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South Carolina Department of Health
and Environmental Control

National Pollutant Discharge Elimination System Permit

for Discharge to Surface Waters

This Permit Certifies That

Carolina Power & Light Company
H.B. Robinson Steam Electric Plant

has been granted permission to discharge from a facility located at

Hartsville, South Carolina
Darlington County

to receiving waters named

Lake Robinson and Black Creek

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof. This permit is issued in accordance with the provisions of the Pollution Control Act of South Carolina (S.C. Code Sections 48-1-10 *et seq.*, 1976), Regulation 61-9 and with the provisions of the Federal Clean Water Act (PL 92-500), as amended, 33 U.S.C. 1251 *et seq.*, the "Act."

Marion F. Sadler, Jr., Director
Industrial, Agricultural, and Storm Water Permitting Division
Bureau of Water

Issued: ***September 29, 1997***

Expires: ***September 30, 2001***

Effective: ***October 1, 1997***

Permit No.: ***SC0002925***

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through expiration date, the permittee is authorized to discharge from outfall(s) serial number(s) 001: once through cooling water, and wastewaters regulated at internal Outfalls 002, 003, 005, 006, 007, 008, 009, 013, and 014 to Lake Robinson.

Such discharge shall be limited and monitored by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Other Units (Specify)				
	Monthly Average	Instantaneous Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m3/day (MGD)	-	-	MR	37.5(855)	Daily	Continuous[A] or Pump Logs
Discharge Temperature°C(°F)						
December - February	-	-	-	32.2(90.0)	Daily	Continuous
March	-	-	-	33.3(92.0)	Daily	Continuous
April	-	-	-	37.8(100.0)	Daily	Continuous
May	-	-	-	41.1(106.0)	Daily	Continuous
June - September	-	-	-	44.0(111.2)	Daily	Continuous
October	-	-	-	42.2(108.0)	Daily	Continuous
November	-	-	-	37.8(100.0)	Daily	Continuous
Net Electrical Generation (MW)	-	-	-	-	1/month	Summary
Dam Release Temperature	-	-	-	33.0(91.4)	Daily	Continuous
[B]Total Residual Chlorine	-	0.2 mg/l	-	-	2/month	Multiple Grabs

[A]See Part III, Special Condition #12
[B]See Part III, Special Condition #18

MR = Monitor and Report
Based on a flow of 855 MGD

2. The pH shall be monitored by grab sample at a frequency of twice per month and reported.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts nor shall the effluent cause a visible sheen on the receiving waters.

4. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): flow at plant intakes, dam release temperature at the S.C. Highway 23 Bridge, and all other measured parameters at the discharge canal weir prior to mixing with Lake Robinson.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee is authorized to discharge from outfall(s) serial number(s) 001: once through cooling water, and wastewaters regulated at internal Outfalls 002, 003, 005, 006, 007, 008, 009, 013 and 014 to Lake Robinson.

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

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day) Monthly Average	Daily Maximum	Other Units (Specify) Monthly Average	Daily Maximum	MONITORING REQUIREMENTS Measurement Frequency	Sample Type
Biological Monitoring (Whole Effluent Acute Toxicity Predicted % Mortality in 100% Effluent)	-	-	-	MR[A]	1/quarter[A]	Grab

[A]See Part III, Special Condition #13

2. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the discharge canal weir prior to mixing with Lake Robinson.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee is authorized to discharge from internal outfall(s) serial number(s) 002: coal pile runoff to the discharge canal, then via Outfall 001 to Lake Robinson.

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

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		DISCHARGE LIMITATIONS Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Monthly Average	Instantaneous Maximum	Measurement Frequency	Sample Type
Flow-m3/day (MGD)	-	-	-	MR	1/occurrence[B]	Estimate[A]
Total Suspended Solids	-	-	-	50.0 mg/l	1/occurrence[B]	Grab

MR= Monitor and Report

[A]See Part III, Special Condition #12

[B]Since Outfall 002 occurs intermittently, the samples shall be taken during the period when there is a discharge, but need not be more than once per month.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per occurrence[B] by grab sample.

3. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): point of discharge from the coal pile runoff retention basin prior to mixing with any other waste stream.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee is authorized to discharge from internal outfall(s) serial number(s) 003: sewerage from the Clow and Davco I extended aeration sanitary waste treatment plants to the discharge canal, then via Outfall 001 to Lake Robinson.

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

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		DISCHARGE LIMITATIONS Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m3/day (MGD)	-	-	MR	MR	1/month	Continuous[A] or Instantaneous[A]
Biochemical Oxygen Demand (BOD_5)	-	-	30 mg/l	45 mg/l	1/month	24Hr. Composite[B]
Total Suspended Solids	-	-	30 mg/l	45 mg/l	1/month	24Hr. Composite[B]
Fecal Coliform	-	-	200/100 ml	400/100 ml	1/month	Grab

MR = Monitor and Report Based on a flow of 0.0425 MGD

[A]See Part III, Special Condition #12

[B]Composite samples shall be collected in accordance with Part I.D., Paragraph 8.J., Item 1, 2, or 3.

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

3. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): sewage treatment plant discharge prior to mixing with any other waste stream.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee is authorized to discharge from internal outfall(s) serial number(s) 005: ash transport waters, and the wastewater regulated at internal Outfall 007 which is discharged to the ash pond to the discharge canal, then via Outfall 001 to Lake Robinson.

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

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		DISCHARGE LIMITATIONS Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m3/day (MGD)	-	-	MR	MR	1/month	Instantaneous[A]
Flow to the Ash Pond	-	-	MR	MR	1/month	Estimate[A]
Oil and Grease	-	-	15 mg/l	20 mg/l	1/month	Grab
Total Suspended Solids	-	-	30 mg/l	100 mg/l	1/month	Grab
Heavy Metals[B]	-	-	MR	MR	1/month	Grab

MR = Monitor and Report

[A]See Part III, Special Condition #12

[B]Monitoring for heavy metals shall include total arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, and zinc.

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

3. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): discharge from the ash pond prior to mixing with any other waste stream.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee is authorized to discharge from internal outfall(s) serial number(s) 006: low volume wastes and chemical metal cleaning wastes from the Radwaste System to the circulating water system discharge line, then via Outfall 001 to Lake Robinson.

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

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		DISCHARGE LIMITATIONS Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m3/day (MGD)	-	-	MR	MR	1/month	Estimate[A]
Total Suspended Solids	-	-	30 mg/l	100 mg/l	1/month	Grab
Oil and Grease	-	-	15 mg/l	20 mg/l	1/month	Grab
Total Copper[B]	-	-	1.0 mg/l	1.0 mg/l	1/occurrence	Grab
Total Iron[B]	-	-	1.0 mg/l	1.0 mg/l	1/occurrence	Grab

MR = Monitor and Report

[A]See Part III, Special Condition #12, Flow monitoring shall be conducted once per week for the metal cleaning waste component of this discharge.

[B]Sampling for total copper and total iron shall be conducted once per occurrence of discharge from the metal cleaning waste source before any dilution occurs but need not be more than once per month.

2. The radioactive component of this discharge is regulated by the Nuclear Regulatory Commission under the provisions of operating license DPR-23, as amended, and is monitored and reported to the Nuclear Regulatory Commission.

3. The pH shall not be less than 6.0 standard units and shall be monitored once per month by grab sample.

4. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): discharge from the radwaste treatment system, prior to mixing with any other waste stream.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee is authorized to discharge from internal outfall(s) serial number(s) 007: chemical metal cleaning wastes to the ash handling system discharge line, then to Internal Outfall 005, then via Outfall 001 to Lake Robinson.

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

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		DISCHARGE LIMITATIONS Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m3/day (MGD)[B]	-	-	MR	MR	1/occurrence	Instantaneous[A]
Total Copper[B]	-	-	1.0 mg/l	1.0 mg/l	1/occurrence	Grab
Total Iron[B]	-	-	1.0 mg/l	1.0 mg/l	1/occurrence	Grab

MR = Monitor and Report

[A]See Part III, Special Condition #12

[B]Sampling for flow, total copper and total iron shall be conducted once per occurrence of discharge of the chemical metal cleaning waste before any dilution occurs but need not be more than once per month.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored per occurrence but need not be more than once per month by grab sample.

3. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): discharge from the chemical metal cleaning waste source, prior to mixing with any other waste stream.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee is authorized to discharge from internal outfall(s) serial number(s) 008: low volume wastes and storm water runoff via Outfall 001 to Lake Robinson, or to Outfall 011 to Black Creek.

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

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		DISCHARGE LIMITATIONS Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m3/day (MGD)	-	-	MR	MR	1/week	Continuous[A] or Instantaneous[A]
Oil and Grease	-	-	15 mg/l	20 mg/l	2/month	Grab
Total Suspended Solids	-	-	30 mg/l	100 mg/l	2/month	Grab

MR = Monitor and Report

[A]See Part III, Special Condition #12

2. The pH shall be monitored twice per month by grab sample. If the discharge is via Outfall 014, the pH shall not be less than 6.0 standard units. If the discharge is via Outfall 011, the pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.

3. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations(s): at a point after discharges from Internal Outfalls 008 and 009 have combined and prior to mixing with any other waste stream, if the combined discharge is routed to Internal Outfall 014, or at the discharge from the Unit No. 1 (East) retention pond prior to mixing with any other waste stream if the discharge is routed to Outfall 011.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee is authorized to discharge from internal outfall(s) serial number(s) 009: low volume wastes and storm water runoff via Outfall 001 to Lake Robinson, or to Outfall 011 to Black Creek.

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

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m3/day (MGD)	-	-	MR	MR	1/week	Continuous[A] or Instantaneous[A]
Oil and Grease	-	-	15 mg/l	20 mg/l	2/month	Grab
Total Suspended Solids	-	-	30 mg/l	100 mg/l	2/month	Grab

MR = Monitor and Report

[A]See Part III, Special Condition #12

2. The pH shall be monitored twice per month by grab sample. If the discharge is via Outfall 014, the pH shall not be less than 6.0 standard units. If the discharge is via Outfall 011, the pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.

3. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations(s): at a point after discharges from Internal Outfalls 008 and 009 have combined and prior to mixing with any other waste stream, if the combined discharge is routed to Internal Outfall 014, or at the discharge from the Unit No. 2 (West) retention pond prior to mixing with any other waste stream if the discharge is routed to Outfall 011.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee is authorized to discharge from outfall(s) serial number(s) 011: miscellaneous wastewater consisting of storm water runoff, intake screen wash, and wastewater treated at internal 008 and 009 to Black Creek.

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

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day) Monthly Average	(lbs/day) Daily Maximum	Other Units (Specify) Monthly Average	Other Units (Specify) Daily Maximum	MONITORING REQUIREMENTS Measurement Frequency	Sample Type
Flow-m3/day (MGD)	-	-	MR	MR	1/month	Estimate[A]

MR = Monitor and Report Based on a flow of 0.426 MGD

[A]See Part III, Special Condition #12

2. The pH shall be monitored by grab sample at a frequency of once per month and reported.

3. There shall be no discharge of floating solids or visible foam in other than trace amounts; nor, shall this discharge cause a visible sheen on the receiving waters.

4. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): the discharge from the yard drain pipe to Black Creek, prior to mixing with any other waste stream.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee is authorized to discharge from outfall(s) serial number(s) 011: miscellaneous wastewater consisting of storm water runoff, intake screen wash, and wastewater treated at internal Outfalls 008 and 009 to Black Creek.

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

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		DISCHARGE LIMITATIONS Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Biological Monitoring (Whole Effluent Acute Toxicity Predicted % Mortality in 100% Effluent)	-	-	-	MR[A]	1/month[A]	Grab

MR = Monitor and Report

[A]See Part III, Special Condition #14

2. If outfalls 008, and 009 have not discharged for the quarter via outfall 011, then the acute toxicity testing will not be required.

3. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): the discharge from the yard drain pipe to Black Creek, prior to mixing with any other waste stream.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee is authorized to discharge from internal outfall(s) serial number(s) 013: low volume wastes from steam generator and drainage to the circulating water system discharge line, then via Outfall 001 to Lake Robinson.

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

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		DISCHARGE LIMITATIONS Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m3/day (MGD)	-	-	MR	MR	1/month	Estimate[A]
Oil and Grease	-	-	15 mg/l	20 mg/l	1/month	Grab
Total Suspended Solids	-	-	30 mg/l	100 mg/l	1/month	Grab

MR = Monitor and Report

[A]See Part III, Special Condition #12

2. The pH shall be not be less than 6.0 standard units and shall be monitored once per month by grab sample.

3. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): the discharge of the low vloume wastewaterfrom the steam generator blowdown, prior to mixing with any other waste stream.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee is authorized to discharge from internal outfall(s) serial number(s) 014: combined low volume wastestreams from internal Outfalls 006, 008, 009, 013 and cooling water from the circulating water system discharge line to the discharge canal, then via Outfall 001 to Lake Robinson.

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

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		DISCHARGE LIMITATIONS Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow-m3/day (MGD)	-	-	MR	MR	1/month	Estimate[A]

MR = Monitor and Report

[A]See Part III, Special Condition #12

2. The pH shall not be greater than 9.0 standard units and shall be monitored once per month by grab sample.

3. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): after the combined low volume wastestreams and cooling waters mix at the head of the discharge canal.

B. GROUNDWATER MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting through the expiration date, each of the four (4) groundwater monitor wells shall be sampled by the permittee as specified below:

PARAMETER	MEASUREMENT FREQUENCY	SAMPLE METHOD
Water Level, tenth/feet	Semiannually	Pump Method
Total Dissolved Solids	Semiannually	Pump Method
pH (field), standard units	Semiannually	Pump Method
Specific Conductance (field), umhos/cm	Semiannually	Pump Method
Arsenic, total, mg/l	Semiannually	Pump Method
Iron, total, mg/l	Semiannually	Pump Method
Sulfate, mg/l	Semiannually	Pump Method
Zinc, total, mg/l	Semiannually	Pump Method

2. Sample collection methods shall be in accordance with DHEC publication "Groundwater Sampling Methods" dated October 1981, or the most recent revision.

3. All groundwater monitoring wells must be properly maintained at all times.

C. SCHEDULE OF COMPLIANCE

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

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.

D. 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. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be present and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than $\pm$ 10% from the true discharge rates throughout the range of expected discharge volumes. The primary flow device must be accessible to the use of a continuous flow recorder. Where a flume is present, a separate stilling well for Department/EPA use must be provided if required by the Department.

3. Reporting Monitoring Results

a. Effluent Monitoring

Monitoring results obtained each month shall be reported monthly on a Discharge Monitoring Report Form (EPA Form 3320-1). The first report is due postmarked no later than the 28th day of the month following the month this permit becomes effective.

b. Groundwater Monitoring (if applicable)

Groundwater monitoring results shall be submitted semiannually on a Groundwater Monitoring Form (DHEC 2110), or utilizing a laboratory format, and postmarked no later than the 28th of the month six (6) months after the permit becomes effective and alternating six months.

c. Submittal of Reports

One original and one copy of the reports required in Part I.D.3.a and Part I.D.3.b above and all other reports required herein, shall be submitted to the Department:

SC Department of Health and Environmental Control (SCDHEC)
ATTN: Bureau of Water/Compliance Assurance Division
2600 Bull Street
Columbia, South Carolina 29201

4. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations published pursuant to State Environmental Laboratory Certification Regulation 61-81 and Section 304(h) of the Act, as amended. (Federal Register, October 16, 1973; Title 40, Chapter I, Sub-chapter D, Part 136 "Guidelines Establishing Test Procedures for the Analysis of Pollutants." Amended by Federal Register, December 1, 1976, and any other amendments that may be promulgated).

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 and times the analyses were performed;

c. the person(s) who performed the analyses and the laboratory certification number where applicable;

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 herein, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form (EPA-3320-1). Such increased frequency shall also be indicated. Additional or accelerated monitoring may be required to determine the nature and impact of a non-complying discharge on the environment or to determine if a single non-complying sample is representative of the long term condition (monthly average).

7. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analysis performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Department. The permittee shall furnish to the Department, upon request, copies of records required to be kept by this permit.

8. Definitions

a. The "monthly average", other than for fecal coliform, is the arithmetic mean of all samples collected in a calendar month period. The monthly average for fecal coliform bacteria is the geometric mean of all samples collected in a calendar month period. The monthly average loading is the arithmetic average of all individual loading determinations made during the month.

b. The "weekly average", other than for fecal coliform, is the arithmetic mean of all the samples collected during a one-week period. For self-monitoring purposes, weekly periods in a calendar month are defined as three consecutive seven day intervals starting with the first day of the calendar month and a fourth interval containing seven days plus those days beyond the 28th day in a calendar month. The value to be reported is the single highest of the four weekly averages computed during a calendar month. The weekly average loading is the arithmetic average of all individual loading determinations made during the week.

c. The "daily maximum" is the highest average value recorded of any sample collected on any single day during the calendar month.

d. The "instantaneous maximum or minimum" is the highest or lowest value recorded of any sample collected during the calendar month.

e. Arithmetic Mean: The arithmetic mean of any set of values is the summation of the individual values divided by the number of individual values.

f. Geometric Mean: The geometric mean of any set of values is the Nth root of the product of the individual values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered to be one (1).

g. Department: The South Carolina Department of Health and Environmental Control.

h. Act: The Clean Water Act (Formerly referred to as the Federal Water Pollution Control Act) Public Law 92-500, as amended.

I. Grab Sample: An individual discrete or single influent or effluent portion of at least 100 milliliters collected at a time representative of the discharge and over a period not exceeding 15 minutes and retained separately for analysis. Instantaneous flow measured at the time of grab sample collection shall be used to calculate quantity.

j. Composite Sample: One of the following four types of composite samples as defined is specified within this permit:

(1) An influent or effluent portion collected continuously over a specified period of time at a rate proportional to the flow.

(2) A combination of not less than eight (8) influent or effluent grab samples collected at regular (equal) intervals over a specified period of time, properly preserved, (See Part I.D.4.) and composited by increasing the volume of each aliquot in proportion to flow. If continuous flow measurement is not used to composite in proportion to flow, the following method will be used: Take an instantaneous flow measurement each time a grab sample is collected. At the end of the sampling period, sum the instantaneous flow measurements to obtain a total flow to determine the partial amount (percentage) of each grab sample to be combined to obtain the composite sample.

(3) A combination of not less than eight (8) influent or effluent grab samples of equal volume but at variable time intervals that are inversely proportional to the volume of the flow. That is, the time interval between aliquots is reduced as the volume of flow increases.

(4) A combination of not less than eight (8) influent or effluent grab samples of constant (equal) volume collected at regular (equal) time intervals over a specified period of time, while being properly preserved.

Continuous flow or the sum of instantaneous flows measured and averaged for the specified compositing time period shall be used with composite sample results to calculate quantity.

9. Right of Entry

The permittee shall allow the Commissioner of the Department of Health and Environmental Control, the Regional Administrator of EPA, and/or their authorized representatives:

a. To enter upon the permittee's premises where a regulated facility or activity and effluent source is located 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 facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit and sample or monitor any substances or parameters at any location of the purposes of assuring permit compliance.

A. GENERAL REQUIREMENTS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit non-compliance constitutes a violation of the Act and the S.C. Pollution Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for the denial of a permit renewal application.

2. Civil and Criminal Liability

a. Any person who violates a term, condition or schedule of compliance contained within this permit is subject to the actions defined by Sections 48-1-320 and 48-1-330 of the S.C. Pollution Control Act.

b. Except as provided in permit conditions on "Bypassing" (Part II.C.2.), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for non-compliance.

c. It shall not be an acceptable defense of the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

d. It is the responsibility of the permittee to have a treatment facility that will meet the final effluent limitations of this permit. The approval of plans and specifications by the Department does not relieve the permittee of responsibility for compliance.

3. Oil and Hazardous Substance Liability

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 to which the permittee is or may be subject to under Section 311 of the Act, the S.C. Pollution Control Act or applicable provisions of the S.C. Hazardous Waste Management Act and the S.C. Oil and Gas Act.

4. Permit Modification

a. The permittee shall furnish to the Department within a reasonable time any relevant information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit.

b. Upon sufficient cause, this permit may be modified, revoked, reissued, or terminated during its term, after public notice and opportunity for a hearing. Modifications deemed to be minor will not require public notice.

c. The filing of a request by the permittee for a permit modification, or a notification of planned changes or anticipated non-compliance, does not stay any permit condition.

5. Toxic Pollutants

Notwithstanding Part II.A.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 Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitations for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and permittee so notified.

6. 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 Act.

7. 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.

8. Severability

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

9. Onshore and Offshore Construction

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.

B. REPORTING 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 planned facility expansions, production increases, or process modifications which will result in a new or different discharge of 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 Department of such changes. Following such notice, the permit may be modified to specify and limit any pollutant not previously limited.

2. Twenty-Four Hour Non-Compliance Reporting

a. The permittee shall report any non-compliance with provisions specified in this permit which may endanger public health or the environment. The permittee shall notify the Department orally within 24 hours of becoming aware of such conditions. During normal working hours call 803/734-5300. After hour reporting should be made to the 24 hour Emergency Response telephone number 803/253-6488. The permittee shall provide the following information to the Department in writing, within five (5) days of becoming aware of such conditions:

1. A description of the discharge and cause of non-compliance; and,

2. The period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the non-complying discharge.

b. The following violations shall be included in a 24 hour report when they might endanger health or the environment:

1. An unanticipated bypass which exceeds any effluent limitation in this permit;

2. Any upset which exceeds any effluent limitation in the permit.

c. As soon as the permittee has knowledge of or anticipates the need for a bypass, but not later than 10 days before the date of the bypass, it shall notify the Department and provide a determination of the need for bypass as well as the anticipated quality, quantity, time of duration, and effect of the bypass.

3. Other Non-Compliance

The permittee shall report in narrative form, all instances of non-compliance not previously reported under Section B, Paragraph B.2., at the time Discharge Monitoring Reports are submitted. The reports shall contain the information listed in Paragraph B.2.a.

4. Transfer of Ownership or Control

A permit may be transferred to another party under the following conditions:

a. The permittee notifies the Department of the proposed transfer at least thirty (30) days in advance of the proposed transfer date;

b. A written agreement is submitted to the Department between the existing and new permittee containing a specific date for the transfer of permit responsibility, coverage, and liability for violations up to that date and thereafter.

Transfers are not effective if, within 30 days of receipt of proposal, the Department disagrees and notifies the current permittee and the new permittee of the intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed.

5. Expiration of Permit

The permittee is not authorized to discharge after the expiration date of this permit, unless a completed application for reissuance is submitted no later than 180 days prior to the expiration date. Permission may be granted to submit an application later than this, but not later than the expiration date of the permit. In accordance with Section 1-23-370 of the code of laws of South Carolina, if a timely and sufficient application is made for any activity of a continuing nature, the existing permit does not expire until a final determination is made to renew or deny renewal of the existing permit.

6. Signatory Requirements

All applications, reports or information submitted to the Department shall be signed and certified.

a. All permit applications shall be signed as follows:

1. For a corporation: by a principal executive officer of at least the level of vice-president or by a duly authorized representative;

2. For a partnership or sole proprietorship: by a general partner or proprietor, respectively; or,

3. For a municipality, State, Federal or other public agency: by either a principal executive officer or ranking elected official.

b. All reports required by the permit and other information requested by the Department shall be signed by a person described above or by duly authorized representation only if:

1. The authorization is made in writing by a person described above and submitted to the Department;

2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

7. Availability of Reports

Except for data determined to be confidential under Section 48-1-270 of the S.C. Pollution Control Act, all reports prepared in accordance with the terms and conditions of this permit shall be available for public inspection at the offices of the Department and the Regional Administrator. As required by the Act, 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 48-1-340 of the S.C. Pollution Control Act.

8. Changes in Discharges of Toxic Pollutants or Hazardous Substances

a. The permittee shall notify the Department as soon as it knows or has reason to believe that any activity has occurred or will occur which would result in the discharge in any outfall of:

1. Any toxic pollutant(s) identified under Section 307(a) of the Act which exceed the highest of the following concentrations and are not limited in the permit.

- 1 mg/l for antimony (Sb):
- 0.500 mg/l for 2,4-dinitrophenol or 2-methyl-4,6-dinitrophenol;
- 0.200 mg/l for acrolein or acrylonitrile;
- 0.100 mg/l for any other toxic pollutant; or,
- Ten (10) times the maximum concentration value reported in the permit application.

2. Any hazardous substance(s) identified under Section 311 of the Act as determined by Federal Regulation 40 CFR 117.

b. The permittee must notify the Department as soon as it knows or has reason to believe that it has begun or expects to begin to use or manufacture as an intermediate or final product or by-product any toxic pollutant or hazardous substance which was not reported in the permit application.

C. OPERATION AND MAINTENANCE

1. Facilities Operation

a. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance based on design facility removals, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls as determined by the laboratory certification program of the Department. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit. Maintenance of facilities, which necessitates unavoidable interruption of operation and degradation of effluent quality shall be scheduled during non-critical water quality periods and carried out in a manner approved by the Department.

b. The permittee shall provide for an operator, as certified by the South Carolina Board of Certification for Environmental Systems Operators, with a grade equal to or higher than the classification designated in Part III.A.3. The name and grade of the operator of record shall be submitted to the Department prior to placing the facility into operation. A roster of operators associated with the facility's operation and their certification grades shall also be submitted with the name of the "operator-in-charge". Any changes in operator or operators shall be submitted to the Department as they occur.

2. Bypassing

Any intentional diversion from or bypass of waste streams from any portion of wastewater collection and treatment facilities which is not a designed or established operating mode for the facility is prohibited except (a) where unavoidable to prevent loss of life, personal injury or severe property damage, or (b) where excessive storm drainage or run-off would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit and there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or retention of untreated wastes. "Severe property damage" does not mean economic loss caused by delays in production.

3. Duty to Mitigate, Halt or Reduce Activity

The permittee shall take all reasonable steps to prevent, minimize or correct any adverse impact on public health or the environment, resulting from non-compliance with this permit. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with this permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided.

4. Power Failures

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

a. In accordance with the Schedule of Compliance contained in Part I.C., 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.C., have a plan of operation which will:

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

5. Removed Substances

Solids, sludges, filter backwash or other residuals removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent such materials from entering State waters and in accordance with guidelines issued pursuant to Section 405 of the Act, and the terms of a construction or NPDES and/or solid or hazardous waste permit issued by the Department.

PART III

A. OTHER REQUIREMENTS

1. The permittee shall maintain at the permitted facility a complete Operations and Maintenance Manual for the wastewater treatment plant. The manual shall be made available for on-site review during normal working hours. The manual shall contain operation and maintenance instructions for all equipment and appurtenances associated with the waste treatment plant. The manual shall contain a general description of the treatment process(es), operating characteristics that will produce maximum treatment efficiency, and corrective action to be taken should operating difficulties be encountered.

2. The permittee shall provide for the performance of routine daily wastewater treatment plant inspections by a certified operator of the appropriate grade as defined in Part II.C.1. The inspection shall include, but is not limited to, areas which require a visual observation to determine efficient operations and for which immediate corrective measures can be taken using the O & M manual as a guide. All inspections shall be recorded and shall include the date, time and name of the person making the inspection, corrective measures taken, and routine equipment maintenance, repair, or replacement performed. The permittee shall maintain all records of inspections at the permitted facility as required by Part I.D.7., and the records shall be made available for on-site review during normal working hours.

3. The wastewater treatment plant has been assigned a classification of Group III-B in the Permits to Construct which are issued by the Department. This classification corresponds to an operator with a Grade of B-B or higher.

4. The permittee shall maintain an all weather access road to the wastewater treatment plant and appurtenances at all times.

5. The permittee shall continue to maintain a Best Management Practices (BMP) plan to identify and control the discharge of significant amounts of oils and the hazardous and toxic substances listed in 40 CFR Part 117 and Tables II and III of Appendix D to 40 CFR Part 122. The plan shall include a listing of all potential sources of spills or leaks of these materials, a method for containment, a description of training, inspection and security procedures, and emergency response measures to be taken in the event of a discharge to surface waters or plans and/or procedures which constitute an equivalent BMP. Sources of such discharges may include materials storage areas; in-plant transfer, process and material handling areas; loading and unloading operations; plant site runoff; and sludge and waste disposal areas. The BMP plan shall be developed in accordance with good engineering practices, shall be documented in narrative form, and shall include any necessary plot plans, drawings, or maps. The BMP plan shall be maintained at the plant site and shall be available for inspection by EPA and Department personnel.

6. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

7. The permittee shall monitor all parameters consistent with conditions established by this permit on the 1st Wednesday of every calendar month, except for the toxicity testing which shall be monitored on the 1st Monday of every calendar quarter, unless otherwise approved by this Department. Additional monitoring, as necessary to meet the frequency requirements of this permit (Part I.A. Effluent Limitations and Monitoring Requirements) shall be performed by the permittee.

8. Unless authorized elsewhere in this permit or as identified in the application, the permittee shall meet the following requirements concerning maintenance chemicals for the following waste streams: once-through noncontact cooling water, recirculated cooling water, boiler blowdown, cooling tower blowdown, and air washer water. Maintenance chemicals shall be defined as any man-induced additives to the above-referenced waste streams. This includes materials added for corrosion inhibition including zinc, chromium, and phosphorus.

   a. The discharge, in detectable amounts, of any of the one hundred and twenty-six priority pollutants is prohibited, if the pollutants are present due to the use of maintenance chemicals. (Note: The cooling tower blowdown must comply with 40 CFR 423 requirements.)

   b. Slimicides, algicides and biocides shall be used in accordance with registration requirements of the Federal Insecticide, Fungicide and Rodenticide Act.

   c. The use of maintenance chemicals containing bis(tributyltin) oxide is prohibited unless written approval is obtained from SCDHEC.

   d. Any maintenance chemicals added to the above referenced waste streams must degrade rapidly, either due to hydrolytic decomposition or biodegradation.

   e. The discharge of maintenance chemicals added to waste streams must be limited to concentrations which protect indigenous aquatic populations in the receiving stream and shall not exceed the "no observed effect level (NOEL)".

   The permittee shall keep sufficient documentation on-site which support that the above requirements are being met. The information shall be made available for on-site review by Department personnel during normal working hours. The occurrence of in-stream problems may necessitate the submittal of chemical additive data and may require a permit modification to include additional monitoring and limitations. The permittee may demonstrate compliance with these limitations to the South Carolina Department of Health and Environmental Control by either sampling and analyzing for the pollutants in the discharge or providing mass balance calculations to demonstrate that use of particular maintenance chemicals will not result in detectable amounts of the toxic pollutants in the discharge.

9. The company shall notify the South Carolina Department of Health and Environmental Control in writing no later than sixty (60) days prior to instituting use of any additional maintenance chemicals in the cooling water system. Such notification shall include:

   a. Name and general composition of the maintenance chemical
   b. Quantities to be used
   c. Frequency of use
   d. Proposed discharge concentration
   e. EPA registration number, if applicable
   f. Aquatic toxicity information

10. All sludges, waste oil, and solid and hazardous waste shall be properly disposed of in accordance with the rules and regulations of the Department, including the intake screen backwash.

11. Each individual generating unit is not allowed to discharge chlorine for more than two hours in any one day, unless the permittee can demonstrate to SCDHEC that a longer duration discharge is required for macro invertebrate control.

12. The permittee shall maintain at the permitted facility a record of the method(s) used in measuring the discharge flow:

a) Estimate	-	Pump Curve, Production Chart, Water Use Records, Valve Opening, Tank Volume
b) Instantaneous	-	Bucket and Watch, Weir and Gauge, Parshall Flume
c) Continuous	-	Totalizer, Continuous Chart Recorder

Records of any necessary calibrations must also be kept. This information shall be made available for on-site review by Department personnel during normal working hours.

13. Quarterly definitive static 48 hour acute *Ceriodaphnia dubia* toxicity tests shall be conducted on effluent from Outfall 001 in accordance with the most recent "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms," (EPA/600/4-90/027) as modified by "Methods for Conducting Whole Effluent Toxicity Tests in South Carolina" (SCDHEC, 8/93 Draft), or superseding document. The raw data and results shall be submitted in accordance with Part I.D.3 of the permit for each quarterly test. The test must be performed by a SCDHEC certified laboratory.

14. Monthly definitive static 48 hour acute *Ceriodaphnia dubia* toxicity tests shall be conducted on effluent from Outfall 011 in accordance with the most recent "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA/600/4-90/027) as modified by Methods for Conducting Whole Effluent Toxicity Tests in South Carolina" (SCDHEC, 8/93 Draft), or superseding document. The raw data and results shall be submitted in accordance with Part I.D.3 of the permit for each monthly test. The test must be performed by a SCDHEC certified laboratory.

15. At the time of renewal of the NPDES permit, the permittee shall certify that the ash pond(s) provide(s) the necessary minimum wet weather detention volume to contain the combined volume of all direct rainfall, all rainfall runoff to the pond resulting from the 10-year, 24-hour rainfall event, and maximum dry weather plant waste flows which could occur during a 24-hour period. This volume shall be calculated between the top of the sediment level and the minimum overflow discharge elevation. All data necessary to support this certification shall be maintained on-site and shall be available for inspection by SCDHEC personnel.

16. The permittee shall periodically survey all ash pond dikes and toe areas to determine if the structural integrety has been compromised. These inspections shall be performed annually. The permittee shall notify SCDHEC within five (5) days of becoming aware of any structural abnormalities and provide a proposed course of corrective action and implementation schedule.

17. For the purposes of reporting analytical data on the Discharge Monitoring Report (DMR), actual analytical results should be reported whenever possible. All analytical values at or above the quantification level shall be reported as the measured value. When results cannot be quantified, these values may be treated as "0" (zero).

18. Multiple grabs shall consist of grab samples collected at the approximate beginning of the period of Total Residual Chlorine discharge and once every twenty (20) minutes until TRC is no longer quantifiable.

19. Simultaneous multi-unit chlorination is permitted.

20. The South Carolina Department of Health and Environmental Control has determined that pursuant to Section 316(a) of the Act that the thermal component of the discharge controlled by the temperature criteria on page 2 of this permit assures the protection and propagation of a balanced, indigenous population of fish, shellfish, and wildlife.

21. The South Carolina Department of Health and Environmental Control has determined pursuant to Section 316(b) of the Act that the location, design, construction, and capacity of the cooling water intake structure reflects the best technology available for minimizing adverse environmental impact.

22. Discharge from Lake Robinson Dam during the months of June through September shall be from the lower depths to the extent practicable to assure that the limitations provided on page 2 are not exceeded.

23. Drawdown of Lake Robinson shall be limited to a maximum of 2.0 feet, as a monthly average, below normal pool elevation (220.0 feet) without a prior approval by the SCDHEC. Such approval may impose more stringent thermal limitations than indicated on page 2 during periods of greater drawdown.

24. The Permittee is authorized to operate Unit 1 at maximum power and Unit 2 at 2300 thermal megawatts so long as the thermal limitations provided in permit are not exceeded.

25. The discharge of the intake screen wash water is permitted without limitations or monitoring requirements.

26. A calendar day, for all monitoring at Outfall 001, shall be defined as a twenty four (24) hour period ending at noon of that calendar day.

27. The sludge generated from the sanitary wastewater treatment plants is approved for disposal to the ash pond with the following conditions:

    a) The sanitary sludge may only be disposed of to the ash pond during periods when ash is being sluiced into the ash pond.

    b) A maximum of 10,000 gallons of sanitary sludge may be disposed of to the ash pond on a weekly basis. Also, when the surge, septic, and contact chambers are purged on a quarterly basis, a maximum of 24,000 additional gallons may be disposed of to the ash pond.

28. Upset - (1) Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

    (2) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitation if the requirements of paragraph (3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

    (3) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

        (i) An upset occurred and that the permittee can identify the cause(s) of the upset;

        (ii) The permitted facility was at the time being properly operated; and

        (iii) The permittee submitted notice of the upset as required in paragraph Part II.B.2 of this permit (24 hour notice).

        (iv) The permittee complied with any remedial measures required by Part II.C.3 of this permit (duty to mitigate).

    (4) Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

29. A storm water pollution prevention plan shall be maintained for the facility covered by this permit. The storm water pollution prevention plan shall be prepared in accordance with good engineering practices. The plan shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with industrial and construction activity from the facility. In addition, the plan shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit. The facility must implement the provisions of the storm water pollution prevention plan required under this part as a condition of this permit.

A. Signature and Plan Review

1. The plan shall be signed in accordance with Part II.B.6 (signatory requirements), and be retained on site in accordance with Part I.D.7 of this permit. The permittee shall make plans available upon request to the Director, or authorized representative.

2. The Department may notify the permittee at any time that the plan does not meet one or more of the minimum requirements of this Part. Within thirty (30) days of such notification from the Department, (or as otherwise provided by the Department), or authorized representative, the permittee shall make the required changes to the plan and shall submit to the Department a written certification that the requested changes have been made.

B. Keeping Plans Current The permittee shall amend the plan whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to surface waters of South Carolina and which has not otherwise been addressed in the plan or if the storm water pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified in the plan or in otherwise achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity. Amendments to the plan may be reviewed by the Department in the same manner as 29.A.2 above. Plan records should be updated periodically to reflect the certification that new contractors and subcontractors have signed.

C. Contents of Plan. The plan shall include, at a minimum, the following items:

1. Pollution Prevention Team - Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

2. Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall

identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

a. **Drainage**

(1) A site map indicating an outline of the portions of the drainage area of each storm water outfall that are within the facility boundaries, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas and storage areas.

(2) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an identification of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Factors to consider include the toxicity of chemical; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified.

b. Inventory of Exposed Materials An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of three years prior to the date of the issuance of this permit and the present; method and location of on-site storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of three years prior to the date of the issuance of this permit and the present; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

c. Spills and Leaks A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of three years prior to the effective date of this permit. Such list shall be updated as appropriate during the term of the permit.

d. Sampling Data A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

e. Risk Identification and Summary of Potential Pollutant Sources A narrative description of the potential pollutant sources at the following areas: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and on-site waste disposal practices. The description shall specifically list

any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g. biochemical oxygen demand, etc.) of concerns shall be identified.

3. Measures and Controls The facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

a. Good Housekeeping - Good housekeeping requires the maintenance of areas which may contribute pollutants to storm waters discharges in a clean, orderly manner.

(i) Fugitive Dust Emissions - The plan must describe measures that prevent or minimize fugitive dust emissions from coal handling areas. The facility shall establish procedures to minimize off site tracking of coal dust. To prevent off site tracking the facility may consider specially designed tires, or washing vehicles in a designated area before they leave the site, and controlling the wash water.

(ii) Delivery Vehicles - The plan must describe measures that prevent or minimize contamination of storm water runoff from delivery vehicles arriving on the plant site. At a minimum the facility must:

- Develop procedures for the inspection of delivery vehicles arriving on the plant site, and ensure overall integrity of the body or container; and

- Develop procedures to deal with leakage or spillage from vehicles or containers, and ensure that proper protective measures are available for personnel and environment.

(iii) Fuel Oil Unloading Areas - The plan must describe measures that prevent or minimize contamination of storm water runoff from fuel oil unloading areas. At a minimum the facility must use the following measures or their equivalent:

- Use containment curbs in unloading areas;

- During deliveries station personnel familiar with spill prevention and response procedures must be present to ensure that any leaks or spills are immediately contained and cleaned up; and

- Use spill and overflow protection (drip pans, drip diapers, and/or other containment devices shall be placed beneath fuel oil connectors to contain any spillage that may occur during deliveries or due to leaks at such connectors).

(iv) Chemical Loading/Unloading Areas - The plan must describe measures that prevent or minimize the contamination of storm water runoff from chemical loading/unloading areas. At a minimum the permittee must use the following measures or their equivalent:

- Use containment curbs at chemical loading/unloading areas to contain spills; and

- During deliveries station personnel familiar with spill prevention and response procedures must be present to ensure that any leaks or spills are immediately contained and cleaned up.

Where practicable, chemical loading/unloading areas should be covered, and chemicals should be stored indoors.

(v) Miscellaneous Loading/Unloading Areas - The plan must describe measures that prevent or minimizes the contamination of storm water runoff from loading and unloading areas. The facility may consider covering the loading area, minimizing storm water run on to the loading area by grading, berming, or curbing the area around the loading area to direct storm water away from the area, or locate the loading/unloading equipment and vehicles so that leaks can be contained in existing containment and flow diversion systems.

(vi) Liquid Storage Tanks - The plan must describe measures that prevent or minimize contamination of storm water runoff from above ground liquid storage tanks. At a minimum the facility must employ the following measures or their equivalent:

- Use protective guards around tanks;
- Use containment curbs;
- Use spill and overflow protection (drip pans, drip diapers, and/or other containment devices shall be placed beneath chemical connectors to contain any spillage that may occur during deliveries or due to leaks at such connectors); and
- Use dry cleanup methods.

(vii) Large Bulk Fuel Storage Tanks - The plan must describe measures that prevent or minimize contamination of storm water runoff from liquid storage tanks. At a minimum the facility must employ the following measures or their equivalent:

- Comply with applicable State and Federal laws, including Spill Prevention Control and Countermeasures (SPCC); and
- Containment berms.

(viii) The plan must describe measures to reduce the potential for an oil spill, or a chemical spill. At a minimum the structural integrity of all above ground tanks, pipelines, pumps and other related equipment shall be visually inspected on a weekly basis. All repairs deemed necessary based on the findings of the inspections will be completed immediately to reduce the incidence of spills and leaks occurring from such faulty equipment.

(ix) Oil Bearing Equipment in Switchyards - The plan must describe measures to reduce the potential for storm water contamination from oil bearing equipment in switchyard areas. The facility may consider level grades and gravel surfaces to retard flows and limit the spread of spills; collection of storm water runoff in perimeter ditches.

(x) Residue Hauling Vehicles - All residue hauling vehicles shall be inspected for proper covering over the load, adequate gate sealing and overall integrity of the body or container. Vehicles without load coverings or adequate gate sealing, or with leaking containers or beds must be repaired as soon as practicable.

(xi) Ash Loading Areas - Plant procedures shall be established to reduce and/or control the tracking of ash or residue from ash loading areas including, where practicable, requirements to clear the ash building floor and immediately adjacent roadways of spillage, debris and excess water before each loaded vehicle departs.

(xii) Areas Adjacent to Disposal Ponds or Landfills - The plan must describe measures that prevent or minimize contamination of storm water runoff from areas adjacent to disposal ponds or landfills. The facility must develop procedures to:

- Reduce ash residue which may be tracked on to access roads traveled by residue trucks or residue handling vehicles; and

- Reduce ash residue on exit roads leading into and out of residue handling areas.

(xiii) Material Storage Areas - The plan must describe measures that prevent or minimize contamination of storm water from material storage areas (including areas used for temporary storage of miscellaneous products, and construction materials stored in lay down areas). The facility may consider flat yard grades, runoff collection in graded swales or ditches, erosion protection measures at steep outfall sites (e.g., concrete chutes, riprap, stilling basins), covering lay down areas, storing the materials indoors, covering the material with a temporary covering made of polyethylene, polyurethane, polypropylene, or hypalon. Storm water run on may be minimized by constructing an enclosure or building a berm around the area.

b. Preventive Maintenance - A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g. cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

c. Spill Prevention and Response Procedures - Areas where potential spills which can contribute pollutants to storm water discharges can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

d. Inspections - In addition to or as part of the comprehensive site evaluation required under Part III.29.C.4 (comprehensive site compliance evaluation) of this permit, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified

in the plan. A set of tracking or follow up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

e. **Employee Training** - Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. A pollution prevention plan shall identify the frequency for such training.

f. **Record Keeping and Internal Reporting Procedures** - A description of incidents such as spills, or other discharges, along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

g. **Sediment and Erosion Control** - The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

h. **Management of Runoff** - The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures determined to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity (see description of potential pollutant sources) shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

4. **Comprehensive Site Compliance Evaluation** Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but, except as provided in Part III.29.C.4.d (below), in no case less than once a year. Such evaluations shall provide:

   a. Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

b. Based on the results of the inspection, the description of potential pollutant sources identified in the plan in accordance with Part III.29.C.2 (description of potential pollutant sources) of this permit and pollution prevention measures and controls identified in the plan in accordance with Part III.29.C.3 (measures and controls) of this permit shall be revised as appropriate within two weeks of such inspection and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than twelve weeks after the inspection.

c. A report summarizing the scope of the inspection, personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with Part III.29.C.4.b (above) of the permit shall be made and retained as part of the storm water pollution prevention plan for at least one year after coverage under this permit terminates. The report shall be signed in accordance with Part II.B.6 (signatory requirements) of this permit.

d. Where annual site inspections are shown in the plan to be impractical for inactive mining sites due to the remote location and inaccessibility of the site, site inspections required under this part shall be conducted at appropriate intervals specified in the plan, but, in no case less than once in three years.

5. Sample Type For discharges from holding ponds or other impoundments with a retention period greater than 24 hours, (estimated by dividing the volume of the detention pond by the estimated volume of water discharged during the 24 hours previous to the time that the sample is collected) a minimum of one grab sample may be taken. For all other discharges, data shall be reported for both a grab sample and a composite sample. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable greater than 0.1 inch rainfall) storm event. The grab sample shall be taken during the first thirty minutes of the discharge. If the collection of a grab sample during the first thirty minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first thirty minutes was impracticable. The composite sample shall either be flow-weighted or time-weighted. Composite samples may be taken with a continuous sampler or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire discharge or for the first three hours of the discharge, with each aliquot being separated by a minimum period of fifteen (15) minutes. Grab samples only must be collected and analyzed for the determination of pH, cyanide, whole effluent toxicity, and oil and grease.

6. Sampling Waiver When a discharger is unable to collect samples due to adverse climatic conditions, the discharger must submit in lieu of sampling data a description of why samples could not be collected, including available documentation of the event. Adverse climatic conditions which may prohibit the collection of samples includes weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.). Dischargers are precluded from exercising this waiver more than once during a two year period.

7. **Representative Discharge** When a facility has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfalls. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area (e.g. low (under 40 percent), medium (40 to 65 percent) or high (above 65 percent)) shall be provided in the plan.

8. **Consistency with other plans** Storm water pollution prevention plans may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans developed for the facility under section 311 of the CWA or Best Management Practices (BMP) Programs otherwise required by an NPDES permit for the facility as long as such requirement is incorporated into the storm water pollution prevention plan.

9. **Monitoring Requirements**

   a. For any storm water from the facility discharged from any other point source other than Outfall 001 or Outfall 011, the permittee is required to monitor for: oil and grease (mg/l), pH, TSS (mg/l), total recoverable copper (mg/l), total recoverable nickel (mg/l), and total recoverable zinc (mg/l). The monitoring shall be performed on an annual basis.

   b. Any storm water associated with coal pile runoff discharged from any other point source other than Outfall 002 shall be monitored semi-annually for: oil and grease (mg/l), pH, TSS (mg/l), total recoverable copper (mg/l), total recoverable nickel (mg/l), and total recoverable zinc (mg/l).

Rationale TME/8/97
NPDES Permit No. SC0002925
CP&L Co./H.B. Robinson Steam Electric Plant
Darlington County

This is a renewal of the above referenced NPDES permit.

I. Project Description:

The Carolina Power & Light Company, H.B. Robinson Steam Electric Plant (hereinafter referred to as the Permittee), operates a nuclear and coal-fired steam electric power generating facility (SIC 4911). The electrical generating capacity of Unit 1 is rated at 185 megawatts MWe and Unit 2 is rated at 730 MWe. The facility is located at SC Highway 151 and 23 in Hartsville, South Carolina. The effluent discharge from this facility is subject to the Steam Electric Power Generating Point Source Category (40 CFR Part 423). This facility discharges effluent through the following outfalls and corresponding locations:

Outfall	Latitude	Longitude
001	34° 27' 30"	80° 09' 45"
002	34° 27' 30"	80° 09' 45"
003	34° 27' 30"	80° 09' 45"
005	34° 27' 30"	80° 09' 45"
006	34° 27' 30"	80° 09' 45"
007	34° 27' 30"	80° 09' 45"
008	34° 24' 00"	80° 09' 07"
009	34° 24' 00"	80° 09' 07"
011	34° 24' 00"	80° 09' 07"
013	34° 27' 30"	80° 09' 45"
014	34° 27' 30"	80° 09' 45"

The receiving waters are the Black Creek and Lake Robinson. The Black Creek is classified as Freshwaters by (Regulation 61-69). Lake Robinson, however, is not classified by SCDHEC; since Lake Robinson is a source of water to the Black Creek it shall be assumed to be similarly designated as a Freshwater. A Freshwater is suitable for primary contact recreation, secondary contact recreation, and as a source for drinking water after conventional treatment. A freshwaters are suitable for fishing and the survival and propagation of a balanced indigenous aquatic community of fauna and flora, as well as for industrial and agricultural uses.

II. General Information:

A. The facility contact and mailing address follows:

J. W. Moyer, General Manager
H.B. Robinson Steam Electric Plant
3581 West Entrance Road
Hartsville, South Carolina 29550

B. Categorical Guidelines

1) Steam Electric Effluent Guidelines, 40 CFR Part 423
2) NPDES Permits Regulation 61-9, State Register; April 23, 1993
3) Water Classification and Standards (Regulation 61-68); Classified Waters (Regulations 61-69), South Carolina Department of Health and Environmental Control, May 28, 1993
4) State Water Quality Criteria set forth in The South Carolina Department of Health and Environmental Control (SCDHEC) Toxic Control Strategy for Wastewater Discharges, South Carolina Department of Health and Environmental Control, October 1990
5) Guidance for NPDES Permits Issued to Steam Electric Power Plants, Rebecca W. Hanmer, Office of Water Enforcement and Permits, USEPA, August 22, 1985

C. Discharge

1) To the Discharge Canal to Lake Robinson.
   a) Once Through Cooling Water = 207.74 MGD
   b) Sum of Internal Outfalls (non once-through cooling water) = 1.2608 MGD
   c) 7Q10 Flow of Lake Robinson = 0 cfs; 0 MGD
   d) Annual Average Flow of Lake Robinson = 0 cfs; 0 MGD
   e) Lake Robinson is a Freshwater
   f) Dilution factor (DF) = $\frac{\text{OCWF flow + Internal Discharges}}{\text{Internal Discharge}}$ =

   WQ Aquatic Life DF_1 = 165.77
   g) Instream Waste Concentration (IWC) = 0.6%

2) To the Black Creek
   a) 7Q10 Flow = 67 cfs; 43.3 MGD
   b) Annual Average Flow = 243 cfs; 157.1 MGD
   c) Black Creek is a Freshwater stream (Reg.61-69)
   d) Dilution factor (DF) = $\frac{\text{Stream flow + Plant Discharge}}{\text{Plant Discharge}}$ =

   WQ Aquatic Life DF_3 = 103
   WQ Human Health DF_4 = 370
   e) Instream Waste Concentration (IWC) = 0.9%

D. Flows

Total flow from the facility is 821.17 MGD, which is the sum of the following:

1) Outfall 001 (sum of the discharges of once through cooling water, and internal Outfalls 002, 003, 005, 006, 007, 008, 009, and 013) = 820.80 MGD

2) Outfall 002 (Internal) consist of wastewater from coal pile runoff which flows to the discharge canal. Ultimately, wastewaters are discharged via Outfall 001 to Lake Robinson.

3) Outfall 003 (Internal) discharges sanitary sewerage to the discharge canal from sanitary waste treatment plants Clow and Davco I. Ultimately, wastewaters are discharged via Outfall 001 to Lake Robinson.

4) Outfall 004 (Internal), this discharge in the previous NPDES permits was the result of a sanitary sewage package plant, which ultimately discharged via Outfall 011 to Black Creek. This flow is now pumped, treated and then discharged through Outfall 003.

5) Outfall 005 (Internal), which releases wastewater to the discharge canal, consists of discharges from the ash pond which are composed of ash transport waters and metal cleaning wastes regulated by internal Outfall 007. Ultimately, wastewaters are discharged via Outfall 001 to Lake Robinson.

6) Outfall 006 (Internal) consists of wastewater from low volume sources and chemical metal cleaning wastes from the Radwaste treatment system. Ultimately, wastewaters are discharged via Outfall 001 to Lake Robinson.

7) Outfall 007 (Internal) discharges treated metal cleaning wastes through internal Outfall 005. Ultimately, wastewaters are discharged from internal Outfall 005 to Outfall 001 to Lake Robinson.

8) Outfall 008 (Internal) The East treatment pond discharges low volume waste from the fossil fueled Unit 1 and runoff from yard drains. Ultimately, wastewaters are discharged through Outfall 014 via Outfall 001 to Lake Robinson, or via Outfall 011 to Black Creek.

9) Outfall 009 (Internal) The West treatment pond discharges low volume wastes from the nuclear fueled Unit 2 and runoff from yard drains. Ultimately, wastewaters are discharged through Outfall 014 via Outfall 001 to Lake Robinson, or via Outfall 011 to Black Creek.

10) Outfall 010 (Internal) of the previous permit has been eliminated and rerouted to Outfalls 008 and 009.

11) Outfall 011 (low volume wastes from Units 1 and 2 retention ponds (internal Outfalls 008 and 009), and yard drains and intake screen washwater) = 0.426 MGD

12) Outfall 012 (Internal) of the previous permit has been eliminated and rerouted to Outfalls 008 and 009.

13) Outfall 013 (Internal) consists of low volume waste from the steam generator blowdown and drainage to the circulating water system discharge line. Ultimately, wastewaters are discharged via Outfall 001 to Lake Robinson.

14) Outfall 014 (Internal) consists of combined low volume waste streams from internal Outfalls 006, 008, 009, 013, and cooling water from the circulating water system discharge line. Ultimately, wastewaters are discharged via Outfall 001 to Lake Robinson.

III. Proposed Effluent Limitations

Outfall 001

Description of Discharge: The facility discharges wastewater consisting of once through cooling water, a service water system, and wastewaters regulated at internal Outfalls 002, 003, 005, 006, 007, 008, 009, and 013 through Outfall 001 at an average flow of 820.8 MGD to Lake Robinson. For a description of the sources and treatments associated with each of the internal outfalls, refer to the discussion pertaining to the respective outfall. The once-through cooling water originates from one of two condensers. The Unit 1 condenser is associated with the coal-fired generation process. The flow is approximately 125 MGD. The Unit 2 condenser is associated with the nuclear generation process. The flow is approximately 694 MGD. The service water system is once-through noncontact cooling water using raw lake water treated with chlorine as is the condenser cooling water.

Applicable effluent guidelines for this facility are the Steam Electric Point Source Category for existing sources, which provide the following limitations:

1. There shall be no discharge of PCBs.

2. Once through cooling water

Parameter	Maximum concentration (mg/l)
Total residual chlorine	0.20

3. Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the discharger demonstrates to the permitting authority that discharge for more than two hours is required for macro invertebrate control. Simultaneous multi-unit chlorination is permitted.

A. Flow
   1. Form 2C Value: (8/27/96) 820.8 MGD average[1]
   2. Previous Permit: 855 MGD (1323 cfs) daily maximum

[1]Based on Revision #1 (8/96) of "Schematic of Water Flow - Carolina Power & Light Company Robinson Steam Electric Plant, Darlington County, SC."

3. Conclusion: The flow shall be limited to a daily maximum of 855 MGD and continuously monitored by recorder or pump logs. This requirement remains appropriate and is retained from the previous permit.

B. Temperature

1. Form 2C Value: (8/27/96) 83.7°F (28.6°C) winter; 107.8°F (42.7°C) summer daily max.
2. Previous Permit: The dam release temperature is limited to 91.4°F (33°C) daily maximum. The discharge temperatures were limited to the following:

Monitoring Period				Daily Average°C (°F)	Daily Maximum°C (°F)
December	9	- January	8	26.0(78.8)	29.5(85.1)
January	9	- February	8	26.0(78.8)	29.5(85.1)
February	9	- February	23	26.0(78.8)	29.5(85.1)
February	24	- March	8	28.0(82.4)	30.8(87.4)
March	9	- March	23	30.0(86.0)	32.0(89.6)
March	24	- April	8	31.0(87.8)	33.5(92.3)
April	9	- April	23	32.0(89.6)	35.0(95.0)
April	24	- May	8	33.8(92.8)	36.9(98.5)
May	9	- May	23	35.6(96.0)	38.9(102.0)
May	24	- June	8	39.1(102.4)	41.4(106.6)
June	9	- July	8	42.6(108.7)	44.0(111.2)
July	9	- August	8	42.6(108.7)	44.0(111.2)
August	9	- September	8	42.6(108.7)	44.0(111.2)
September	9	- September	23	42.6(108.7)	44.0(111.2)
September	24	- October	8	39.1(102.3)	40.8(105.4)
October	9	- October	23	35.5(95.9)	37.5(99.5)
October	24	- November	8	32.8(91.0)	35.3(95.5)
November	9	- November	23	30.0(86.0)	33.0(91.4)
November	24	- December	8	28.0(82.4)	31.3(88.3)

3. SC Water Classifications and Standards (Reg.61-68): The receiving water temperature may not be increased by more than 5°F(2.8°C) above natural conditions or exceed a maximum of 90°(32.2°C) as a result of the discharge of heated liquids, unless a mixing zone has been established, or a Section 316(a) determination has been completed.
4. Conclusion: Based on a review of the 316(a) demonstration, the temperature shall be limited to a daily maximum of 91.4°F (33°C) at the dam release and the discharge canal temperature shall be limited to the following:

Monitoring Period			Daily Maximum°C (°F)
December	-	February	32.2(90.0)
March			33.3(92.0)
April			37.8(100.0)
May			41.1(106.0)
June	-	September	44.0(111.2)
October			42.2(108.0)
November			37.8(100.0)

C. Heat Discharge
1. Form 2C Value: Not applicable
2. Previous Permit: $5.5(10)^9$ BTU/hr month. avg. $6.29(10)^9$ BTU/hr daily max.
3. Conclusion: This requirement was removed from the permit with the February 1996 modifications.

D. Net Electrical Generation
1. Previous Permit: Monitor and report
3. Past DMR Data: 17600 MW monthly average, 20397 MW daily maximum
4. Conclusion: As in the previous permit, the permittee shall monitor and report the net electrical generation once per month.

E. pH
1. Form 2C Value: (8/27/96) 50 samples
= 5.37 s.u. minimum, 6.7 s.u. maximum
2. Previous Permit: The pH of the discharge shall not vary significantly from background pH.
3. SC Water Classifications and Standards (Reg.61-68): The pH of the receiving waters shall be maintained between 5.0 standard units standard units and 8.5 standard units.
4. Conclusion: As in the previous permit, the permittee shall monitor and report the pH twice per month by grab sample. All outfalls regulated by the effluent guidelines are limited at internal outfalls prior to discharge to the discharge canal.

F. Total Residual Chlorine (TRC)
1. Form 2C Value: (8/27/96) 52 samples
= 0 mg/l maximum daily value
2. Previous Permit: less than 0.1 mg/l
3. Effluent Guidelines: 0.20 mg/l instantaneous maximum
4. Due to additional flow information for cooling water flows in the discharge canal which justified the use of a higher dilution factor. Water Quality Criteria:

Monthly Average	= 0.011 mg/l X DF_1	=1.82 mg/l
Daily Maximum	= 0.019 mg/l X DF_1	=3.15 mg/l

The maximum allowable values would be a Monthly Average of = 0.5 mg/l
and a Daily Maximum of = 1.0 mg/l

5. Detection Limit: 0.05 mg/l
6. Conclusion: Due to the Effluent Guidelines, Total Residual Chlorine (TRC) shall be limited to an instantaneous maximum of 0.2 mg/l. Monitoring shall be twice per month by grab sample. In addition, total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the discharger demonstrates to the permitting authority that discharge for more than two hours is required for macro invertebrate control. Based on the effluent guidelines, simultaneous multi-unit chlorination is permitted.

G. Free Available Chlorine (FAC)
1. Form 2C Value: Not a Form 2C application pollutant
2. Previous Permit: not limited

3. Effluent Guidelines: 0.20 mg/l average; 0.5 mg/l maximum
4. Detection Limit: 0.05 mg/l
5. Conclusion: The discharge of free available chlorine (FAC) is regulated via the steam electric effluent guidelines in cases where discharges consist of once through cooling water. Since the effluent from Outfall 001 is composed almost entirely of once through cooling water, the regulation of this pollutant based on effluent guidelines is appropriate. However, since FAC is a component of total residual chlorine (TRC), and since TRC is limited to an instantaneous maximum of 0.2 mg/l. Therefore, there will be no limit for free available chlorine placed on the permit.

H. Cadmium, total
1. Form 2C value: (8/27/96) 1 sample
   = < 20.0 ug/l maximum daily value
2. Water Quality Criteria Allowable Effluent Concentration:
   Monthly Average = 0.66 ug/l; Daily Maximum = 1.32 ug/l
3. Human Health Consideration: 5.0 ug/l
4. Detection Limit: 10.0 ug/l
5. Conclusion: Due to the levels indicated on the 2C Form, there will be a no limit for Cadmium as in the previous permit.

I. Chromium, total
1. Form 2C value: (8/27/96) 1 sample
   = < 20.0 ug/l maximum daily value
2. Water Quality Criteria Allowable Effluent Concentration:
   Monthly Average = 11.0 ug/l; Daily Maximum = 16.0 ug/l
3. Human Health Consideration: 50 ug/l
4. Detection Limit: 10.0 ug/l
5. Conclusion: Due to the levels indicated on the 2C Form, there will be no limit for Chromium.

J. Copper, total
1. Form 2C value: (8/27/96) 1 sample
   = < 50.0 ug/l maximum daily value
2. Water Quality Criteria Allowable Effluent Concentration:
   Monthly Average = 6.5 ug/l; Daily Maximum = 9.2 ug/l
3. Detection Limit: 10.0 ug/l
4. Conclusion: Due to the levels indicated on the 2C Form, there will be no limit for Copper.

K. Lead, total
1. Form 2C value: (8/27/96) 1 sample
   = < 5.0 ug/l maximum daily value
2. Water Quality Criteria Allowable Effluent Concentration:
   Monthly Average = 1.3 ug/l; Daily Maximum = 2.6 ug/l
3. Human Health Consideration: 50 ug/l
4. Detection Limit: 50.0 ug/l

5. Conclusion: Due to the levels indicated on the 2C Form, there will be no limit for Lead.

L. Mercury, total
1. Form 2C value: (8/27/96) 1 sample
   = < 0.5 ug/l maximum daily value
2. Water Quality Criteria Allowable Effluent Concentration:
   Monthly Average = 0.012 ug/l; Daily Average = 0.024 ug/l
3. Human Health Consideration: 0.153 ug/l
4. Detection Limit: 0.2 ug/l
5. Conclusion: Due to the levels indicated on the 2C Form, there will be no limit for Mercury.

M. Nickel, total
1. Form 2C value: (8/27/96) 1 sample
   = < 50.0 ug/l
2. Water Quality Criteria Allowable Effluent Concentration:
   Monthly Average = 88.0 ug/l; Daily Average = 176.0 ug/l
3. Human Health Consideration: 4,584 ug/l
4. Detection Limit: 20.0 ug/l
5. Conclusion: Due to the levels indicated on the 2C Form, there will be no limit for Nickel.

N. Selenium, total
1. Form 2C value: (8/27/96) 1 sample
   = < 2.0 ug/l
2. Human Health Consideration: 10.0 ug/l
3. Detection Limit: Not applicable
4. Conclusion: Due to the levels indicated on the 2C Form, there will be no limit for Selenium.

O. Hydrazine
1. Form 2C value: Not a Form 2C application parameter.
2. Previous Permit: 0.01 mg/l per occurrence
3. Past DMR Data (1/95-1/97): = <0.01 mg/l
4. Water Quality Criteria:
   a) 96-hour no-lethal-effect-level (bluegill) (Fisher, J.W. et al 1980 Trans. Amer. Fish Soc. 109:304:309) = 0.43 mg/l
   b) 96-hour LC_{50} warm water fish populations (bluegill & catfish)= 1.0 mg/l
   c) Acceptable discharge concentration: 1.0 mg/l/100 = 0.01 mg/l
      Safety Factor = 100
5. Detection Limit: 0.005 mg/l
6. Conclusion: The facility reported a hydrazine usage of 2,600 gallons per year based on a specific gravity of 1.1 and a concentration of 35% hydrazine). Due to the levels indicated from the past DMR Data (less than 0.01 mg/l), there will be no limit for Hydrazine.

Internal Outfall 002

Under the previous permit, coal pile runoff was regulated at internal Outfall 002 and wastewater from low volume sources was regulated and discharged to Black Creek at Outfall 008. In the NPDES Form 2C, the permittee redesignated Outfall 002 as the final discharge to Black Creek. However, in order to make use of past DMR data, internal Outfall 002 will remain the point of regulation for the discharge of coal pile runoff, via Outfall 001 to Lake Robinson.

The coal pile area encompasses approximately eight (8) acres, and is surrounded by a drainage ditch that is routed to a retention basin. The retention basin has a vertical stand pipe to allow sedimentation of suspended solids prior to discharge. Due to the sandy soils and resulting infiltration of rainfall, this retention basin is expected to discharge only during rare severe storm events. No discharge occurred during the period from 2/90 to 1/97.

Applicable effluent guidelines for this facility are the Steam Electric Point Source Category for existing sources, which provide the following limitations:

1. The pH of all discharges, except once through cooling water, shall be within the range of 6.0 standard units to 9.0 standard units.

2. There shall be no discharge of PCBs.

3. Coal pile runoff

Parameter	Maximum concentration (mg/l)
Total suspended solids	50

Because the discharge of coal pile runoff is intermittent, the permit specifies that all monitoring at internal Outfall 002 be performed during periods of discharge.

A. Flow
   1. Form 2C Value: at 001 (8/27/96) 365 samples
      = 836.45 MGD
   2. Conclusion: Based on the monitoring requirements contained in the previous permit, the flow from internal Outfall 002 shall be estimated once per occurrence but need not be more than once per month.

B. Total Suspended Solids (TSS)
   1. Form 2C Value: at 001 (8/27/96) 1 sample
      = 1.8 mg/l
   2. Previous Permit: 50 mg/l

3. Effluent Guidelines: 50.0 mg/l instantaneous maximum
4. Detection Limit: <0.01 mg/l
5. Conclusion: As in the previous permit, the permittee shall be limited to an instantaneous maximum of 50.0 mg/l due to the effluent guidelines. The sample frequency shall be once per occurrence but need not be more than once per month by grab sample.

C. pH
1. Form 2C Value: at 001 (8/27/96) 50 samples
   = 5.37 s.u. minimum, 6.7 s.u. maximum
2. Previous Permit: 6.0 s.u. minimum, 9.0 s.u. maximum
3. Effluent Guidelines: 6.0 s.u. minimum, 9.0 s.u. maximum
4. SC Water Classifications and Standards (Reg.61-68): The pH of the receiving waters shall be maintained between 5.0 standard units standard units and 8.5 standard units.
5. Conclusion: Due to the effluent guidelines, pH shall be limited to a minimum of 6.0 standard units and a maximum of 9.0 standard units as in the previous permit. The sample frequency shall once per occurrence but need not be more than once per month by grab sample.

Internal Outfall 003

Internal Outfall 003 releases sewerage from two extended aeration sanitary waste treatment plants to the discharge canal (which discharges wastewater to Lake Robinson at Outfall 001). The plants, referred to as the Davco I plant and the Clow plant, have treatment capacities of 0.030 MGD and 0.0125 MGD, respectively. Flow from the treatment plants is dependent upon fluctuating demands due to variations in the number of personnel on site. Wastewaters are treated using activated sludge biological treatment, sedimentation, and disinfection with sodium hypochlorite prior to discharge at internal Outfall 003. As approved in the January 12, 1993 SCDHEC letter, the sanitary sludge maybe disposed of to the ash pond during period when ash is being sluiced.

A. Flow
1. Form 2C Value: at Outfall 001 (8/27/96) 365 samples
   = 836.45 MGD
2. Previous Permit: Monitor and report
3. Conclusion: As in the previous permit, the permittee shall monitor and report the flow with an instantaneous sample type once per month.

B. Oil and Grease
1. Form 2C Value: at 001 (8/27/96) 1 sample
   = <5.0 mg/l
2. Previous Permit: Monitor and Report
3. SC Water Classifications & Standards (Reg. 61-68) specifies all waters of the State should be free from floating debris, grease, scum and other floating material attributable to sewage, industrial waste, or other waste in amounts sufficient to be unsightly to such a degree as to create a nuisance or interfere with classified water uses or existing water uses. The limits of a monthly

average of 10 mg/l and a daily maximum of 15 mg/l has been determined to protect these concerns.

4. Detection Limit: <5 mg/l
5. Conclusion: Based on the 2C sample results and the DMR data, there shall be no limit for oil and grease.

C. 5-Day Biochemical Oxygen Demand

1. Form 2C Value: at 001 (8/27/96) 1 sample
   =< 2.2 mg/l
2. Previous Permit: 30 mg/l monthly average, 45 mg/l daily maximum
3. Detection Limit: <2 mg/l
4. Conclusion: As in the previous permit, Biochemical Oxygen Demand shall be limited to a monthly average of 30 mg/l and a daily maximum of 45 mg/l. Monitoring shall be once per month by 24-hour composite sample.

D. Total Suspended Solids (TSS)

1. Form 2C Value: at 001 (8/27/96) 1 sample
   = 1.8 mg/l
2. Previous Permit: 30 mg/l monthly average, 45 mg/l daily maximum
3. Detection Limit: <0.01 mg/l
4. Conclusion: As in the previous permit, Total Suspended Solids shall be limited to a monthly average of 30 mg/l and a daily maximum of 45 mg/l. Therefore, monitoring shall remain once per month by 24-hour composite sample.

E. pH

1. Form 2C Value: at 001 (8/27/96)
   = 5.37 s.u. minimum, 6.7 s.u. maximum
2. Previous Permit: 6.0 s.u. minimum, 9.0 s.u. maximum
3. SC Water Classifications and Standards (Reg.61-68): The pH of the receiving waters shall be maintained between 5.0 standard units standard units and 8.5 standard units.
4. Conclusion: As in the previous permit, pH shall be limited to a minimum of 6.0 standard units and a maximum of 9.0 standard units. Since data indicates compliance with these permit limits, monitoring is reduced to once per month to be consistent with the monitoring frequency of other parameters at this outfall. Monitoring type shall be by grab sample.

F. Fecal Coliform

1. Form 2C Value: at 001 (8/27/96) 1 sample
   = <2/100 ml
2. Previous Permit: 200/100 ml monthly average and 400/100 ml daily maximum.
3. SC Water Classifications and Standards (Reg.61-68): 200/100 ml five consecutive day geometric mean, 400/100 ml maximum for 10% of samples collected over a month in the receiving waters.
4. Detection Limit: <2/100 ml

5. Conclusion: As in the previous permit, the permittee shall be limited to a monthly average of 200/100 ml and a daily maximum of 400/100 ml for fecal coliform. Monitoring shall be once per month by grab sample.

Internal Outfall 005

Internal Outfall 005 consists of discharges from the ash pond, which are composed of ash transport waters from Unit 1 and chemical metal cleaning wastes regulated by internal Outfall 007. The ash transport waters and chemical metal cleaning wastes undergo sedimentation while in the ash pond. Internal Outfall 005 discharges its wastewaters via Outfall 001 to Lake Robinson. The Unit 1 boiler is cleaned approximately every 5-7 years using a mild solution of citric acid; approximately 75,000 gallons of waste is generated during each cleaning. A stand pipe with a skimmer allows for overflow release from the ash pond to the discharge canal. Due to the sandy soil conditions and negligible amount of storm water inflow, no known discharge from the ash pond has occurred.

Applicable effluent guidelines for this Outfall are the Steam Electric Point Source Category for existing sources, which provide the following limitations:

1. The pH of all discharges, except once through cooling water, shall be within the range of 6.0 standard units to 9.0 standard units.

2. There shall be no discharge of PCBs.

3. Ash transport waters

Parameter	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
TSS	100.0	30.0
Oil and Grease	20.0	15.0

A. Flow
   1. Form 2C Value: at Outfall 001 (8/27/96) 365 samples
      = 836.45 MGD
   2. Previous Permit: Monitor and report
   3. Conclusion: As in the previous permit, the flow shall be required to be monitored and report once per week, The permittee shall monitor and report the flow with an instantaneous sample type.

B. Flow To The Ash Pond
   1. Form 2C Value: Not reported
   2. Previous Permit: Monitor and report
   3. Conclusion: As in the previous permit, the permittee shall monitor and report the flow once per week by estimate sample type.

C. Oil and Grease

1. Form 2C Value: at Outfall 001 (8/27/97)
   = <5 mg/l
2. Previous Permit: 15 mg/l monthly average and 20 mg/l daily maximum
3. SC Water Classifications & Standards (Reg. 61-68) specifies all waters of the State should be free from floating debris, grease, scum and other floating material attributable to sewage, industrial waste, or other waste in amounts sufficient to be unsightly to such a degree as to create a nuisance or interfere with classified water uses or existing water uses. The limits of a monthly average of 10 mg/l and a daily maximum of 15 mg/l has been determined to protect these concerns.
4. Effluent Guidelines: 15 mg/l monthly average; 20 mg/l daily maximum with adjustments for dilution.
5. Detection Limit: <5 mg/l
6. Conclusion: Due to the effluent guidelines, Oil and Grease shall be limited to a monthly average of 15 mg/l and a daily maximum of 20 mg/l as in the previous permit. Monitoring requirements shall be twice per month by grab sample.

D. Total Suspended Solids (TSS)

1. Form 2C Value: at Outfall 001 (8/27/97)
   = 1.8 mg/l
2. Previous Permit: 30 mg/l monthly average, 100 mg/l daily maximum
3. Effluent Guidelines: 30.0 mg/l monthly average; 100.0 mg/l daily maximum with adjustments for dilution.
4. Detection Limit: <0.01 mg/l
5. Conclusion: Due to the effluent guidelines, Total Suspended Solids shall be limited to a monthly average of 30 mg/l and a daily maximum of 100 mg/l as in the previous permit. Monitoring requirements shall be twice per month by grab sample.

E. pH

1. Form 2C Value: at Outfall 001 (8/27/97)
   = 5.37 s.u. minimum, 6.7 s.u. maximum
2. Previous Permit: 6.0 s.u. minimum, 9.0 s.u. maximum
3. Effluent Guidelines: 6.0 s.u. minimum, 9.0 s.u. maximum
4. SC Water Classifications and Standards (Reg.61-68): The pH of the receiving waters shall be maintained between 5.0 standard units standard units and 8.5 standard units.
5. Conclusion: As in the previous permit, pH shall be limited to between 6.0 and 9.0 standard units due to the effluent guidelines. Monitoring requirements shall be twice per month by grab sample.

F. Other Pollutants

As in the previous permit, the permittee shall be required to monitor internal Outfall 005 for the following metals: arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, and zinc, once per month. The previous permit contained no applicable water quality or technology based limits, for these metals at internal Outfall 005. Outfall 005 has not discharged and thus no monitoring data is available to assess the concentrations in the discharge to determine the basis of deleting this requirement. Therefore, the requirement for monitoring once per month for these metals by grab sample is retained from the previous permit.

Internal Outfall 006

Internal Outfall 006 consists of low volume wastes from Unit 2 and chemical metal cleaning wastes from the radioactive waste treatment system. Internal Outfall 006 discharges its wastewaters via Outfall 001 to Lake Robinson.

In the operation of Unit 2, low volume wastes are produced from the processing of high quality feedwater and from the operation of certain auxiliary systems. The turbine and reactor cycles are supplied by well water that has been demineralized by the makeup water demineralizers. Under normal plant operation, some leakage of reactor coolant, secondary coolant, and turbine steam water escapes through valve seals, packing, and pump seals.

Additionally, some chromate waste may be evolved through valve leakage and maintenance activities. This waste is usually collected and processed in the radioactive waste disposal system. The liquid radioactive waste treatment system is used to collect, store, and process radioactive or potentially radioactive waste for disposal or off-site shipment. Liquids are processed through evaporators, filters, charcoal beds and/or ion exchange demineralization beds as needed. Processed waste water from radioactive waste disposal is discharged through a radiation monitor into the circulating water system discharge line. Applicable effluent guidelines for Outfall 006 are the Steam Electric Point Source Category for existing sources, which provide the following limitations:

1. The pH of all discharges, except once through cooling water, shall be within the range of 6.0 standard units to 9.0 standard units.

2. There shall be no discharge of PCBs.

3. Low volume wastes

Parameter	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
TSS	100.0	30.0
Oil and Grease	20.0	15.0

4. Metal cleaning wastes

Parameter	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
TSS	100.0	30.0
Oil and Grease	20.0	15.0
Total Copper	1.0	1.0
Total Iron	1.0	1.0

A. Flow
1. Form 2C Value: at Outfall 001 (8/27/96) 365 samples
= 836.45 MGD
2. Previous Permit: Monitor and report
3. Conclusion: As in the previous permit, the permittee shall monitor and report the flow once per month by estimate sample type.

B. Total Suspended Solids (TSS)
1. Form 2C Value: at Outfall 001 (8/27/96)
= 1.8 mg/l
2. Previous Permit: 30 mg/l monthly average, 100 mg/l daily maximum
3. Effluent Guidelines: 30.0 mg/l monthly average; 100.0 mg/l daily maximum with adjustments for dilution.
4. Detection Limit: <0.01 mg/l
5. Conclusion: Due to the effluent guidelines, Total Suspended Solids shall be limited to a monthly average of 30 mg/l and a daily maximum of 100 mg/l as in the previous permit. Monitoring requirements shall be once per month by grab sample.

C. Oil and Grease
1. Form 2C Value: at Outfall 001 (8/27/96)
= <5.0 mg/l
2. Previous Permit: 15 mg/l monthly average; 20 mg/l daily maximum
3. SC Water Classifications & Standards (Reg. 61-68) specifies all waters of the State should be free from floating debris, grease, scum and other floating material attributable to sewage, industrial waste, or other waste in amounts sufficient to be unsightly to such a degree as to create a nuisance or interfere with classified water uses or existing water uses. The limits of a monthly average of 10 mg/l and a daily maximum of 15 mg/l has been determined to protect these concerns.
4. Effluent Guidelines: 15 mg/l monthly average; 20 mg/l daily maximum with adjustments for dilution.
5. Detection Limit: <5 mg/l

6. Conclusion: Due to the effluent guidelines, Oil and Grease shall be limited to a monthly average of 15 mg/l and a daily maximum of 20 mg/l as in the previous permit. Monitoring requirements shall be once per month by grab sample.

D. pH
1. Form 2C Value: at Outfall 001 (8/27/96)
   = 5.37 s.u. minimum, 6.7 s.u. maximum
2. Previous Permit: 6.0 s.u. minimum, 9.0 s.u. maximum
3. Effluent Guidelines: 6.0 s.u. minimum, 9.0 s.u. maximum
4. SC Water Classifications and Standards (Reg.61-68): The pH of the receiving waters shall be maintained between 5.0 standard units standard units and 8.5 standard units.
5. Conclusion: Due to the effluent guidelines, pH shall be limited to no less than 6.0 standard units at a frequency of once per month by grab sample as in the previous permit. The upper pH limitation of 9.0 standard units will be limited at Outfall 014.

E. Copper, total
1. Form 2C Value: at Outfall 001 (8/27/96)
   = <0.05 mg/l
2. Previous Permit: 1.0 mg/l monthly average, 1.0 mg/l daily maximum
3. Effluent Guidelines: 1.0 mg/l monthly average and 1.0 mg/l daily maximum
4. Detection Limit: <0.001 mg/l
5. Conclusion: Metal cleaning wastewater is commingled with wastewater from low volume sources prior to discharge from internal Outfall 006. Because the low volume sources wastewater represents a dilution flow for copper concentrations, monitoring shall be performed at the discharge from the metal cleaning waste pretreatment system before any dilution occurs. As in the previous permit, copper shall be limited to a monthly average of 1.0 mg/l and a daily maximum of 1.0 mg/l. Since metal cleaning wastes are discharged infrequently and the duration of the discharge is typically very short, monitoring shall be once per occurrence by grab sample but need not be more than once per month.

F. Iron, total
1. Form 2C Value: at Outfall 001 (8/27/96)
   = 0.76 mg/l
2. Previous Permit: 1.0 mg/l monthly average, 1.0 mg/l daily maximum
3. Effluent Guidelines: 1.0 mg/l monthly average; 1.0 mg/l daily maximum
4. Detection Limit: <0.001 mg/l
5. Conclusion: Metal cleaning wastewater is commingled with wastewater from low volume sources prior to discharge from internal Outfall 006. Because the low volume sources wastewater represents a dilution flow for iron concentrations, monitoring shall be performed at the discharge from the metal cleaning waste pretreatment system before any dilution occurs. As in the previous permit, iron shall be limited to a monthly average of 1.0 mg/l and a daily maximum of 1.0 mg/l. Since metal cleaning wastes are discharged infrequently and the duration of the discharge is typically very short, monitoring shall be once per occurrence by grab sample, but need not be more than once per month.

Internal Outfall 007

Metal cleaning wastes are disposed of in the ash pond. These wastes under go sedimentation while in the ash pond. Internal Outfall 007 discharges to Internal Outfall 005, then to Outfall 001, then to Lake Robinson.

Applicable effluent guidelines for this Outfall are the Steam Electric Point Source Category for existing sources, which provide the following limitations:

1. The pH of all discharges, except once through cooling water, shall be within the range of 6.0 standard units to 9.0 standard units.

2. There shall be no discharge of PCBs.

3. Metal cleaning wastes

Parameter	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
TSS	100.0	30.0
Oil and Grease	20.0	15.0
Total Copper	1.0	1.0
Total Iron	1.0	1.0

A. Flow
   1. Form 2C Value: at Outfall 001 (8/27/96) 365 samples
      = 836.45 MGD
   2. Previous Permit: Monitor and report
   3. Conclusion: As in the previous permit, the permittee shall monitor and report the flow once per occurrence but need not be more than once per month by instantaneous sample type.

B. Oil and Grease
   1. Form 2C Value: at Outfall 001 (8/27/96)
      = <0.5 mg/l
   2. Previous Permit: 15 mg/l monthly average and 20 mg/l daily maximum
   3. SC Water Classifications & Standards (Reg. 61-68) specifies all waters of the State should be free from floating debris, grease, scum and other floating material attributable to sewage, industrial waste, or other waste in amounts sufficient to be unsightly to such a degree as to create a nuisance or interfere with classified water uses or existing water uses. The limits of a monthly average of 10 mg/l and a daily maximum of 15 mg/l has been determined to protect these concerns.
   4. Effluent Guidelines: 15 mg/l monthly average and 20 mg/l daily maximum

5. Detection Limit: <5 mg/l
6. Conclusion: Due to the effluent guidelines, Oil and Grease shall be limited to a monthly average of 15 mg/l and a daily maximum of 20 mg/l as in the previous permit. Since metal cleaning wastes are discharged infrequently and the duration of the discharge is typically very short, monitoring requirements shall be once per occurrence but need not be more than month by grab sample.

C. Total Suspended Solids (TSS)
1. Form 2C Value: at Outfall 001 (8/27/96)
   = 1.8 mg/l
2. Previous Permit: 30 mg/l monthly average, 100 mg/l daily maximum
3. Effluent Guidelines: 30.0 mg/l monthly average; 100.0 mg/l daily maximum
4. Detection Limit: <0.01 mg/l
5. Conclusion: Due to the effluent guidelines, Total Suspended Solids shall be limited to a monthly average of 30 mg/l and a daily maximum of 100 mg/l as in the previous permit. Since metal cleaning wastes are discharged infrequently and the duration of the discharge is typically very short, monitoring requirements shall be once per occurrence but need not be more than month by grab sample.

D. pH
1. Form 2C Value: at Outfall 001 (8/27/96)
   = 5.37 s.u. minimum, 6.7 s.u. maximum
2. Previous Permit: 6.0 s.u. minimum, 9.0 s.u. maximum
3. Effluent Guidelines: 6.0 s.u. minimum, 9.0 s.u. maximum
4. SC Water Classifications and Standards (Reg.61-68): The pH of the receiving waters shall be maintained between 5.0 standard units standard units and 8.5 standard units.
5. Conclusion: Due to the effluent guidelines, pH shall be limited to between 6.0 and 9.0 standard units as in the previous permit. Since metal cleaning wastes are discharged infrequently and the duration of the discharge is typically very short, monitoring requirements shall be once per occurrence but need not be more than month by grab sample.

E. Copper, total
1. Form 2C Value: = <0.05 mg/l at Outfall 001 (8/27/96)
2. Previous Permit: 1.0 mg/l monthly average, 1.0 mg/l daily maximum
3. Effluent Guidelines: 1.0 mg/l monthly average and 1.0 mg/l daily maximum
4. Detection Limit: <0.001 mg/l
5. Conclusion: Due to the effluent guidelines, Copper shall be limited to a monthly average of 1.0 mg/l and a daily maximum of 1.0 mg/l as in the previous permit. Since metal cleaning wastes are discharged infrequently and the duration of the discharge is typically very short, monitoring once per occurrence by grab sample, but need not be more than once per month.

F. Iron, total
1. Form 2C Value: at Outfall 001 (8/27/96)
   = 0.76 mg/l

2. Previous Permit: 1.0 mg/l monthly average, 1.0 mg/l daily maximum
3. Effluent Guidelines: 1.0 mg/l monthly average and 1.0 mg/l daily maximum
4. Conclusion: Due to the effluent guidelines, Iron shall be limited to a monthly average of 1.0 mg/l and a daily maximum of 1.0 mg/l as in the previous permit. Since metal cleaning wastes are discharged infrequently and the duration of the discharge is typically very short, monitoring once per occurrence by grab sample, but need not be more than once per month.

Internal Outfall 008

Internal Outfall 008 is for the regulation of low volume waste and storm water runoff discharging from the Unit 1 (East) retention pond. Ultimately this wastewater discharges through Outfall 001 to Lake Robinson or through Outfall 011 to Black Creek. Various low volume wastewater flows from Unit 1, composed primarily of boiler blowdown, seal water, and minor leaks as well as rainfall runoff from the plant area are routed to the East retention pond. If it is necessary to drain the Unit 1 cooling water or steam cycle water (which may contain up to 0.05 mg/l hydrazine and 1.0 mg/l ammonia), approximately 10,000 gallons of this wastewater may be released to the low volume retention ponds.[2] During times of maintenance or similar work on the East or West retention ponds, there are provisions to combine the flows from Units 1 and 2 and route them to either pond.

The wastewater from Unit 2 consists of flows from water coolers, sampling streams, laundry wash water ($\leq$1,000 gallons per month), minor leaks and seal water, machinery washing, and rainfall runoff from the immediate plant area. The East pond has a storage volume of approximately 800,000 gallons, an overflow weir with a skimmer baffle to prevent release of floating solids, and a rope-type oil and grease skimmer. During maintenance activities, water system (steam cycle, makeup system, and/or cooling water) drainage may be routed to the low volume retention ponds.

Applicable effluent guidelines for this Outfall are the Steam Electric Point Source Category for existing sources, which provide the following limitations:

1. The pH of all discharges, except once through cooling water, shall be within the range of 6.0 standard units to 9.0 standard units.

2. There shall be no discharge of PCBs.

3. Low volume wastes

Parameter	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
TSS	100.0	30.0
Oil and Grease	20.0	15.0

[2]See Section IV.B of this fact sheet for a discussion on hydrazine discharges to Black Creek.

A. Flow
1. Form 2C Value: at Outfall 001 (8/27/96) 365 samples
= 836.45 MGD
2. Conclusion: As in the previous permit for Outfall 008, the flow from the East retention pond shall be required to be monitored and reported once per week with an instantaneous sample type.

B. Total Suspended Solids (TSS)
1. Form 2C Value: at Outfall 001 (8/27/96)
= 1.8 mg/l
2. Effluent Guidelines: 30.0 mg/l monthly avg.; 100.0 mg/l daily maximum
3. Detection Limit: <0.01 mg/l
4. Conclusion: Due to the effluent guidelines, Total Suspended Solids shall be limited to a monthly average of 30 mg/l and a daily maximum of 100 mg/l as in the previous permit. Monitoring requirements shall be twice per month by grab sample.

C. Oil and Grease
1. Form 2C Value: at Outfall 001 (8/27/96)
= <0.5 mg/l
2. SC Water Classifications & Standards (Reg. 61-68) specifies all waters of the State should be free from floating debris, grease, scum and other floating material attributable to sewage, industrial waste, or other waste in amounts sufficient to be unsightly to such a degree as to create a nuisance or interfere with classified water uses or existing water uses. The limits of a monthly average of 10 mg/l and a daily maximum of 15 mg/l has been determined to protect these concerns.
3. Effluent Guidelines: 15 mg/l monthly average and 20 mg/l daily maximum
4. Detection Limit: <5 mg/l
5. Conclusion: Due to the effluent guidelines, Oil and Grease shall be limited to a monthly average of 15 mg/l and a daily maximum of 20 mg/l as in the previous permit. Monitoring requirements shall be twice per month by grab sample.

D. pH
1. Form 2C Value: at Outfall 001 (8/27/96)
= 5.37 s.u. minimum, 6.7 s.u. maximum
2. Effluent Guidelines: 6.0 s.u. minimum, 9.0 s.u. maximum
3. Water Classifications and Standards (Reg.61-68): The pH of the receiving waters shall be maintained between 5.0 standard units standard units and 8.5 standard units.
4. Conclusion: Due to the effluent guidelines, pH shall be limited to 6.0 to 9.0 standard units for the discharge via Outfall 011, and the pH shall be limited to no less than 6.0 standard units for the discharge through Outfall 014. The upper limitation of 9.0 standard units will be limited at Outfall 014. The monitoring requirement shall be twice per month by grab sample.

Internal Outfall 009

Internal Outfall 009 is for the regulation of low volume waste and storm water runoff discharging from the Unit 2 (West) retention pond. Ultimately, this wastewater discharges through Outfall 001 to Lake

Robinson, or through Outfall 011 to Black Creek. Various low volume wastewater and flows from Unit 2 and storm water are usually routed to the West retention pond. See the description of discharges from internal Outfall 008 (in the preceding section) for more information about the sources of wastewater to the pond. Similar to the East pond, the West pond has a storage volume of approximately 800,000 gallons, an overflow weir with a skimmer baffle to prevent release of floating solids, and a rope-type oil and grease skimmer.

Applicable effluent guidelines for this Outfall are the Steam Electric Point Source Category for existing sources, which provide the following limitations:

1. The pH of all discharges, except once through cooling water, shall be within the range of 6.0 standard units to 9.0 standard units.

2. There shall be no discharge of PCBs.

3. Low volume wastes

Parameter	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
TSS	100.0	30.0
Oil and Grease	20.0	15.0

A. Flow
   1. Form 2C Value: at Outfall 001(8/27/96) 365 samples
      = 836.45 MGD
   2. Conclusion: As in the previous permit for Outfall 008, the flow from the West retention pond shall be required to be monitored and reported once per week with an instantaneous sample type.

B. Total Suspended Solids (TSS)
   1. Form 2C Value: at Outfall 001 (8/27/96)
      = 1.8 mg/l
   2. Effluent Guidelines: 30.0 mg/l monthly average; 100.0 mg/l daily maximum
   3. Detection Limit: <0.01 mg/l
   4. Conclusion: As in the previous permits for Outfall 008, Total Suspended Solids shall be limited to a monthly average of 30 mg/l and a daily maximum of 100 mg/l due to the effluent guidelines. Monitoring requirements shall be twice per month by grab sample.

C. Oil and Grease
   1. Form 2C Value: at Outfall 001 (8/27/96)
      = <0.5 mg/l

2. SC Water Classifications & Standards (Reg. 61-68) specifies all waters of the State should be free from floating debris, grease, scum and other floating material attributable to sewage, industrial waste, or other waste in amounts sufficient to be unsightly to such a degree as to create a nuisance or interfere with classified water uses or existing water uses. The limits of a monthly average of 10 mg/l and a daily maximum of 15 mg/l has been determined to protect these concerns.
3. Effluent Guidelines: 15 mg/l monthly average and 20 mg/l daily maximum
4. Detection Limit: < 5 mg/l
5. Conclusion: Due to the effluent guidelines, Oil and Grease shall be limited to a monthly average of 15 mg/l and a daily maximum of 20 mg/l as in the previuos permit. Monitoring requirements shall be twice per month by grab sample.

D. pH
1. Form 2C Value: at Outfall 001 (8/27/96)
   = 5.37 s.u. minimum, 6.7 s.u. maximum
2. Effluent Guidelines: 6.0 s.u. minimum, 9.0 s.u. maximum
3. SC Water Classifications and Standards (Reg.61-68): The pH of the receiving waters shall be maintained between 5.0 standard units standard units and 8.5 standard units.
4. Conclusion: Due to the effluent guidelines, pH shall be limited to 6.0 to 9.0 standard units for the discharge via Outfall 011, and the pH shall be limited to no less than 6.0 standard units for the discharge through Outfall 014. The upper limitation of 9.0 standard units will be limited at Outfall 014. The monitoring requirement shall be twice per month by grab sample.

Outfall 011

Outfall 011 is designated as the final discharge to Black Creek. In the permit application, Outfall 011 was classified as Outfall 002. The discharge from Outfall 011 low volume wastes from Units 1 and 2 retention ponds (treated and regulated at internal Outfalls 008 and 009) are infrequently routed to Outfall 011, and miscellaneous wastewater consisting of storm water runoff and intake screen wash.

The primary sources of the runoff are the yard drains serving areas on the western side of the plant site, including parking lots, outside storage areas, office areas, and roof drains. The flow contributed from these areas during a 10-year, 24-hour storm is estimated at 1.8 million gallons.

The intake screens are washed for approximately 10-30 minutes per day with a combined flow of 27 gallons per minute. The water contains small lake debris that is intercepted by the screens during normal operation. The intake screen wash water is not treated prior to discharge.

A. Flow
1. Form 2C Value: (8/27/96)
   = 2.2421 MGD daily maximum
2. Conclusion: The flow shall be measured once per month by estimate sample type.

B. Total Suspended Solids (TSS)
1. Form 2C Value: (8/27/96)
= 8.0 mg/l daily maximum
2. Detection Limit: <0.01 mg/l
3. Conclusion: Due to the levels indicated on the 2C Form, there will be no limit for total Suspended Solids.

C. Oil and Grease
1. Form 2C Value: (8/27/96)
= <5.0 mg/l daily maximum
2. SC Water Classifications & Standards (Reg. 61-68) specifies all waters of the State should be free from floating debris, grease, scum and other floating material attributable to sewage, industrial waste, or other waste in amounts sufficient to be unsightly to such a degree as to create a nuisance or interfere with classified water uses or existing water uses. The limits of a monthly average of 10 mg/l and a daily maximum of 15 mg/l has been determined to protect these concerns.
3. Detection Limit: <5 mg/l
4. Conclusion: Due to the levels indicated on the 2C Form, there will be no limit for Oil and Grease.

D. pH
1. Form 2C Value: (8/27/96) 43 samples
= 3.46 s.u. minimum, 8.2 s.u. maximum
2. Effluent Guidelines: 6.0 s.u. minimum, 9.0 s.u. maximum
3. SC Water Classifications and Standards (Reg.61-68): The pH of the receiving waters shall be maintained between 5.0 standard units standard units and 8.5 standard units.
4. Conclusion: As in the previous permit, the permittee shall monitored and reported the pH by grab sample at a frequency of once per month.

E. Cadmium, total
1. Form 2C value: (8/27/96)
=<20.0 ug/l
2. Water Quality Criteria Allowable Effluent Concentration:
Monthly Average = 0.66 ug/l X DF_3 = 67.98 ug/l
Daily Maximum = 1.32 ug/l X DF_3 = 135.96 ug/l
3. Human Health Consideration: 5.0 ug/l X DF_4 = 1,850 ug/l
4. Detection Limit: 10.0 ug/l
5. Conclusion: Due to the levels indicated on the 2C Form, there will be no limit for Cadmium.

F. Copper, total
1. Form 2C value: (8/27/96)
=< 10.0 ug/l
2. Water Quality Criteria Allowable Effluent Concentration:
Monthly Average = 6.5 ug/l X DF_3 = 669.5 ug/l

Daily Maximum = 9.2 ug/l X DF_3 = 947.6 ug/l

3. Detection Limit: 10.0 ug/l
4. Conclusion: Due to the levels indicated on the 2C Form, there will be no limit for Copper.

G. Lead, total

1. Form 2C value: (8/27/96)
   =< 5.0 ug/l
2. Water Quality Criteria Allowable Effluent Concentration:
   Monthly Average = 1.3 ug/l X DF_3 = 133.9 ug/l
   Daily Maximum = 2.6 ug/l X DF_3 = 267.8 ug/l
3. Human Health Consideration: 50 ug/l X DF_4 = 18,500 ug/l
4. Detection Limit: 50.0 ug/l
5. Conclusion: Due to the levels indicated on the 2C Form, there will be no limit for Lead.

H. Mercury, total

1. Form 2C value: (8/27/96)
   =< 0.5 ug/l
2. Water Quality Criteria Allowable Effluent Concentration:
   Monthly Average = 0.012 ug/l X DF_3 = 1.236 ug/l
   Daily Average = 0.024 ug/l X DF_3 = 2.47 ug/l
3. Human Health Consideration: 0.153 ug/l X DF_4 = 56.61 ug/l
4. Detection Limit: 0.2 ug/l
5. Conclusion: Due to the levels indicated on the 2C Form, there will be no limit for Mercury.

I. Nickel, total

1. Form 2C value: (8/27/96)
   =< 50.0 ug/l
2. Water Quality Criteria Allowable Effluent Concentration:
   Monthly Average = 88.0 ug/l X DF_3 = 9,064 ug/l
   Daily Average = 176.0 ug/l X DF_3 = 18,128 ug/l
3. Human Health Consideration: 4584 ug/l X DF_4 = 1,696.1 mg/l
4. Detection Limit: 20.0 ug/l
5. Conclusion: Due to the levels indicated on the 2C Form, there will be no limit for Nickel.

J. Selenium, total

1. Form 2C value: (8/27/96)
   =< 4.8 ug/l
2. Human Health Consideration: 10.0 ug/l X DF_4 = 3,700 ug/l
3. Conclusion: Due to the levels indicated on the 2C Form, there will be no limit for Selenium.

Internal Outfall 013

Internal Outfalls 013 is created for the regulation of the low volume waste stream from the steam generator blowdown & drainage. Internal Outfall 013 discharges the wastewater via Outfall 001 to Lake Robinson.

Steam generator blowdown is discharged from a flash tank to the circulating water system discharge line in the absence of radioactive contamination. The steam generator blowdown water (0.216 MGD) may contain some very low levels (<1 mg/l) of ammonia and hydrazine which are used to control corrosion.[3]

Applicable effluent guidelines for these Outfalls are the Steam Electric Point Source Category for existing sources, which provide the following limitations:

1. The pH of all discharges, except once through cooling water, shall be within the range of 6.0 standard units to 9.0 standard units.

2. There shall be no discharge of PCBs.

3. Low volume wastes

Parameter	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
TSS	100.0	30.0
Oil and Grease	20.0	15.0

A. Flow
   1. Form 2C Value: at Outfall 013 (8/27/96)
      = 300 gpm
   2. Conclusion: In order to obtain data for characterizing internal Outfalls 013 flow shall be measured once per month by estimate.

B. Total Suspended Solids (TSS)
   1. Form 2C Value: at Outfall 001 (8/27/96)
      = 1.8 mg/l
   2. Effluent Guidelines: 30.0 mg/l monthly avg.; 100.0 mg/l daily max.
   3. Detection Limit: <0.01 mg/l
   4. Conclusion: Due to the effluent guidelines, Total Suspended Solids shall be limited to a monthly average of 30 mg/l and a daily maximum of 100 mg/l at a monitoring frequency of once per month by grab sample.

[3]See Section IV.B of this fact sheet for a discussion on hydrazine discharges to Lake Robinson.

C. Oil and Grease
1. Form 2C Value: at Outfall 001 (8/27/96)
= <5.0 mg/l
2. Effluent Guidelines: 15 mg/l monthly average and 20 mg/l daily maximum
3. Detection Limit: <5 mg/l
4. Conclusion: Due to the effluent guidelines, Oil and Grease shall be limited to a monthly average of 15 mg/l and a daily maximum of 20 mg/l at a monitoring frequency of once per month by grab sample.

D. pH
1. Form 2C Value: at Outfall 001 (8/27/96) 50 samples
= 5.37 s.u. minimum, 6.7 s.u. maximum
2. Effluent Guidelines: 6.0 s.u. minimum, 9.0 s.u. maximum
3. SC Water Classifications and Standards (Reg.61-68): The pH of the receiving waters shall be maintained between 5.0 standard units standard units and 8.5 standard units.
4. Conclusion: Due to the effluent guidelines, pH shall be limited to no less than 6.0 standard units at a frequency of once per month by grab sample. The upper pH limitation of 9.0 standard units will be limited at Outfall 014.

Internal Outfall 014

Internal Outfalls 014 is created for the regulation of combined low volume waste streams from internal Outfalls 006, 008, 009, and 013, and cooling water from the circulating water system. Internal Outfall 014 discharges the wastewater via Outfall 001 to Lake Robinson.

Applicable effluent guidelines for these Outfalls are the Steam Electric Point Source Category for existing sources, which provide the following limitations:

1. The pH of all discharges, except once through cooling water, shall be within the range of 6.0 standard units to 9.0 standard units.

A. Flow
1. Form 2C Value: at Outfall 001 (8/27/96)
= 820.8 MGD
2. Conclusion: In order to obtain data for characterizing internal Outfall 014 flow shall be measured once per month by estimate.

B. pH
1. Form 2C Value: at Outfall 001 (8/27/96) 43 samples
= 5.37 s.u. minimum, 6.7 s.u. maximum
2. Effluent Guidelines: 6.0 s.u. minimum, 9.0 s.u. maximum
3. SC Water Classifications and Standards (Reg.61-68): The pH of the receiving waters shall be maintained between 5.0 standard units standard units and 8.5 standard units.

4. Conclusion: Due to the effluent guidelines, pH shall be limited to not greater than 9.0 standard units at a frequency of once per month by grab sample. The lower pH limitation of not less than 6.0 standard units is limited at internal Outfalls 006, 008, 009, and 013.

IV. Chemical Additives

A. Cooling Water Additives (Outfall 001)

1. The following chemicals are expected to be used as cooling water additives over the life of this permit: Powerline 3200, and Chlorine (as Sodium Hypochlorite).

2. Biocides -- The facility shall notify the South Carolina Department of Health and Environmental Control in writing no later than sixty (60) days prior to instituting use of any additional biocide or chemical used in the cooling system, which may be toxic to aquatic life other than those previously reported to the Environmental Protection Agency. Such notification shall include:

   a. Name and general composition of biocide or chemical;
   b. Quantities to be used;
   c. Frequencies of use;
   d. Proposed discharged concentration; and
   e. EPA registration number if applicable.

B. Hazardous Substances

In a September 1, 1989 letter to SCDHEC, the Permittee identified hydrazine as possibly being present in the discharge from Outfall 001. Similarly, if it is necessary to drain the Unit 1 steam cycle water, approximately 10,000 gallons of this wastewater (which may contain up to 0.05 mg/l hydrazine) may be released to the low volume retention ponds. If one were to assume that all of this wastewater was directed to the West retention pond (which has the lower monthly average flow rate of the two retention ponds - 0.252 MGD), and that complete mixing occurred prior to discharge of all 10,000 gallons of steam cycle water from internal Outfall 009, the hydrazine concentration in the discharge from internal Outfall 009 would be 1.98 ug/l [or 50 ug/l x (0.01 MGD ÷ 0.252 MGD)]. Since the value of 1.98 ug/l is far below 1.0 mg/l, a limit or monitoring requirement for this pollutant at internal Outfalls 008 and 009 is not being considered at this time.

C. Additional compounds identified by the facility as being discharged from Outfalls 001 and 011 include:

amine, ammonia, calcium hypochorite, sodium carbonate, sodium phosphate, sodium hydroxide, sulfuric acid, lithium hydroxide, sodium chromate, potassium chromate, ammonium hydroxide, boric acid, various detergents, sodium bicarbonate, and aluminum sulfate. The pH limitation will regulate any discharges of acid.

V. Sludge Disposal

The sludge generated from the sanitary wastewater treatment plants is approved for disposal to the ash pond with the following conditions:

a) The sanitary sludge may only be disposed of to the ash pond during periods when ash is being sluiced into the ash pond.

b) A maximum of 10,000 gallons of sanitary sludge may be disposed of to the ash pond on a weekly basis. Also, when the surge, septic, and contact chambers are purged on a quarterly basis, a maximum of 24,000 additional gallons may be disposed of to the ash pond.

The Permittee will be required to obtain prior written approval for any other sludge disposal activities at this facility.

VI. Operator

The Permittee's present treatment system consists of sedimentation and neutralization. The highest classification of the operation of all treatment equipment is usually used to determine the operator requirement. Based on the wastewater treatment system classification, an operator with a Grade B-B or higher certification is required to accept the responsibility of inspections made by lower grade operators.

VII. Groundwater Monitoring

The Permittee shall monitor and report each of the four (4) groundwater monitoring wells semiannually for the following parameters:

Water Level, tenth/feet	Arsenic, total, mg/l
Total Dissolved Solids	Iron, total, mg/l
pH (field), standard units	Sulfate, mg/l
Specific Conductance (field), umhos/cm	Zinc, total, mg/l

VIII. Previous Biological Studies

A. 316(a)

Studies of the thermal effects of the discharge were provided in support of the 316(a) variance request with a June 30, 1976 316(a) Demonstration. On November 15, 1977, a determination was made that the protection and propagation of a balanced, indigenous population of fish, shellfish, and other aquatic organisms in and on Lake Robinson will be assured by the continued operation of the H.B. Robinson Steam Electric Plant in its present once-through mode. Additionally, since 1976, the Permittee has been conducting an annual environmental monitoring reports of the Lake Robinson impoundment. To date, the 1986 Annual Environmental Monitoring Report has noted the worst case conditions (low pool, high ambient temperature, high discharge temperature). On May 20, 1994, Consent Agreement 94-034-W, which regard the temperature limits for Outfall 001, was finalized. This Consent Agreement adjusts the thermal limitations of the previous 316(a) variance to allow more gradual seasonal temperature limitations. On January 16, 1996, a meeting was held to discuss the Daily Average and Daily Maximum Heat Discharge Limitation on page 2 of the permit, it was determined that the Heat

Discharge Limitations were not necessary and that the existing temperature limits would protect the receiving water body. With the August 27, 1996 renewal application, additional reports and studies were provided and requested that the 316(a) variance be renewed, and that the two week steps of the previous permit be reduced to monthly transition. The thermal limitations shown in the Conclusion of Section III.B Temperature of the rationale were the monthly agreed upon thermal limitations with the renewal of the 316(a) variance.

B. 316(b)

Section 316(b) of the CWA requires that the location, design, construction and capacity of a cooling water intake structure reflect the best technology available for minimizing environmental impact. In addition, Section 316(b) of the CWA requires that the location, design, construction, and capacity of a cooling water intake structure reflect the best technology available for minimizing environmental impacts. On November 15, 1977, a determination was made that the lake was sustaining good populations of fish, including bluegill, and does not appear to adversely impacted by impingement. Also, the location, design, construction, and capacity of the cooling water intake structures at the H.B. Robinson Steam Electric Plant reflect the best technology available for minimizing adverse environmental impact.

IX. Co-Treatment

Where various wastes are combined for treatment and discharge, 40 CFR 423.13(h) requires that the quantity of each pollutant or pollutant property not exceed the specified limitation for that waste source. Applicable guideline concentrations were flow weighted in calculating final effluent concentrations.

X. Toxicity Testing

Since the chemical specific approach does not address all specific chemicals and their interactions with other components in the waste stream, a more comprehensive testing requirement is needed. To ensure that water quality is not deteriorated, whole effluent toxicity testing is being required at Outfalls 001 and 011 in accordance with procedures set out in The South Carolina Department of Health and Environmental Control Toxic Control Strategy for Wastewater Discharges, South Carolina Department of Health and Environmental Control, October 1990. These procedures require either acute or chronic toxicity testing based on whether a diffuser is used and the Instream Waste Concentration (IWC), which is calculated as follows:

IWC for the Discharge Canal to Lake Robinson:

IWC = (Effluent flow/(Dilution flow + Effluent flow)) X 100
= (1.2608)/(209)
= 0.6%

Based on State procedures, if a diffuser is not installed and the IWC is less than 1%, then acute toxicity testing is required. Therefore, acute toxicity screening at 100% effluent will be required to be conducted at a frequency of once per quarter.

IWC for Black Creek:

IWC = (Effluent flow/(7Q10 flow + Effluent flow)) X 100
= (0.426)/(43.3 + 0.426)
= 0.9%

Based on State procedures, if a diffuser is not installed and the IWC is less than 1%, then acute toxicity testing is required. Therefore, acute toxicity screening at 100% effluent will be required to be conducted at a frequency of once per month. The specific toxicity testing language and requirements are included in Part III of the permit.

XI. Other Requirements

A. The Permittee shall continue to maintain a Best Management Practices (BMP) plan to identify and control the discharge of significant amounts of oils and the hazardous and toxic substances listed in 40 CFR Part 117 and Tables II and III of Appendix D to 40 CFR Part 122. The plan shall include a listing of all potential sources of spills or leaks of these materials, a method for containment, a description of training, inspection and security procedures, and emergency response measures to be taken in the event of a discharge to surface waters or plans and/or procedures which constitute an equivalent BMP. Sources of such discharges may include:

- Materials storage areas
- In-plant transfer, process and material handling areas
- Loading and unloading operations
- Plant site runoff
- Sludge and waste disposal areas

The BMP plan shall be maintained in accordance with good engineering practices, shall be documented in narrative form, and shall include any necessary plot plans, drawings, or maps. The BMP plan shall be maintained at the plant site and shall be available for inspection by EPA and Department personnel.

B. The facility is also subject to requirements to maintained, for storm waters associated with Industrial Activity from Steam Electric Power Generating Facilities, a storm water pollution prevention plan as set forth in the draft general permit contained in the proposed storm water regulation. These conditions are provided in Part III of the permit.

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
2600 Bull Street
Columbia, South Carolina 29201

FACT SHEET

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

Application No. SC0002925 Date: August 11, 1997

A. SYNOPSIS OF APPLICATION

1. Name and Address of Applicant

   Carolina Power and Light Company
   H.B. Robinson Steam Electric Plant
   3581 West Entrance Road
   Hartsville, SC 29550

2. Description of Applicant's Operation

   Fossil and Nuclear Fuel Steam Electric Generation

3. Production Capacity of Facility

Unit 1	185 megawatts (MWe)
Unit 2	730 megawatts (MWe)

4. Applicant's Receiving Waters

   Lake Robinson and Black Creek

   For a sketch showing the location of the discharge(s), see Attachment A.

5. Description of Existing Pollution Abatement Facilities

   A wastewater treatment system consisting of sedimentation, chemical oxidation, and precipitation. Two extended aeration package plants for sanitary wastewater consisting of sedimentation, activated sludge, and disinfection. A radioactive wastewater processing system consisting ion exchange, and evaporation.

B. PROCEDURES FOR THE FORMULATION OF FINAL DETERMINATIONS

1. Comment Period

The Department of Health and Environmental Control 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 DHEC's proposed determinations to the following address:

South Carolina Department of Health and Environmental Control
NPDES Administration
2600 Bull Street
Columbia, South Carolina 29201

All comments received prior to (See Public Notice) will be considered in the formulation of final determinations with regard to this application.

2. Public Hearing

The Department of Health and Environmental Control Commissioner may hold a public hearing if there is a significant degree of public interest in a proposed permit or group of permits. Public notice of such a hearing will be circulated in newspapers in the geographical area of the discharge and to those on the DHEC mailing list at least thirty days prior to the hearing.

Following the public hearing, the Commissioner may make such modifications in the terms and conditions of the proposed permit as may be appropriate and shall issue or deny the permit. Notice of issuance or denial will be circulated to those who participated in the hearing and to appropriate persons on the DHEC mailing list.

If the permit is issued, it will become effective the first of the month at least 15 days following the date of issuance and will be the final action of DHEC unless an adjudicatory hearing is granted.

3. Adjudicatory Hearings

Any person may submit a request for an administrative adjudicatory hearing to consider the final permit and its conditions. If you wish to request an administrative adjudicatory hearing, such request must be made in accordance with Regulation 61-79, Volume 25, SC Code of Laws, 1976, as amended. As required by this regulation, two (2) copies of the request must be served on the South Carolina Board of Health and Environmental Control, 2600 Bull Street, South Carolina 29201, within fifteen (15) days following issuance of the permit. Service may be effected by personal delivery or by first class mail.

The following elements must, at a minimum, be included within the request:

a. A title indicating the nature of the proceeding and the parties involved;

b. The complete name and address of the party filing the pleading and, if applicable, the organization(s) or interests which he represents;

c. If the requesting party is to be represented by counsel, the name and address of the attorney;

d. A clear and concise statement of the requesting party's affected interest;

e. A clear and concise statement of the issues upon which the request is based and, where applicable, the contested sections of the permit. (It should be noted that any uncontested portions of the permit will become effective according to its terms on the effective date specified in the permit).

f. A statement of the relief sought by the requesting party.

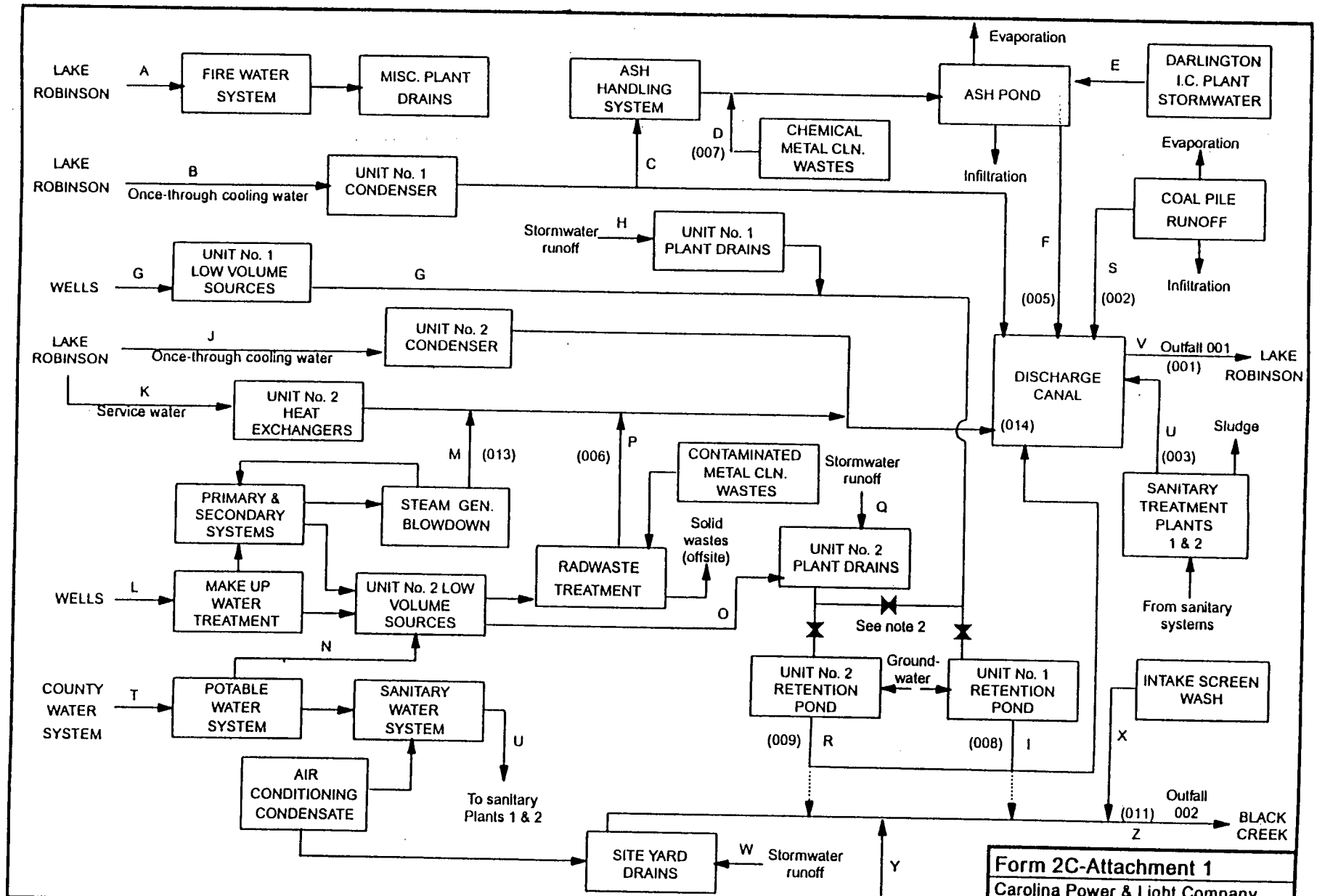
In the event that such a request is filed, the contested provisions of the permit will be stayed and will not become effective until the administrative review process is complete. All uncontested provisions of the permit will be considered issued and effective on the effective date set out in the permit and must be complied with by the facility. Final determination of permit conditions following an adjudicatory hearing will be in accordance with Regulation 61-72.

Information pertaining to adjudicatory matters may be obtained by contacting the Legal Office of the Department of Health and Environmental Control, 2600 Bull Street, Columbia, South Carolina or by calling 803/734-4910.

4. Issuance of the Permit When No Hearings are Held

If no public hearing or adjudicatory hearing is held, and, after review of the comments received, DHEC's determinations are substantially unchanged, the permit will issue and become effective the first of the month following date of issue. This will be the final action of the Department of Health and Environmental Control.

If no hearings are held, but there have been substantial changes, public notice of DHEC's revised determination will be made. Following a 15-day comment period, the permit will be issued and become effective the first of the month following termination of the 15-day comment period, and will be the final action of Department of Health and Environmental Control, unless a public or adjudicatory hearing is granted.



NOTE 1. Current NPDES permit outfall serial numbers are in parentheses.

NOTE 2. Flow to retention ponds is normally unit specific. However, flow from both units can be routed to either pond for maintenance.

Form 2C-Attachment 1

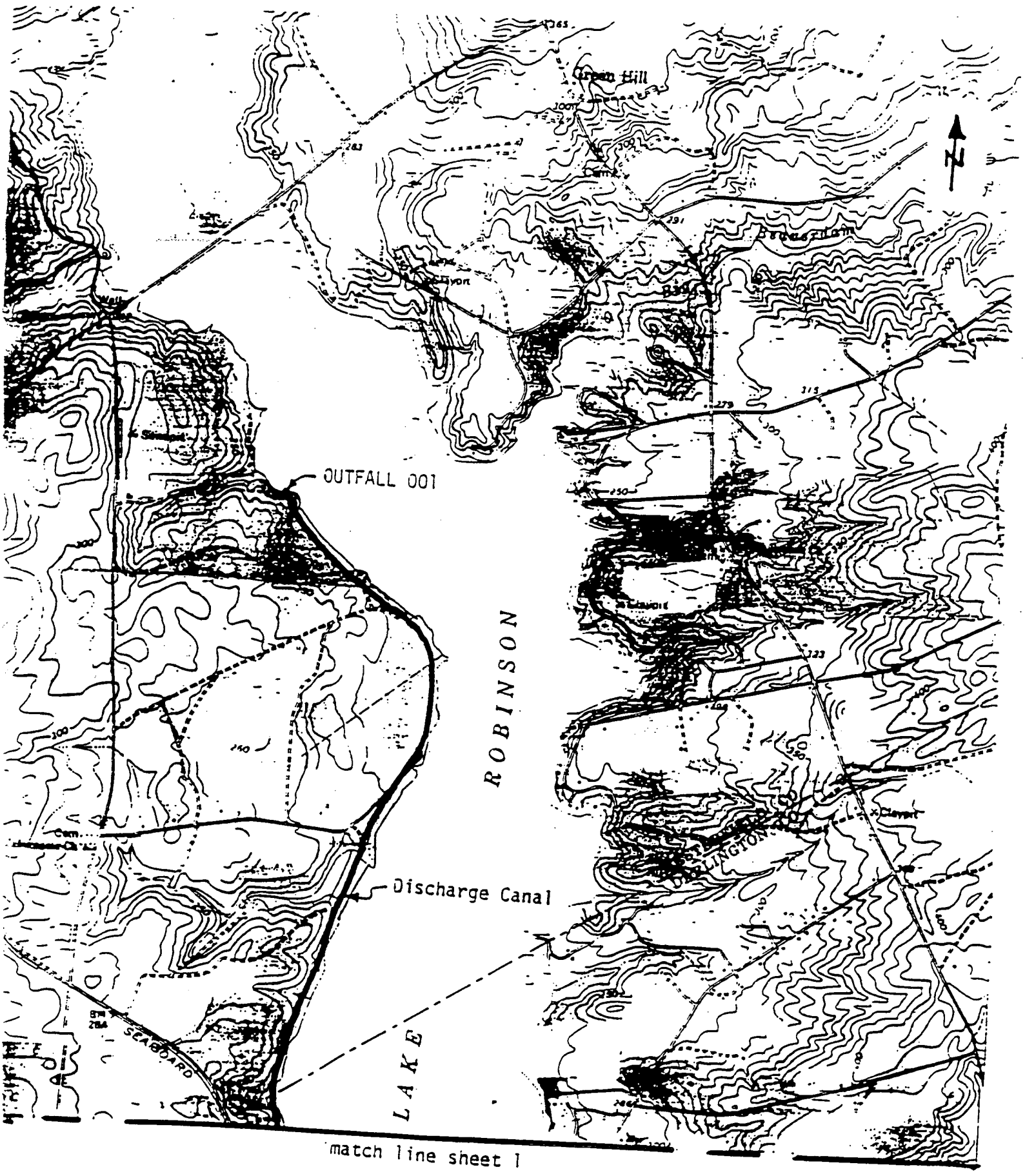
Carolina Power & Light Company
H. B. Robinson Steam Electric Plant
Darlington County, S.C.
Schematic of Water Flow
Page 1 of 2 August 1996

FORM 2C-ATTACHMENT 1
SCHEMATIC OF WATER FLOW
(Page 2 of 2)

Stream	Description	Average Flow
A**	Firewater System Tests	106 GPH (4500 gpm max.)
B*	Unit No. 1 Once-Through Cooling Water	88,000 gpm
C**	Ash Sluice Water	1.19 MGD
D**	Chemical Metal Cleaning Wastewater	0
E**	Stormwater Runoff from Darlington IC Plant Site	0.07 MGD
F**	Ash Pond Discharge	0
G**	Unit No. 1 Low-Volume Wastewater	0.08 MGD
H**	Stormwater Runoff to Unit No. 1 Drains	0.03 MGD
I**	Low-Volume Wastewater from Unit No. 1 (East) Retention Pond	0.33 MGD
J*	Unit No. 2 Once-Through Cooling Water	482,000 gpm
K*	Unit No. 2 Service Water	24,000 gpm
L**	Unit No. 2 Makeup Water from Wells	150 gpm
M**	Steam Generator Blowdown	300 gpm
N**	Unit No. 2 Low-Volume Wastewater	1 gpm
O**	Unit No. 2 Low-Volume Wastewater	0.24 MGD
P**	Treated Liquid Radwaste	0.0025 MGD
Q**	Stormwater Runoff to Unit No. 2 Drains	0.04 MGD
R**	Low-Volume Wastewater from Unit No. 2 (West) Retention Pond	0.06 MGD
S**	Coal Pile Runoff Retention Basin Discharge	0
T**	Potable Water from County Water System	5 gpm
U**	Sanitary Wastewater (42,500 gpd capacity plant)	0.008 MGD
V*	Outfall 001 to Lake Robinson	570,000 gpm
W**	Stormwater Runoff to Yard Drains	0.07 MGD
X**	Intake Screen Wash Water	800 gpd
Y*	Ground Water Seepage into Drainage System	62 gpm
Z*	Outfall 002 to Black Creek	0.16 MGD

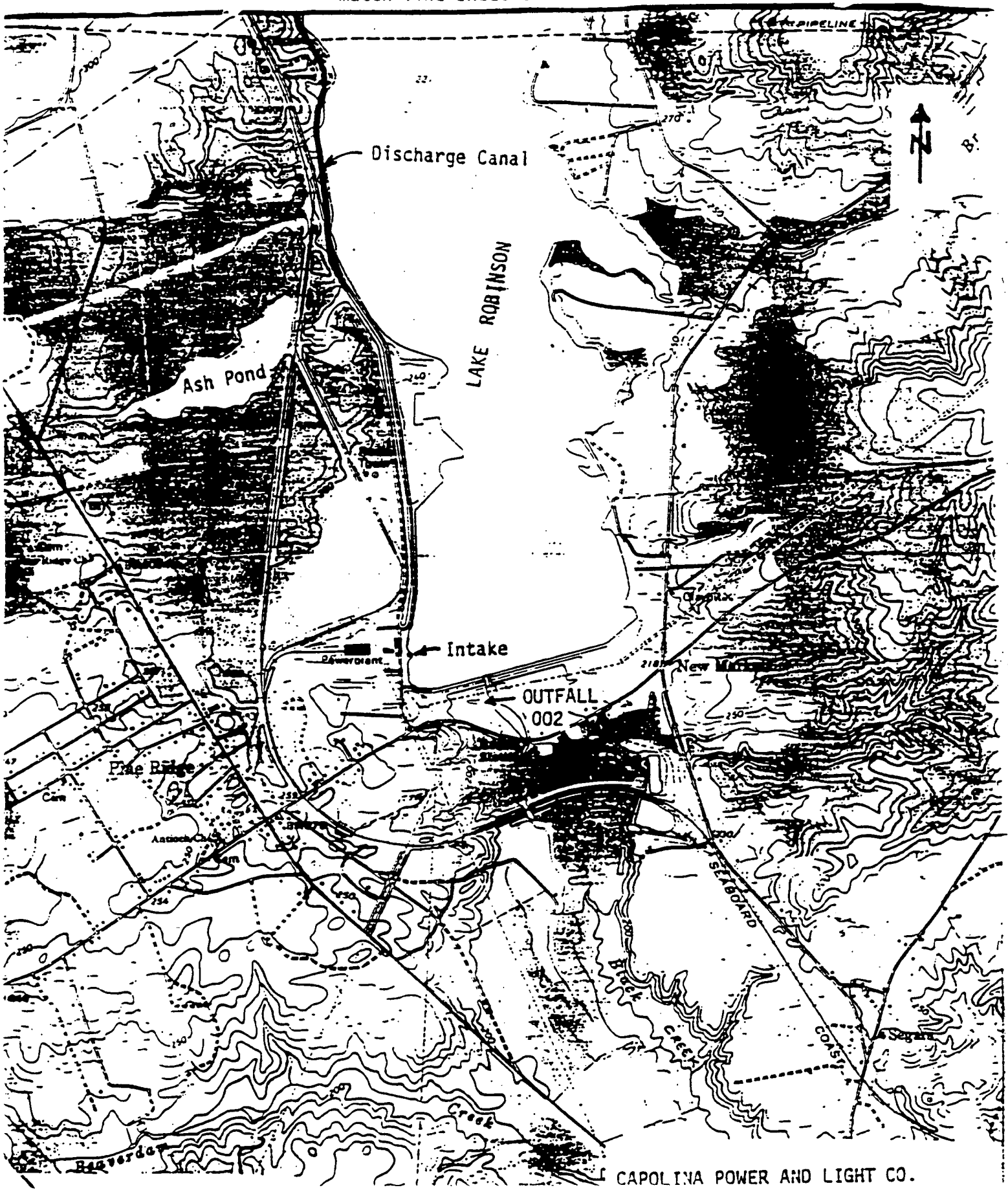
* Continuous flows
** Intermittent/variable flows
MGD Million gallons per day
GPH Gallons per hour
gpd Gallons per day
gpm Gallons per minute

Attachment A



CAROLINA POWER AND

match line sheet 2



CAPOLINA POWER AND LIGHT CO.