

Georgia Power Company
Route 2, Box 299A
Waynesboro, Georgia 30830
Telephone 404 554-9961, Ext. 3360
404 724-8114, Ext. 3360

D. O. Foster
Vice President and Project
General Manager
Vogtle Project



September 25, 1984

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: X8BE03
Log: GN-422

NRC DOCKET NUMBERS 50-424 AND 50-425
CONSTRUCTION PERMIT NUMBERS CPPR-108 AND CPPR-109
VOGTLE ELECTRIC GENERATING PLANT-UNITS 1 AND 2
DRAFT NPDES PERMIT AND ADDITIONAL INFORMATION REGARDING
COOLING TOWER DRIFT

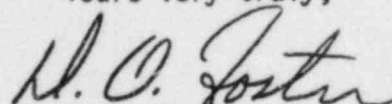
Dear Mr. Denton:

Enclosed is a copy of the draft National Pollutant Discharge Elimination System (NPDES) permit (Attachment 1). The final NPDES permit, when issued, will be included in the Environmental Report-Operating License Stage (ER-OLS).

Also enclosed is information requested by your staff regarding drift emissions from the VEGP natural draft cooling towers. Attachment 2 clarifies the response to question E290.8 which was submitted as part of Amendment 3 to the ER-OLS on May 25, 1984. This clarification includes additional information and provides estimates using expected drift rates in lieu of guaranteed drift rates. Attachment 3 is an explanation, including calculations, of the methodology used to estimate the drift deposition rates. The clarification of the response to question E290.8 will be included in the next Amendment of the ER-OLS.

If you have any questions concerning the attachments, please contact us.

Yours very truly,


D. O. Foster

DOF/DHW/sro
Attachments

cc list attached

8410020307 840925
PDR ADCK 05000424
C PDR

Cool
1/20

Director of Nuclear Reactor Regulation
September 25, 1984
Page 2

cc: M. A. Miller
D. Hood
R. A. Thomas
J. A. Bailey
L. T. Guwa
G. F. Trowbridge, Esquire
G. Bockhold, Jr.
J. E. Joiner
L. Fowler
C. A. Stangler

PERMIT NO. GA 0026786

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STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

AUG 27 1984

ENVIRONMENTAL PROTECTION DIVISION

RECEIVED

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

AUG 27 1984

ENVIRONMENTAL PROTECTION DIVISION

In compliance with the provisions of the Georgia Water Quality Control Act (Georgia Laws 1964, p. 416, as amended), hereinafter called the "State Act," the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.), hereinafter called the "Federal Act," and the Rules and Regulations promulgated pursuant to each of these Acts,

Georgia Power Company
P. O. Box 4545
Atlanta, Georgia 30302

is authorized to discharge from a facility located at

Vogtle Electric Generating Plant
Waynesboro, Burke County, Georgia

to receiving waters Savannah River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof.

This permit shall become effective on the date signed by the Director of the Environmental Protection Division.

This permit and the authorization to discharge shall expire at midnight,

Signed this _____ day of _____.



Director,
Environmental Protection Division

STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning effective date and lasting through the permittee is authorized to discharge from outfall(s) serial number(s) 001^A - Cooling Tower Blowdown (001^{A1} and 001^{A2})

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements		
	kg/day (lbs/day)		Other Units (Specify)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow-m ³ Day (MGD)	-	-	-	-	*2	*2	*2
Free Available Chlorine *5	-	-	0.2 mg/l	0.5 mg/l	1/Week	Multiple Grabs *3	*1
Total Residual Chlorine *5	-	-	-	-	1/Week	Multiple Grabs *3	*1
Time of TRC Discharge	-	-	-	120 minutes/day per unit	1/Week	Multiple Grabs	*1
Total Chromium	-	-	-	0.2 mg/l	1/Quarter	Grab	*4
Total Zinc	-	-	-	1.0 mg/l	1/Quarter	Grab	*4

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored twice per month by grab sample at final discharge.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

- *1 Monitored immediately following dechlorination system.
- *2 See Part III, Special Requirements, Item 7.
- *3 See Part III, Special Requirements, Item 4.
- *4 Monitored prior to mixing with other waste streams.
- *5 Effluent limitations for FAC and TRC refer to the average and maximum concentrations during any individual chlorine release period.

The permittee shall certify yearly that no priority pollutant other than chromium or zinc is above detectable limits in this discharge. This certification may be based on manufacturer's certifications or engineering calculations.

EPD 2.21-2-1
STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

During the period beginning effective date and lasting through
the permittee is authorized to discharge from outfall(s) serial number(s) 001_B - Low Volume Waste (Wastewater Retention Basin)

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>		
	kg/day (lbs/day)		Other Units (Specify)		Measurement Frequency	Sample Type	Sample *1 Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow-m ³ Day (MGD)	-	-	-	-	*2	*2	*2
Total Suspended Solids	-	-	30	100	2/Month	Grab	Discharge Line
Oil & Grease	-	-	15	20	2/Month	Grab	Discharge Line

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored twice per month by grab sample at final discharge.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

*1 Prior to mixing with cooling tower blowdown.

*2 See Part III, Special Requirements, item 7.

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EPD 2.21-2-1
STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

During the period beginning effective date and lasting through
the permittee is authorized to discharge from outfall(s) serial number(s) 001_{B5} - Sewage Treatment Plant

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>		
	kg/day (lbs/day)		Other Units (Specify) (mg/l)		Measurement Frequency	Sample Type	Sample *1 Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow-m ³ /Day (MGD)	-	-	-	-	*2	*2	*2
BOD ₅	-	-	30	45	Quarterly	Grab	Discharge Line

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored twice per month by grab sample at final discharge.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

*1 Prior to mixing with any other waste stream.

*2 See Part III, Special Requirements, item 7.

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STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

During the period beginning effective date and lasting through
the permittee is authorized to discharge from outfall(s) serial number(s) 001^{B7} - Low Volume Waste (Liquid
Radwaste System)

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements		
	kg/day (lbs/day)		Other Units (Specify)		Measurement Frequency	Sample Type	Sample *1 Location
	Daily Avg.	Daily Max.	Daily Avg. (mg/l)	Daily Max.			
Flow-m ³ /Day (MGD)	-	-	-	-	*2	*2	*2
Total Suspended Solids	-	-	30	100	2/Month	Grab	Discharge Line
Oil & Grease	-	-	15	20	2/Month	Grab	Discharge Line

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored twice per month by grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

*1 Prior to mixing with other waste streams.

*2 See Part III, Special Requirements, item 7.

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B. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

N/A

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

PART I

Page 7 of 14
Permit No. GA 0026786

Note: EPD as used herein means the Division of Environmental Protection of the Department of Natural Resources.

C. MONITORING AND REPORTING

1. Representative Sampling.

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

Monitoring results obtained during the previous 3 months shall be summarized for each month and reported on an Operation Monitoring Report (Form WQ 1.45), postmarked no later than the 21st day of the month following the completed reporting period. The first report is due on

The EPD may require reporting of additional monitoring results by written notification. Signed copies of these, and all other reports required herein, shall be submitted to the following address:

Georgia Environmental Protection Division
Water Quality Control Section - Industrial Wastewater Program
270 Washington Street, S.W.
Atlanta, Georgia 30334

3. Definitions

- a. The "daily average" discharge means the total discharge by weight during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of all the measured daily discharges by weight divided by the number of days sampled during the calendar month when the measurements were made.
- b. The "daily maximum" discharge means the total discharge by weight during any calendar day.
- c. The "daily average" concentration means the arithmetic average (weighted by flow value) of all the daily determinations of concentration made during a calendar month. Daily determinations of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the daily determination of concentration shall be the arithmetic average (weighted by flow value) of all the sample collected during that calendar day.

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- d. The "daily maximum" concentration means the daily determination of concentration for any calendar day.
- e. "Weighted by flow value" means the summation of each sample concentration times its respective flow in convenient units divided by the sum of the respective flows.
- f. For the purpose of this permit, a calendar day is defined as any consecutive 24-hour period.

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304(g) of the Federal Act.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. The exact place, date, and time of sampling;
- b. The dates the analyses were performed;
- c. The person(s) who performed the analyses;
- d. The analytical techniques or methods used; and
- e. The results of all required analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Operation Monitoring Report Form (WQ 1.45). Such increased monitoring frequency shall also be indicated. The EPD may require more frequent monitoring or the monitoring of other pollutants not required in this permit by written notification.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained by the permittee for a minimum of three (3) years, or longer if requested by the State Environmental Protection Division.

A. MANAGEMENT REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges or pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the EPD of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Water Quality Control Section of EPD with the following information, in writing, within five (5) days of becoming aware of such condition:

- a. A description of the discharge and cause of noncompliance; and
- b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

3. Facilities Operation

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

4. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

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5. Bypassing

Any diversion from or bypass of facilities covered by this permit is prohibited, except (i) where unavoidable to prevent loss of life or severe property damage, or (ii) where excessive storm drainage, runoff, or infiltration would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit. The permittee shall operate the treatment works, including the treatment plant and total sewer system, to minimize discharge of the pollutants listed in Part I of this permit from combined sewer overflows or bypasses. The permittee shall monitor all overflows and bypasses in the sewer and treatment system. A record of each overflow and bypass shall be kept with information on the location, cause, duration, and peak flow rate. Upon written notification by EPD, the permittee may be required to submit a plan and schedule for reducing bypasses, overflows, and infiltration in the system.

6. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State.

7. Power Failures

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

- a. In accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities;

or, if such alternative power source is not in existence, and no date for its implementation appears in Part I,

- b. Halt, reduce or otherwise control production and/or all discharges from wastewater control facilities upon the reduction, loss, or failure of the primary source of power to said wastewater control facilities.

B. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Director of EPD, the Regional Administrator of EPA, and/or their authorized representatives, agents, or employees, upon the presentation of credentials:

- a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

- b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Water Quality Control Section of EPD.

3. Availability of Reports

Except for data determined by the Director of EPD to be confidential under Section 16 of the State Act or the Regional Administrator of the U.S. Environmental Protection Agency under Section 308 of the Federal Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the Atlanta office of the EPD. Effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 22(b) of the State Act.

4. Permit Modification

After written notice and opportunity for a hearing, this permit may be modified, suspended, revoked or reissued in whole or in part during its term for cause including, but not limited to, the following:

- a. Violation of any conditions of this permit;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge; or
- d. To comply with any applicable effluent limitation issued pursuant to the order the United States District Court for the District of Columbia issued on June 8, 1976, in Natural Resources Defense Council, Inc. et.al. v. Russell E. Train, 8 ERC 2120 (D.D.C. 1976), if the effluent limitation so issued:
 - (1) is different in conditions or more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.

5. Toxic Pollutants

Notwithstanding Part II, B-4 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Federal Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition. A draft permit will be provided for review and comments prior to issuance.

6. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

7. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Federal Act.

8. Water Quality Standards

Nothing in this permit shall be construed to preclude the modification of any condition of this permit when it is determined that the effluent limitations specified herein fail to achieve the applicable State water quality standards.

9. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

10. Expiration of Permit

Permittee shall not discharge after the expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information, forms, and fees as are required by the agency authorized to issue permits no later than 180 days prior to the expiration date.

11. Contested Hearings

Any person who is aggrieved or adversely affected by any action of the Director of EPD shall petition the Director for a hearing within thirty (30) days of notice of such action.

12. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

13. Best Available Technology Economically Achievable

Notwithstanding Part II, B-4 above, if an applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 301(b)2 of the Federal Act for a pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with such effluent standard or prohibition. A draft permit will be provided for review and comments prior to issuance.

14. The permittee will implement best management practices to control the discharge of hazardous and/or toxic materials from ancillary manufacturing activities. Such activities include, but are not limited to, materials storage areas; in-plant transfer, process and material handling areas; loading and unloading operations; plant site runoff; and sludge and waste disposal areas.

PART III

A. PREVIOUS PERMITS

1. All previous State water quality permits issued to this facility, whether for construction or operation, are hereby revoked by the issuance of this permit. This action is taken to assure compliance with the Georgia Water Quality Control Act, as amended, and the Federal Water Pollution Control Act, as amended. Receipt of the permit constitutes notice of such action. The conditions, requirements, terms and provisions of this permit authorizing discharge under the National Pollutant Discharge Elimination System govern discharges from this facility.

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B. SPECIAL REQUIREMENTS

1. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.
2. Any metal cleaning wastes generated will be contained for further treatment or disposal in a manner to permit compliance at time of discharge with requirements listed below. This applies to any pre-operational chemical cleaning of metal process equipment also.
3. The quantity of pollutants discharged in metal cleaning waste shall not exceed the quantity determined by multiplying the flow of metal cleaning wastes times the concentrations listed below. The pH is to be in the range of 6.0 to 9.0 standard units.

<u>Effluent Characteristic</u>	<u>Discharge Limitation (mg/l)</u>	
	<u>Daily Average</u>	<u>Daily Maximum</u>
Total suspended solids	30	100
Oil and grease	15	20
Copper	1.0	1.0
Iron	1.0	1.0

Each discharge shall be sampled by composite consisting of three or more grab samples, one of which will be collected immediately after the start of discharge, one immediately prior to termination of discharge, and one or more between these two. Results shall be reported monthly by the 21st day of the following calendar month.

4. Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day as monitored immediately following the dechlorination facilities.
5. In the event that waste streams from various sources are combined for treatment of discharge, the quantity of each pollutant or pollutant property controlled by this permit shall not exceed the specified limitations for that source except that the limitations for free available chlorine and total residual chlorine discharges from cooling tower blowdown shall apply following the dechlorination system as noted in Item 4 above.
6. The Director may modify any effluent limitation upon request of the permittee if such limitation is covered by an approved variance or by an amendment to the Federal Water Pollution Control Act.
7. The permittee shall determine the flow of the various waste streams and submit this determination to the Director once every two years.

STATE OF GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION
270 Washington Street, S. E.
Atlanta, Georgia 30334

RECEIVED
AUG 27 1984
DNR. 44448

FACT SHEET

APPLICATION FOR
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT TO DISCHARGE TREATED WASTEWATER
TO WATERS OF THE STATE OF GEORGIA

Application No. GA 0026786

Date 8/1/84

1. SYNOPSIS OF APPLICATION

a. Name and Address of Applicant

Georgia Power Company, Plant Vogtle
P. O. Box 4545
Atlanta, Georgia 30302

b. Description of Applicant's Operation

Applicant is engaged in the generation of electricity.

c. Production Capacity of Facility

N/A

d. Applicant's Receiving Waters

Savannah River

e. Description of Existing Pollution Abatement Facilities

This will be a new generating facility.

f. Description of Discharges (as reported by applicant)

Serial 001A - Cooling Tower Blowdown
001B - Low Volume Waste

Average Flow - 10,280 gpm
Average Winter Temperature - -
Average Summer Temperature - -
pH Range (std. units) - 6-9

Pollutants which are present in significant quantities or which are subject to effluent limitation are as follows:

<u>Effluent Characteristic</u>	<u>Reported Load</u> (Max.)
BOD	3 mg/l
COD	15 mg/l
TOC	10 mg/l
TSS	30 mg/l

Serial 002 -

Average Flow -
Average Winter Temperature -
Average Summer Temperature -
pH Range (std. units) -

Pollutants which are present in significant quantities or which are subject to effluent limitation are as follows:

<u>Effluent Characteristic</u>	<u>Reported Load</u>
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2. PROPOSED EFFLUENT LIMITATIONS

Serial 001A - Cooling Tower Blowdown

Permitted Maximum Temperature - N/A
Permitted pH Range (std. units) - 6-9

Effluent Characteristic

Discharge Limitation

	<u>Daily Avg.</u>	<u>Daily Max.</u>
Free Available Chlorine, mg/l	0.2	0.5
Total Chromium, mg/l	-	0.2
Total Zinc, mg/l	-	1.0

Serial 001B - Low Volume Waste (Retention Basin)

Permitted Maximum Temperature - N/A
Permitted pH Range (std. units) - 6-9

Effluent Characteristic

Discharge Limitation

	<u>Daily Avg.</u>	<u>Daily Max.</u>
TSS, mg/l	30	100
Oil & Grease, mg/l	15	20

Serial 001B(5) - Sewage Treatment Plant

Permitted Maximum Temperature - N/A

Permitted pH Range (std. units) - 6-9

Effluent Characteristic

Discharge Limitation

	<u>Daily Avg.</u>	<u>Daily Max.</u>
BOD, mg/l	30	45

Serial 001B(7) - Low Volume Waste (Liquid Radwaste System)

Permitted Maximum Temperature - N/A

Permitted pH Range (std. units) - 6-9

Effluent Characteristic

Discharge Limitation

	<u>Daily Avg.</u>	<u>Daily Max.</u>
TSS, mg/l	30	100
Oil & Grease, mg/l	15	20

3. MONITORING REQUIREMENTS

The applicant will be required to monitor regularly for flow and those parameters limited in Section 2 above with sufficient frequency to ensure compliance with the permit conditions. Frequency, methods of sampling, and reporting dates will be specified in the final permit.

4. PROPOSED COMPLIANCE SCHEDULE FOR ATTAINING EFFLUENT LIMITATIONS

Effluent limitations are effective immediately.

5. PROPOSED SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE

1. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.
2. Any metal cleaning wastes generated will be contained for further treatment or disposal in a manner to permit compliance at time of discharge with requirements listed below. This applies to any pre-operational chemical cleaning of metal process equipment also.
3. The quantity of pollutants discharged in metal cleaning waste shall not exceed the quantity determined by multiplying the flow of metal cleaning wastes times the concentrations listed below. The pH is to be in the range of 6.0 to 9.0 standard units.

<u>Effluent Characteristic</u>	<u>Discharge Limitation (mg/l)</u>	
	<u>Daily Average</u>	<u>Daily Maximum</u>
Total suspended solids	30	100
Oil and grease	15	20
Copper	1.0	1.0
Iron	1.0	1.0

Each discharge shall be sampled by composite consisting of three or more grab samples, one of which will be collected immediately after the start of discharge, one immediately prior to termination of discharge, and one or more between these two. Results shall be reported monthly by the 21st day of the following calendar month.

4. Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day as monitored immediately following the dechlorination facilities.
5. In the event that waste streams from various sources are combined for treatment of discharge, the quantity of each pollutant or pollutant property controlled by this permit shall not exceed the specified limitations for that source except that the limitations for free available chlorine and total residual chlorine discharges from cooling tower blowdown shall apply following the dechlorination system as noted in Item 4 above.
6. The Director may modify any effluent limitation upon request of the permittee if such limitation is covered by an approved variance or by an amendment to the Federal Water Pollution Control Act.
7. The permittee shall determine the flow of the various waste streams and submit this determination to the Director once every two years.

6. WATER QUALITY STANDARDS AND EFFLUENT STANDARDS APPLIED TO THE DISCHARGE

Applicable effluent standards are best available demonstrated control technology. The Savannah River is classified for Fishing use at the point of discharge.

The Environmental Protection Division has evaluated the location, design and capacity of the proposed cooling water intake structures and determined that the proposed facilities comply with Section 316(b) of the Federal Clean Water Act. This evaluation included consideration of the low withdrawal rates relative to total stream flow, the proposed physical facilities, and intake structure requirements at other facilities.

7. PROCEDURES FOR THE FORMULATION OF FINAL DETERMINATIONS

a. Comment Period

The Georgia Environmental Protection Division (EPD) proposes to issue an NPDES permit to this applicant subject to the effluent limitations and special conditions outlined above. These determinations are tentative.

Interested persons are invited to submit written comments on the permit application or on EPD's Proposed determinations to the following address:

Water Quality Control Section
Environmental Protection Division
270 Washington Street, S.W.
Atlanta, Georgia 30334

All comments received prior to
will be considered in the formulation of final determinations with regard
to this application.

b. Public Hearings

Any applicant, affected state or interstate agency, the Regional Administrator of the U. S. Environmental Protection Agency (EPA) or any other interested agency, person or group of persons may request a public hearing with respect to an NPDES permit application if such request is filed within thirty (30) days following the date of the public notice of such application. Such request must indicate the interest of the party filing the request, the reasons why a hearing is requested, and those specific portions of the application or other NPDES form or information to be considered at the public hearing. The Director shall hold a hearing if he determines that there is sufficient public interest in holding such a hearing. If a public hearing is held, notice of same shall be provided at least thirty (30) days in advance of the hearing date.

In the event that a public hearing is held, both oral and written comments will be accepted; however, for the accuracy of the record, written comments are encouraged. The Director or his designee reserves the right to fix reasonable limits on the time allowed for oral statements and such other procedural requirements as he deems appropriate.

Following a public hearing, the Director, unless he should decide to deny the permit, may make such modifications in the terms and conditions of the proposed permit as may be appropriate and shall issue the permit. Notice of issuance or denial will be circulated to those persons or groups who participated in the hearing; to those persons or groups who submitted written comments to the Director on the proposed permit within thirty (30) days from the date of the public notice of the application for permit; and to all persons or groups included on the EPD mailing list.

c. Contested Hearings

Any person who is aggrieved or adversely affected by the issuance or denial of a permit by the Director of EPD may petition the Director for a hearing if such petition is filed in the office of the Director within thirty (30) days from the date of notice of such permit issuance or denial. Such hearing shall be held in accordance with the EPD Rules, Water Quality Control, subparagraph 391-3-6-.01.

Petitions for a contested hearing must include the following:

1. The name and address of the petitioner;
2. The grounds under which petitioner alleges to be aggrieved or adversely affected by the issuance or denial of a permit;
3. The reason or reasons why petitioner takes issue with the action of the Director;
4. All other matters asserted by petitioner which are relevant to the action in question.

d. Issuance of the Permit When No Public Hearing is Held

If no public hearing is held, and, after review of the written comments received, the Director determines that a permit should be issued and that his determinations as set forth in the proposed permit are substantially unchanged, the permit will be issued and will become final in the absence of a request for a Contested Hearing. Notice of issuance or denial will be circulated to those persons who submitted written comments to the Director on the proposed permit within thirty (30) days from the date of the public notice of such proposed permit; and to all persons or groups included on the EPD mailing list.

If no public hearing is held, but the Director determines, after a review of the written comments received, that a permit should be issued but that substantial changes in the proposed permit are warranted, public notice of the revised determinations will be given and written comments accepted in the same manner as the initial notice of application was given and written comments accepted pursuant to EPD Rules, Water Quality Control, subparagraph 391-3-6-.06(7) (b). The Director shall provide an opportunity for public hearing on the revised determinations. Such opportunity for public hearing and the issuance or denial of a permit thereafter shall be in accordance with the procedures as are set forth above.

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Question E290.8

For the Plant Vogtle and other plants whose cooling tower drift parameters were compared in your Response E451.17 (February 1984), please provide the following information:

- Type of cooling tower.
- Height of cooling tower.
- Cooling tower drift rate (both guaranteed and expected).
- Rate of circulating water flow.
- Concentration of total dissolved solids in makeup.
- Concentration factor.
- Size distribution of drift droplets.
- Concentration of total dissolved solids in cooling tower blowdown.
- Evaporation rate.
- The locations and magnitudes of maximum drift deposition on and off the site.
- The plant capacity factor, if this was used in the drift deposition calculations.
- Other parameters used in predicting drift deposition rates.

Response

The VEGP cooling tower drift parameters were compared with four other plants with similar salt drift parameters as given in table E290.8-1. This table is based on data from references 1 through 17. The estimated onsite peak deposition rate at VEGP was calculated based on the ratio of the VEGP emission rate and wind rose frequency to those from the four other plants. (See table E290.8-2.)

Because Susquehanna, Beaver Valley unit 2, and VEGP cooling tower drift parameters are similar, the extensive data on salt drift deposition patterns available from Susquehanna and Beaver Valley Unit 2 were used for predicting the offsite peak salt deposition rate at VEGP. (See table E290.8-3.)

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The response to question E451.17 provides further discussion of VEGP salt deposition estimates. Note that the response to question E451.17 submitted in Amendment 1 has been changed to reflect revised salt deposition rates. The revised onsite and offsite maximum predicted deposition rate for VEGP is 17 lb/acre/yr from 31 lb/acre/yr and 15 lb/acre/yr from 21 lb/acre/yr, respectively. The attached list of references is also applicable.

1. U. S. Atomic Energy Commission, "Final Environmental Statement Related to the Proposed Alvin W. Vogtle Nuclear Plant Units 1, 2, 3 and 4," March 1974.
2. Georgia Power Company, Alvin W. Vogtle Nuclear Plant - Environmental Report, Unit 1 and 2, Volumes 1 and 2, August 1972.
3. Georgia Power Company, Vogtle Electric Generating Plant Unit 1 and Unit 2 Applicants Environmental Report Operating License Stage Volume 1, August 1983.
4. Georgia Power Company, Vogtle Electric Generating Plant Unit 1 and Unit 2, Final Safety Analysis Report, Volume 2, July 1983.
5. Pennsylvania Power & Light Company, Susquehanna Steam Electric Station Units 1 and 2, Environmental Report - Operating License Stage, Volumes 1-3, May 1978.
6. U. S. Atomic Energy Commission, "Final Environmental Statement Related to the Beaver Valley Power Station, Unit 1," July 1973.
7. Duquesne Light Company, et al., Beaver Valley Power Station Unit 2, Environmental Report - Operating License Stage, July 1983.
8. Duquesne Light Company, et al., Beaver Valley Power Station Unit 1, Final Safety Analysis Report, Volume 1, October 1972.
9. Duquesne Light Company, et al., Beaver Valley Power Station Unit 1, Environmental Report - Operating License Stage, September 1971.
10. U. S. Atomic Energy Commission, "Final Environmental Statement Related to the Construction of Shearon Harris Nuclear Power Plant Units 1, 2, 3 and 4," May 1973.

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11. U. S. Atomic Energy Commission, "Revised Final Environmental Statement Related to the Construction of Shearon Harris Nuclear Power Plant Units 1, 2, 3, and 4," March 1974.
12. Carolina Power and Light Company, Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4, Environmental Report, September 1971.
13. Carolina Power and Light Company, Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4, Preliminary Safety Analysis Report, September 1971.
14. Mississippi Power and Light Company and Middle South Energy, Inc., Final Environmental Report - Grand Gulf Nuclear Station Units 1 and 2, Volumes 1-3, June 1978.
15. Duquesne Light Company, et. al., Beaver Valley Power Station Unit 2, Environmental Report Operating License Stage, May 1983.
16. Carolina Power and Light Company, Shearon Harris Nuclear Power Plant Unit 1, 2, 3, and 4, Environmental Report Operating License Stage, December 1981.
17. Duquesne Light Company, et al, Beaver Valley Power Station Unit 2, Final Safety Analysis Report, Section 2.3, May 1983.

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TABLE E290.8-1 (SHEET 1 OF 2)

COOLING TOWER DRIFT PARAMETERS FOR VOGTLE AND FOUR OTHER PLANTS

Plant/ Type of Cooling Tower	Vogtle/ Natural Draft	Susquehenna/ Natural Draft	Beaver Valley/ Natural Draft		Shearon Harris/ Natural Draft	Grand Gulf/ Natural Draft
			Unit 1	Unit 2		
Number of cooling towers	2	2	1	1	4	2
Height of cooling tower	550 ft	540 ft	501 ft	501 ft	520 ft	522 ft
Drift Rate	Guaranteed	0.03%	0.02%	0.05% ^(h)	0.013% ^(h)	0.05% ^(h)
	Expected	0.008% ^(h)	0.002% ^(h)	0.005%	NA	0.002%
Circulating water flow rate	484,600 gpm	478,000 gpm	480,400 gpm	507,400 gpm	482,000 gpm	572,000 gpm
Concentration in makeup	60 mg/l (avg)	432 mg/l ^(a) (max)	204 mg/l (avg)	203 mg/l (avg)	70 mg/l (avg)	376 mg/l (avg)
Concentration factor	4 (avg)	3.8 (avg)	1.8 (avg)	1.8 (avg)	7.7 (avg)	5 (max) ^(a)
Concentration in blowdown	240 mg/l (avg)	1640 mg/l (max)	368 mg/l (avg)	365 mg/l (avg)	539 mg/l (avg)	1880 mg/l ^(a) (max)
Evaporation rate	3.0%	2.3%	1.5%	2.0%	1.5%	1.8%
Plant capacity	0.8	0.8	0.8	0.8	0.8	0.8
Droplet size distribution	100	45%	20%	NA	35%	NA
	100-300	50%	70%	NA ^(d)	65%	NA
	300	5%	10%	NA	0%	NA
	Rate	17 lb/acre/yr ^(g)	3 lb/acre/yr ^(g)	80 lb/acre/yr	3 lb/acre/yr	400 lb/acre/yr ^(j)
Max onsite drift deposition	Distance from CT	0.9 miles ⁽ⁱ⁾	0.6 miles	0.3 miles	0.75 miles	0.3 miles
	Wind sector deposited in	SE	NE	SE	SW	SW

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TABLE E290.8-1 (SHEET 2 OF 2)

Plant/ Type of Cooling Tower	Vogtle/ Natural Draft	Susquehanna/ Natural Draft	Unit 1		Unit 2		Shearon Harris/ Natural Draft	Grand Gulf/ Natural Draft
			Beaver Valley/ Natural Draft	Unit 1	Beaver Valley/ Natural Draft	Unit 2		
Rate	15 lb/acre/yr (g)	3 lb/acre/yr (g)	NA	NA	9.9 lb/acre/yr (g)	NA	5.02 lb/acre/yr (g)	
Distance from cooling tower	1.0 miles (f)	0.6 miles	NA	NA	0.9 miles	NA	0.6 miles	
Wind sector deposited in	SE	SSW	NA	NA	E	NA	E	
Humidity	72%	70%	69% (e)	71%	73.5% (f)	76%		
Temperature	63.4°F	49°F	50.3°F	60°F	49.1°F	65.5°F		
Wind speed in predominant direction	6.6 miles/hr (b)	8.7 miles/hr	5.6 (b) miles/hr	8.7 miles/hr	6.6 (b) miles/hr	6.4 miles/hr (c)		
Frequency of dominant wind	12%	14.5%	15.6%	10.6%	10.5%	9.0%		
Dominant Pasquill stability class	E	D	E	E-F	D	D-E		

a. Design maximum values were used in salt drift modeling.

b. Average wind speed in the dominant wind direction is not available, local average wind speed is applied. The actual wind speed is expected to be higher.

c. Wind speed has been adjusted from 33 ft to 150 ft by the following equation: $V/V = (Z/Z)$, with V = wind speed at a given level, Z = reference height, and $P = 0.45$.

d. Although droplet size distribution for Unit 1 cooling tower was not provided in the environmental reports, it is expected to be similar to that for Unit 2.

e. Based on the data collected onsite between September 5, 1969 to September 5, 1970.

f. Based on the data collected onsite between January 1, 1976 to December 31, 1980.

g. Deposition rate represents the contribution from both units.

h. The drift loss used in drift deposition modeling as indicated in the references.

i. The peak deposition will occur within 0.3 to 0.9 miles of the cooling tower.

j. Deposition rate represents the contribution from four units.

TABLE E290.8-2

PEAK ONSITE DRIFT DEPOSITION USING REALISTIC ASSUMPTIONS

Parameter	VEGP	Beaver Valley		Susquehanna	Grand Gulf	
		Unit 1	Unit 2		Shearon Harris	Grand Gulf
Circulating water flow rate (gpm)	484,600	480,400	507,400	478,000	482,000	572,000
Drift rate (%)	0.008 (expected)	0.005 (expected)	0.013 (guaranteed)	0.002 (expected)	0.002 (expected)	0.008 (guaranteed)
Total dissolved Solids (mg/l)	240 (avg)	368 (avg)	365 (avg)	1640 (max)	539 (avg)	1880 (max)
Emission rate ^(a) per tower (lb/d)	111	105	286	186	62	1022
Frequency of dominant wind (%)	12	15.6	10.5	14.5	10.6	9.0
Peak drift deposition per unit (lb/a/yr)	0.4-8.1 ^(b)	8	2.1 (Unit 2) ^{(c),(d)} 7.8 (Unit 1)	1.5	4	2.5 ^(c)

a. Emission rate = (Circulating water flow rate) x (Drift rate) x (Total dissolved solids) x (Unit conversion factor) per tower.

b. Peak deposition rate at VEGP = (Peak deposition rate at other plant) x (Emission rate at VEGP/Emission rate at other plant) x (Frequency of dominant wind at VEGP/Frequency of dominant wind at other plant).

c. Maximum offsite value was used.

d. Calculated using information from Unit 2's environmental report - operating license stage.

TABLE E290.8-3

VEGP ESTIMATED OFFSITE PEAK DEPOSITION RATE

Parameter	Direction (a)		
	Southeast	Northeast	East
Site boundary distance from cooling tower (miles)	1.0	0.6	0.6
Wind-rose frequency (%)	12	6	8.3
Estimated offsite total plant peak deposition rate (lb/a/yr) for:			
Susquehanna Deposition Pattern (b)	8.1 at 1.2 miles from cooling towers	8.1 (d) at 0.6 miles from cooling towers	11.2 (d) at 0.6 miles from cooling towers
Beaver Valley Unit 2 Deposition Pattern (c)	14.7 at 1.0 miles from cooling towers	8.1 (d) at 0.6 miles from cooling towers	11.2 (d) at 0.6 miles from cooling towers

- a. Southeast section is the predominant wind sector; northeast and east wind sectors are the minimum site boundary distances with respect to the cooling towers.
- b. Using the Susquehanna deposition pattern with two peaks (the second peak at one-half the value of the first), the VEGP maximum deposition rate of 16.2 lb/a/year is assumed to occur at 0.6 miles and a deposition rate of 8.1 lb/a/year is assumed to occur at 1.2 miles in the predominant wind direction.
- c. Using the Beaver Valley Unit 2 deposition pattern with one peak, the VEGP maximum deposition rate of 16.2 lb/a/year is assumed to occur at 0.9 miles in the predominant wind direction.
- d. Peak deposition rates in the nonpredominant wind sector are estimated by the ratio of wind-rose frequency in the nonpredominant wind sector to the wind-rose in the predominant wind sector.