elevation 134.4 ft. Well no. Rec Ctr Date measured 08-23-02

Pumping water level (PWL) 53.8 ft. Elevation 114.6 ft. Well no. Rec Ctr Date measured 08-23-02

(Use additional sheet if necessary)

Number of hours shutdown for SWL measurement 0.5 hr. Number of continuous hours pumped for PWL measurement 0.5 hr.

Method of measurement: () Air Line; (X) Probe; () Tape; () Other (Specify)

Measurement from: (X) Top of casing; () Ground; () Other (Specify)

Obtain and submit appropriate sets of measurements as indicated below

- From 1-5 wells a set from ONLY 1 WELL
- From 6-10 wells a set from ONLY 2 WELLS
- From 11-15 wells a set from ONLY 3 WELLS
- From 16-20 wells a set from ONLY 4 WELLS

Take readings from the highest yield well(s), using the same well(s) each time. For additional wells, follow this format

MONTH	Monthly amount of water pumped from aquifer in thousands of gal.			Method used to determine pumpage
	TOTAL	MAX. DAY	Monthly Avg./Day	
				(X) Flow meter
				Other (Specify)
		N		Use: <u>For a consumptive use for central water supply, cooling water, process water for operation of Units 1 & 2, and irrigation of ornamental vegetation.</u>
			A	
GRAND TOTAL	ANNUAL AVG. / DAY			Average hours pumped per day:

SUCH OTHER PERTINENT INFORMATION FURNISHED BY THE PERMITTEE OR REQUIRED BY THE DIVISION.

I certify that the above information is true to best of my knowledge and belief.

Signed

Title

Date

George K. Fredrick General Manager - Vogtle Electric Generating Plant

9/12/02



Groundwater Use Report

This form shall be submitted to the Division twice each year, within the reporting period specified on the Groundwater Withdrawal Permit under Standard Condition No. 3.

(Print or type ALL information)

Permittee Information					
Contact Person: W. C. Carr		Phone: (205) 992-6387		Email: wccarr@southernco.com	
Company / Permittee: Southern Nuclear Operating Company / Vogtle Electric Generating Plant					
Address: P. O. Box 1295, Birmingham, Alabama 35201					
(No. and Street)		(City)		(State) (Zip)	
GW Withdrawal Permit No.: 017 - 0003		For six (6) month period from July 2002 thru December 2002			
County where well(s) is located: <u>Burke County, GA</u>					
This report is on the <u>Cretaceous Sand</u> aquifer(s) used by well(s) numbered <u>MU-1 & MU-2A, TW-1, SW-5, SB, Rec. CW-3, & IW-4</u>					
Month/Year	Amount of water pumped from aquifer(s) each MONTH (in gallons)			Method used to determine pumpage	
	System Total from ALL wells	Monthly Average (Total/Days in Month)			
July /2002	36365800 gal	1173100 gal		<input checked="" type="checkbox"/> Flow meter	
August /2002	28338000 gal	914100 gal		<input type="checkbox"/> Other (specify below)	
September /2002	25129700 gal	837700 gal			
October /2002	26532400 gal	855900 gal			
November /2002	31362400 gal	1045400 gal			
December /2002	32137900 gal	1036700 gal		Average hours pumped per day <u>8.1</u>	
Summary Totals:					
Static water level (SWL)*** 50.8 ft.		Elevation 149.7 ft.		Well no. MU-1 Date measured 12-04-02	
Pumping water level (PWL)*** 55.7 ft.		Elevation 144.8 ft.		Well no. MU-1 Date measured 12-04-02	
(Use additional sheet if necessary)					
Number of hrs shutdown for SWL measurement <u>0.58</u> . Number of continuous hrs pumped for PWL measurement <u>0.67</u> .					
Method of measurement: <input type="checkbox"/> Air line <input checked="" type="checkbox"/> Probe <input type="checkbox"/> Tape <input type="checkbox"/> Other (specify) -					
Measurement from: <input checked="" type="checkbox"/> Top of casing <input type="checkbox"/> Ground <input type="checkbox"/> Other (specify)					
*** Obtain and submit appropriate sets of water level measurements as indicated below:					
<p>For each well, the applicant shall submit a set of water level measurements (SWL and PWL) for each month during the reporting period. For each well, the applicant shall submit a set of water level measurements (SWL and PWL) for each month during the reporting period. For each well, the applicant shall submit a set of water level measurements (SWL and PWL) for each month during the reporting period.</p>					
And such other pertinent information submitted by the applicant or required by the Division.					

I certify that the above information is true to the best of my knowledge.

Blanchley Carter
Signed

Chemistry Superintendent
Title

1/29/03
Date

Return Report To:
Georgia Environmental Protection Division
M&I Groundwater Unit
P.O. Box 1201, State 1058
2 Martin Luther King Jr. Drive
Atlanta, Georgia 30334



Groundwater Use Report

This form shall be submitted to the Division twice each year, within the reporting period specified on the Groundwater Withdrawal Permit under Standard Condition No. 3.

(Print or type ALL information)

Permittee Information

Contact Person: W. C. Carr	Phone: (205) 992-6387	Email: wccarr@southernco.com
Company / Permittee: Southern Nuclear Operating Company / Vogtle Electric Generating Plant		
Address: P. O. Box 1295, Birmingham, Alabama 35201		
(No. and Street)	(City)	(State) (Zip)
GW Withdrawal Permit No.: 017 - 0003	For six (6) month period from July 2002 thru December 2002	
County where well(s) is located: Burke County, GA		
This report is on the Cretaceous Sand aquifer(s) used by well(s) numbered MU-1 & MU-2A, TW-1, SW-5, SB, Rec, CW-3, & IW-4		

Month/Year	Amount of water pumped from aquifer(s) each MONTH (in gallons)		Method used to determine pumpage
	System Total from ALL wells	Monthly Average (Total/Days in Month)	
July /2002	N/A gal	N/A gal	<input checked="" type="checkbox"/> Flow meter
August /2002	N/A gal	N/A gal	<input type="checkbox"/> Other (specify below)
September /2002	N/A gal	N/A gal	
October /2002	N/A gal	N/A gal	
November /2002	N/A gal	N/A gal	
December /2002	N/A gal	N/A gal	
System Total	N/A gal		Average hours pumped per day N/A

Static water level (SWL)*** 30.9 ft.	Elevation 137.3 ft.	Well no. Rec.	Date measured 12-05-02
Pumping water level (PWL)*** 49.9 ft.	Elevation 118.3 ft.	Well no. Rec.	Date measured 12-05-02

(Use additional sheet if necessary)

Number of hrs shutdown for SWL measurement 0.50. Number of continuous hrs pumped for PWL measurement 0.50.

Method of measurement: Air line Probe Tape Other (specify)

Measurement from: Top of casing Ground Other (specify)

*** Obtain and submit appropriate sets of water level measurements as indicated below:

Take readings from the highest well(s) using the same well's recording line or additional wells. All wells report.

And such other pertinent information submitted by the applicant or required by the Division.

I certify that the above information is true to the best of my knowledge.

W. C. Carr
Signed

Chemistry Superintendent
Title

1/29/03
Date

Return Report To:
 Georgia Environmental Protection Division
 MS-1 Groundwater Unit
 P.O. Box 1000, Suite 1000
 2 Martin Luther King Jr. Drive
 Atlanta, Georgia 30379

Vogtle Electric Generating Plant – Permit No. 017-0003

Annual Specific Conductance*

Obtained from: MU-1 Well
Obtained on: 08/14/02
Value ($\mu\text{mhos/cm}$): 150

Obtained from: Rec Well
Obtained on: 08/23/02
Value ($\mu\text{mhos/cm}$): 405

*Submitted with previous report on 09/13/02.



Groundwater Use Report

This form shall be submitted to the Division twice each year, within the reporting period specified on the Groundwater Withdrawal Permit under Standard Condition No. 3.

(Print or type ALL information)

Permittee Information					
Contact Person: W. C. Carr	Phone: (205) 992-6387	Email: wccarr@southernco.com			
Company / Permittee: Southern Nuclear Operating Company / Vogtle Electric Generating Plant					
Address: P. O. Box 1295, Birmingham, AL 35201					
(No. and Street)		(City)		(State) (Zip)	
GW Withdrawal Permit No.: 017 - 0003			For six (6) month period from January 2003 thru June 2003		
County where well(s) is located: Burke County, GA					
This report is on the Cretaceous Sand aquifer(s) used by well(s) numbered MU-1 & MU-2A, TW-1, SW-5, Rec. CW-3, and IW-4					
Month/Year	Amount of water pumped from aquifer(s) each MONTH (in gallons)			Method used to determine pumpage	
	System Total from ALL wells	gal	Monthly Average (Total/Days in Month)	gal	
January /2003	21627400	gal	697700	gal	<input checked="" type="checkbox"/> Flow meter
February /2003	20607400	gal	736000	gal	<input type="checkbox"/> Other (specify below)
March /2003	25447800	gal	820900	gal	
April /2003	21725800	gal	724200	gal	
May /2003	26062400	gal	840700	gal	
June /2003	21364800	gal	712200	gal	Average hours pumped per day 6.3
	136835600	gal			
Static water level (SWL)***	45.9 ft.	Elevation	154.6 ft.	Well no.	MU-1 Date measured 06-05-03
Pumping water level (PWL)***	50.2 ft.	Elevation	150.3 ft.	Well no.	MU-1 Date measured 06-05-03
(Use additional sheet if necessary)					
Number of hrs shutdown for SWL measurement 0.5. Number of continuous hrs pumped for PWL measurement 0.5.					
Method of measurement: <input type="checkbox"/> Air line <input checked="" type="checkbox"/> Probe <input type="checkbox"/> Tape <input type="checkbox"/> Other (specify) _____					
Measurement from: <input checked="" type="checkbox"/> Top of casing <input type="checkbox"/> Ground <input type="checkbox"/> Other (specify) _____					
*** Obtain and submit appropriate sets of water level measurements as indicated below:					
And such other pertinent information submitted by the applicant or required by the Division.					

I certify that the above information is true to the best of my knowledge.

Signed

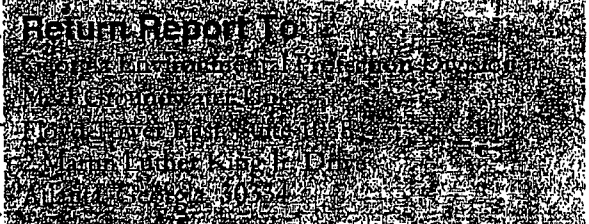
Chemistry Superintendent

Title

Date

[Handwritten Signature]

18 July 03



Georgia

Environmental Protection

Department of Natural Resources



Groundwater Use Report

This form shall be submitted to the Division twice each year, within the reporting period specified on the Groundwater Withdrawal Permit under Standard Condition No. 3.

(Print or type ALL information)

Permittee Information						
Contact Person: W. C. Carr	Phone: (205) 992-6387	Email: wccarr@southernco.com				
Company / Permittee: Southern Nuclear Operating Company / Vogtle Electric Generating Plant						
Address: P. O. Box 1295, Birmingham, AL 35201						
(No. and Street)		(City)		(State)		(Zip)
GW Withdrawal Permit No.: 017 - 0003	For six (6) month period from January 2003 thru June 2003					
County where well(s) is located: <u>Burke County, GA</u>						
This report is on the <u>Cretaceous Sand</u> aquifer(s) used by well(s) numbered <u>MU-1 & MU-2A, TW-1, SW-5, Rec. CW-3, and IW-4</u>						
Month/Year	Amount of water pumped from aquifer(s) each MONTH (in gallons)				Method used to determine pumpage	
	System Total from ALL wells		Monthly Average (Total/Days in Month)			
January /2003	N/A	gal	N/A	gal	<input checked="" type="checkbox"/> Flow meter	
February /2003	N/A	gal	N/A	gal	<input type="checkbox"/> Other (specify below)	
March /2003	N/A	gal	N/A	gal		
April /2003	N/A	gal	N/A	gal		
May /2003	N/A	gal	N/A	gal		
June /2003	N/A	gal	N/A	gal	Average hours pumped per day N/A	
Static water level (SWL)*** 24.6 ft. Elevation 143.6 ft. Well no. Rec. Date measured 06-05-03						
Pumping water level (PWL)*** 44.1 ft. Elevation 124.1 ft. Well no. Rec. Date measured 06-05-03						
(Use additional sheet if necessary)						
Number of hrs shutdown for SWL measurement <u>0.5</u> . Number of continuous hrs pumped for PWL measurement <u>0.5</u> .						
Method of measurement: <input type="checkbox"/> Air line <input checked="" type="checkbox"/> Probe <input type="checkbox"/> Tape <input type="checkbox"/> Other (specify) _____						
Measurement from: <input checked="" type="checkbox"/> Top of casing <input type="checkbox"/> Ground <input type="checkbox"/> Other (specify) _____						
*** Obtain and submit appropriate sets of water level measurements as indicated below:						
And such other pertinent information submitted by the applicant or required by the Division.						

I certify that the above information is true to the best of my knowledge.

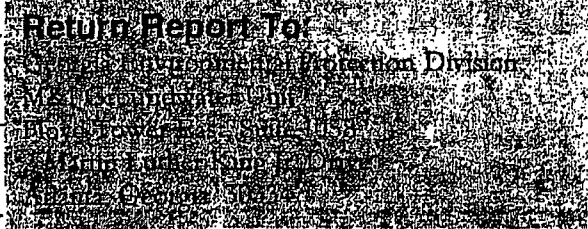
Signed

Chemistry Superintendent

Title

Date

W. C. Carr
18 July '03



Vogle Electric Generating Plant – Permit No. 017-0003

Annual Specific Conductance

Obtained from: MU-1 Well
Obtained on: 06/05/03
Value ($\mu\text{mhos/cm}$): 175

Obtained from: Rec Well
Obtained on: 06/05/03
Value ($\mu\text{mhos/cm}$): 230



Groundwater Use Report

This form shall be submitted to the Division twice each year, within the reporting period specified on the Groundwater Withdrawal Permit under Standard Condition No. 3.

(Print or type ALL information)

Permittee Information

Contact Person: W. C. Carr	Phone: (205) 992-6387	Email: wccarr@southernco.com
Company / Permittee: Southern Nuclear Operating Company / Vogtle Electric Generating Plant		
Address: P. O. Box 1295, Birmingham, AL 35201		
(No. and Street)	(City)	(State) (Zip)
GW Withdrawal Permit No.: 017 - 0003	For six (6) month period from July 2003 thru December 2003	
County where well(s) is located: Burke County, GA		
This report is on the Cretaceous Sand aquifer(s) used by well(s) numbered MU-1 & MU-2A, TW-1, SW-5, Rec. CW-3, and IW-4		

Amount of water pumped from aquifer(s) each MONTH
 (in gallons)

Month/Year	System Total from ALL wells	Monthly Average (Total/Days in Month)	Method used to determine pumpage
July /2003	29006400 gal	935700 gal	<input checked="" type="checkbox"/> Flow meter
August /2003	28191900 gal	909400 gal	<input type="checkbox"/> Other (specify below)
September /2003	28645900 gal	954900 gal	
October /2003	25512600 gal	823000 gal	
November /2003	20453700 gal	681800 gal	
December /2003	24300500 gal	783900 gal	Average hours pumped per day 7.1
	156111000 gal		

Static water level (SWL)*** 45.1 ft.	Elevation 155.4 ft.	Well no. MU-1	Date measured 12-05-03
Pumping water level (PWL)*** 49.8 ft.	Elevation 150.7 ft.	Well no. MU-1	Date measured 12-05-03

(Use additional sheet if necessary)

Number of hrs shutdown for SWL measurement 0.5. Number of continuous hrs pumped for PWL measurement 0.5.

Method of measurement: Air line Probe Tape Other (specify) _____

Measurement from: Top of casing Ground Other (specify) _____

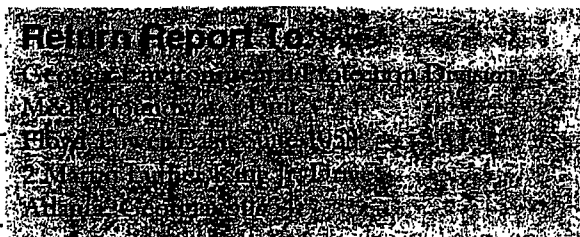
*** Obtain and submit appropriate sets of water level measurements as indicated below:

And such other pertinent information submitted by the applicant or required by the Division.

I certify that the above information is true to the best of my knowledge.

B. Dudley Carter
 Signed
 B. Dudley Carter
 Chemistry Superintendent
 Title

January 16, 2004
 Date





Groundwater Use Report

This form shall be submitted to the Division twice each year, within the reporting period specified on the Groundwater Withdrawal Permit under Standard Condition No. 3.

(Print or type ALL information)

Permittee Information

Contact Person: W. C. Carr Phone: (205) 992-6387 Email: wccarr@southernco.com

Company / Permittee: Southern Nuclear Operating Company / Vogtle Electric Generating Plant

Address: P. O. Box 1295, Birmingham, AL 35201

(No. and Street) (City) (State) (Zip)

GW Withdrawal Permit No.: 017 - 0003 For six (6) month period from July 2003 thru December 2003

County where well(s) is located: Burke County, GA

This report is on the Cretaceous Sand aquifer(s) used by well(s) numbered MU-1 & MU-2A, TW-1, SW-5, Rec, CW-3, and IW-4

Month/Year	Amount of water pumped from aquifer(s) each MONTH (in gallons)		Method used to determine pumpage
	System Total from ALL wells	Monthly Average (Total/Days in Month)	
July /2003	N/A gal	N/A gal	<input checked="" type="checkbox"/> Flow meter
August /2003	N/A gal	N/A gal	<input type="checkbox"/> Other (specify below)
September /2003	N/A gal	N/A gal	
October /2003	N/A gal	N/A gal	
November /2003	N/A gal	N/A gal	
December /2003	N/A gal	N/A gal	Average hours pumped per day <u>N/A</u>

Static water level (SWL)*** 25.0 ft. Elevation 143.2 ft. Well no. Rec. Date measured 12-05-03

Pumping water level (PWL)*** 44.7 ft. Elevation 123.5 ft. Well no. Rec. Date measured 12-05-03

(Use additional sheet if necessary)

Number of hrs shutdown for SWL measurement 0.5. Number of continuous hrs pumped for PWL measurement 0.5.

Method of measurement: Air line Probe Tape Other (specify) _____

Measurement from: Top of casing Ground Other (specify) _____

*** Obtain and submit appropriate sets of water level measurements as indicated below:

And such other pertinent information submitted by the applicant or required by the Division.

I certify that the above information is true to the best of my knowledge.

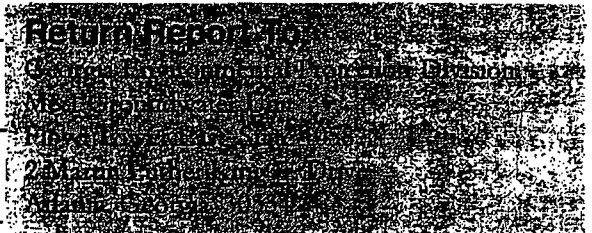
B. Dudley Carter

Signed
 B. Dudley Carter
 Chemistry Superintendent

Title

January 16, 2004

Date



Vogtle Electric Generating Plant – Permit No. 017-0003

Annual Specific Conductance

Obtained from: MU-1 Well
Obtained on: 12/05/03
Value ($\mu\text{mhos/cm}$): 138

Obtained from: Rec Well
Obtained on: 12/05/03
Value ($\mu\text{mhos/cm}$): 291

Southern Nuclear
Operating Company, Inc.
Post Office Box 1295
Birmingham, Alabama 35201-1295
Tel 205.992.5000



File: E.03.34
Log: EV-04-1284

July 28, 2004

FEDERAL EXPRESS

Vogtle Electric Generating Plant
Ground Water Use Permit No. 017-0003
Semi-Annual Report

Mr. Bill Frechette
Municipal & Industrial Groundwater Permitting Unit
State of Georgia Environmental Protection Division
2 Martin Luther King, Jr. Drive SE
East Tower, Suite 1058
Atlanta, Georgia 30334

Dear Mr. Frechette:

In accordance with standard condition #3 of the Vogtle Electric Generating Plant Ground Water Use Permit (No. 017-0003) and Rule 391-3-2-.08, enclosed is the semi-annual Ground Water Use Report for the first half of 2004. Please note that the amount reported for January 2004 is significantly higher than other months in the reporting period. It has been determined that the totalizer for Well MU-1 malfunctioned during the month and actual water used was substantially less than reported. There is not enough information available to estimate the effect of the totalizer malfunction on water usage in January 2004. Southern Nuclear Operating Company is therefore conservatively reporting the value as shown on the totalizers. Although the reported value is substantially higher than the actual use, no permit limits were exceeded. The totalizer was repaired on January 27, 2004 and subsequent values reported are correct.

If you have any questions, please contact Amy Greene at (205) 992-5809.

Sincerely,

A handwritten signature in black ink, appearing to read "Wayne C. Carr".

Wayne C. Carr, Manager
Environmental Services

WCC/ABG:ahl

Enclosure
EV-04-1284
Mr. Bill Frechette
State of Georgia Environmental Protection Division
Page Two

bcc: P. D. Rushton (w/o)
W. F. Kitchens
A. Harris (w/o)
C. L. Buck (w/o)
S. Sundaram (w/o)
D. G. Goodwin
T. D. Blalock (w/o)
J. B. Wetherington (w/o)
SNC Document Management – Vogtle (with receipt)

Georgia
Environmental Protection
 Department of Natural Resources



Groundwater Use Report

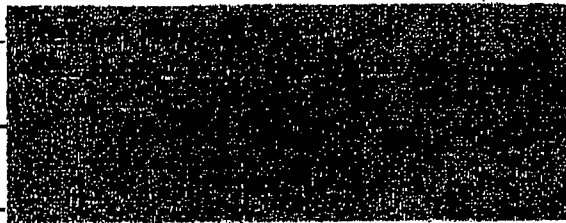
This form shall be submitted to the Division twice each year, within the reporting period specified on the Groundwater Withdrawal Permit under Standard Condition No. 3.

(Print or type ALL information)

Permittee Information					
Contact Person: W. C. Carr		Phone: (205) 992-6387		Email: wccarr@southernco.com	
Company / Permittee: Southern Nuclear Operating Company / Vogtle Electric Generating Plant					
Address: P. O. Box 1295, Birmingham, AL 35201					
(No. and Street)		(City)		(State) (Zip)	
GW Withdrawal Permit No.: 017 - 0003		For six (6) month period from January 2004 thru June 2004			
County where well(s) is located: Burke County, GA					
This report is on the <u>Cretaceous Sand</u> aquifer(s) used by well(s) numbered <u>MU-1, MU-2A, TW-1, SW-5, Rec. CW-3, and IW-4</u>					
Month/Year	Amount of water pumped from aquifer(s) each MONTH (in gallons)			Method used to determine pumpage	
	System Total from ALL wells		Monthly Average (Total/Days in Month)		
January /2004	36257200	gal	1169500	gal	<input checked="" type="checkbox"/> Flow meter
February /2004	17831800	gal	614900	gal	<input type="checkbox"/> Other (specify below)
March /2004	21041400	gal	678800	gal	
April /2004	20878000	gal	695900	gal	
May /2004	28661400	gal	924600	gal	
June /2004	20557900	gal	685300	gal	Average hours pumped per day 6.6
	145227700	gal			
Static water level (SWL)*** 44.9 ft.		Elevation 155.6 ft.		Well no. MU-1	Date measured 06-08-04
Pumping water level (PWL)*** 51.4 ft.		Elevation 149.1 ft.		Well no. MU-1	Date measured 06-08-04
(Use additional sheet if necessary)					
Number of hrs shutdown for SWL measurement 0.5. Number of continuous hrs pumped for PWL measurement 0.5.					
Method of measurement: <input type="checkbox"/> Air line <input checked="" type="checkbox"/> Probe <input type="checkbox"/> Tape <input type="checkbox"/> Other (specify) _____					
Measurement from: <input checked="" type="checkbox"/> Top of casing <input type="checkbox"/> Ground <input type="checkbox"/> Other (specify) _____					
*** Obtain and submit appropriate sets of water level measurements as indicated below:					
And such other pertinent information submitted by the applicant or required by the Division.					

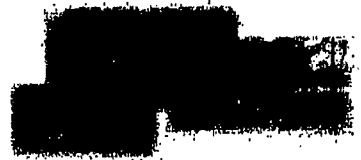
I certify that the above information is true to the best of my knowledge.

Signed Cliff Buck
 Chemistry Manager
 Title



Date 7-7-04

Georgia
Environmental Protection
 Department of Natural Resources



Groundwater Use Report

This form shall be submitted to the Division twice each year, within the reporting period specified on the Groundwater Withdrawal Permit under Standard Condition No. 3.

(Print or type ALL information)

Permittee Information

Contact Person: W. C. Carr Phone: (205) 992-6387 Email: wccarr@southernco.com
 Company / Permittee: Southern Nuclear Operating Company / Vogtle Electric Generating Plant
 Address: P. O. Box 1295, Birmingham, AL 35201
(No. and Street) (City) (State) (Zip)
 GW Withdrawal Permit No.: 017 - 0003 For six (6) month period from January 2004 thru June 2004
 County where well(s) is located: Burke County, GA
 This report is on the Cretaceous Sand aquifer(s) used by well(s) numbered MU-1, MU-2A, TW-1, SW-5, Rec. CW-3, and IW-4

Month/Year	Amount of water pumped from aquifer(s) each MONTH (in gallons)		Monthly Average (Total/Days in Month)	Method used to determine pumpage
	System Total from ALL wells	gal		
January /2004	N/A	gal	N/A gal	<input checked="" type="checkbox"/> Flow meter
February /2004	N/A	gal	N/A gal	<input type="checkbox"/> Other (specify below)
March /2004	N/A	gal	N/A gal	
April /2004	N/A	gal	N/A gal	
May /2004	N/A	gal	N/A gal	
June /2004	N/A	gal	N/A gal	Average hours pumped per day <u>N/A</u>

Static water level (SWL)***	<u>25.5</u> ft.	Elevation <u>142.7</u> ft.	Well no. <u>REC.</u>	Date measured <u>06-08-04</u>
Pumping water level (PWL)***	<u>45.2</u> ft.	Elevation <u>123.0</u> ft.	Well no. <u>REC.</u>	Date measured <u>06-08-04</u>

(Use additional sheet if necessary)

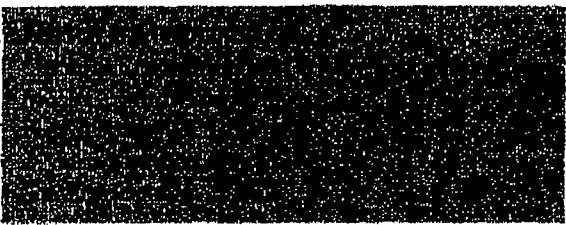
Number of hrs shutdown for SWL measurement 0.5, Number of continuous hrs pumped for PWL measurement 0.5.
 Method of measurement: Air line Probe Tape Other (specify) _____
 Measurement from: Top of casing Ground Other (specify) _____

*** Obtain and submit appropriate sets of water level measurements as indicated below:

And such other pertinent information submitted by the applicant or required by the Division.

I certify that the above information is true to the best of my knowledge.

Signed *Cliff Buck*
 Cliff Buck
 Chemistry Manager
 Title



Date 7-7-04

Environmental Protection
Department of Natural Resources




Groundwater Use Report

This form shall be submitted to the Division twice each year, within the reporting period specified on the Groundwater Withdrawal Permit under Standard Condition No. 3.

(Print or type ALL information)

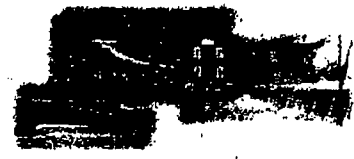
Permittee Information					
Contact Person: Tom Moorer		Phone: (205) 992-5807		Email: tcmoorer@southernco.com	
Company / Permittee: Southern Nuclear Operating Company / Vogtle Electric Generating Plant					
Address: P. O. Box 1295, Birmingham, AL 35201					
(No. and Street)		(City)		(State) (Zip)	
GW Withdrawal Permit No.: 017 - 0003		For six (6) month period from July 2004 thru December 2004			
County where well(s) is located: <u>Burke County, GA</u>					
This report is on the <u>Cretaceous Sand</u> aquifer(s) used by well(s) numbered <u>MU-1, MU-2A, TW-1, SW-5, Rec, CW-3, and IW-4</u>					
Month/Year	Amount of water pumped from aquifer(s) each MONTH (in gallons)			Method used to determine pumpage	
	System Total from ALL wells		Monthly Average (Total/Days in Month)		
July /2004	30498100	gal	983800	gal	<input checked="" type="checkbox"/> Flow meter
August /2004	29187600	gal	941500	gal	<input type="checkbox"/> Other (specify below)
September /2004	21705900	gal	723500	gal	
October /2004	21755700	gal	701800	gal	
November /2004	21449200	gal	715000	gal	
December /2004	20865900	gal	673100	gal	Average hours pumped
Six Month - Grand Total	145462400	gal			per day <u>6.6</u>
Static water level (SWL)*** 46.0 ft. Elevation 154.53 ft. Well no. MU-1 Date measured 12-02-04					
Pumping water level (PWL)*** 50.2 ft. Elevation 150.33 ft. Well no. MU-1 Date measured 12-02-04					
(Use additional sheet if necessary)					
Number of hrs shutdown for SWL measurement <u>0.5</u> . Number of continuous hrs pumped for PWL measurement <u>0.5</u> .					
Method of measurement: <input type="checkbox"/> Air line <input checked="" type="checkbox"/> Probe <input type="checkbox"/> Tape <input type="checkbox"/> Other (specify) _____					
Measurement from: <input checked="" type="checkbox"/> Top of casing <input type="checkbox"/> Ground <input type="checkbox"/> Other (specify) _____					
*** Obtain and submit appropriate sets of water level measurements as indicated below:					
From 1-5 wells - a set from ONLY 1 WELL		Take readings from the highest yield well(s) using the same well(s) each time. For additional wells, follow this format.			
From 6-10 wells - a set from ONLY 2 WELL					
From 11-15 wells - a set from ONLY 3 WELL					
From 16-20 wells - a set from ONLY 4 WELL					
And such other pertinent information submitted by the applicant or required by the Division.					

I certify that the above information is true to the best of my knowledge.

Signed 
 Clifton L. Buck, Chemistry Manager
 Title
 01-05-05
 Date

Return Report To:
 Georgia Environmental Protection Division
 M&I Groundwater Unit
 Floyd Tower East, Suite 1058
 2 Martin Luther King Jr. Drive
 Atlanta, Georgia 30334

Environmental Protection
Department of Natural Resources



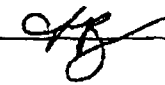
Groundwater Use Report

This form shall be submitted to the Division twice each year, within the reporting period specified on the Groundwater Withdrawal Permit under Standard Condition No. 3.

(Print or type ALL information)

Permittee Information				
Contact Person: Tom Moorer	Phone: (205) 992-5807	Email: tcmoorer@southernco.com		
Company / Permittee: Southern Nuclear Operating Company / Vogtle Electric Generating Plant				
Address: P. O. Box 1295, Birmingham, AL 35201				
(No. and Street)	(City)	(State)	(Zip)	
GW Withdrawal Permit No.: 017 - 0003	For six (6) month period from July 2004 thru December 2004			
County where well(s) is located: <u>Burke County, GA</u>				
This report is on the <u>Cretaceous Sand</u> aquifer(s) used by well(s) numbered <u>MU-1, MU-2A, TW-1, SW-5, Rec. CW-3, and IW-4</u>				
Month/Year		System Total from ALL wells	Monthly Average (Total/Days in Month)	Method used to determine pumpage
		gal	gal	<input type="checkbox"/> Flow meter
		gal	gal	<input type="checkbox"/> Other (specify below)
		gal	gal	
		gal	gal	
		gal	gal	
		gal	gal	Average hours pumped per day
Six Month - Grand Total		gal		
Static water level (SWL)*** 28	ft.	Elevation 140.2	ft.	Well no. Rec Date measured 12-02-04
Pumping water level (PWL)*** 47.4	ft.	Elevation 120.8	ft.	Well no. Rec Date measured 12-02-04
(Use additional sheet if necessary)				
Number of hrs shutdown for SWL measurement <u>0.5</u> . Number of continuous hrs pumped for PWL measurement <u>0.5</u> .				
Method of measurement: <input type="checkbox"/> Air line <input checked="" type="checkbox"/> Probe <input type="checkbox"/> Tape <input type="checkbox"/> Other (specify) _____				
Measurement from: <input checked="" type="checkbox"/> Top of casing <input type="checkbox"/> Ground <input type="checkbox"/> Other (specify) _____				
*** Obtain and submit appropriate sets of water level measurements as indicated below:				
From 1-5 wells	- a set from ONLY 1 WELL			
From 6-10 wells	- a set from ONLY 2 WELL			
From 11-15 wells	- a set from ONLY 3 WELL			
From 16-20 wells	- a set from ONLY 4 WELL			
Take readings from the highest yield well(s) using the same well(s) each time. For additional wells, follow this format.				
And such other pertinent information submitted by the applicant or required by the Division.				

I certify that the above information is true to the best of my knowledge.

Signed 
 Clifton L. Buck, Chemistry Manager
 Title
 01-05-05
 Date

Return Report To:
 Georgia Environmental Protection Division
 M&I Groundwater Unit
 Floyd Tower East, Suite 1058
 2 Martin Luther King Jr. Drive
 Atlanta, Georgia 30334

Vogtle Electric Generating Plant – Permit No. 017-0003

Annual Specific Conductance

Obtained from: MU-1 Well
Obtained on: 12/02/04
Value ($\mu\text{mhos/cm}$): 174

Obtained from: Rec Well
Obtained on: 12/02/04
Value ($\mu\text{mhos/cm}$): 170