



GEORGIA

DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

National Pollutant Discharge Elimination System Permit

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

GRP Madison Renewable Energy Facility, LLC
P.O. Box 909
Colbert, Georgia 30628

is issued a permit to discharge from a facility located at

GRP Madison Renewable Energy Facility, LLC
268 Office Drive
Colbert, Georgia 30628
Madison County

to receiving waters

Unnamed tributaries to Beaverdam Creek (001 and 002) in the Savannah River Basin.

in accordance with effluent limitations, monitoring requirements and other conditions set forth in the permit.

This permit is issued in reliance upon the permit application signed on November 25, 2020, any other applications upon which this permit is based, supporting data entered therein or attached thereto, and any subsequent submittal of supporting data.

This permit shall become effective on **XXXX XX, XXXX**.

This permit and the authorization to discharge shall expire at midnight **XXXX XX, XXXX**.



Richard E. Dunn, Director
Environmental Protection Division

PART I

A.1. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from outfall number 001¹ (34.038762, -83.192422) – Stormwater.

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

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements ²		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			1/Month	Estimation ³	Final Effluent
Oil and Grease			10	15	1/Month	Grab	Final Effluent
Copper, total			Report	Report	1/Month	Grab	Final Effluent
Nickel, total			Report	Report	1/Month	Grab	Final Effluent
Zinc, total			Report	Report	1/Month	Grab	Final Effluent
Total Phosphorus			1.0	1.5	1/Month	Grab	Final Effluent
Orthophosphate, as P			Report	Report	1/Month	Grab	Final Effluent

The pH shall not be less than 6.0 standard units nor greater than 8.5 standard units and shall be monitored once per month by grab sample.

- ¹ There shall be no discharge of floating solids or visible foam other than trace amounts.
- ² All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.
- ³ Stormwater flow estimation will be calculated using the formula:

$$\text{Area ft}^2 \times \text{Rainfall (in)} \div 12 \left(\frac{\text{in}}{\text{ft}} \right) \times \text{Runoff Coefficient} \times 7.481 \left(\frac{\text{gallon}}{\text{ft}^3} \right)$$

An alternative method for determining flow rate may be used upon EPD approval.

A.2. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from outfall number 002¹ (34.040836, -83.190083) – Boiler blowdown, boiler feedwater, boiler area drains, reverse osmosis reject water, STG sump area drains, cooling tower blowdown, and stormwater.

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

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements ²		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			1/Week	Estimation ³	Final Effluent
Total Suspended Solids			30	100	1/Week	Grab	Final Effluent
Oil and Grease			15	20	1/Week	Grab	Final Effluent
Total Phosphorus			1.0	1.5	1/Month	Grab	Final Effluent
Orthophosphate, as P			Report	Report	1/Month	Grab	Final Effluent
Chloroform	3.93	5.85	0.471	0.706	1/Week	Grab	Final Effluent
Copper, total	0.011	0.014	0.007	0.009	1/Week	Grab	Final Effluent
Cyanide	0.043	0.065	0.005	0.008	1/Week	Grab	Final Effluent
Zinc, total	0.180	0.180	0.114	0.114	1/Week	Grab	Final Effluent
Temperature (°F)	Report	Report			1/Month	Grab	Final Effluent
Chronic Whole Effluent Toxicity ^{4,5}			Report	Report	See Footnote 4	24-Hour Composite	Final Effluent

The pH shall not be less than 6.0 standard units nor greater than 8.5 standard units and shall be monitored once per week by grab sample.

¹ There shall be no discharge of floating solids or visible foam other than trace amounts.

² All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.

- 3 Flow estimation will be calculated using the formula:
Cooling tower flow + Other process wastewater flow + Stormwater flow

Where stormwater flow estimation is calculated using the formula:

$$\text{Area ft}^2 \times \text{Rainfall (in)} \div 12 \left(\frac{\text{in}}{\text{ft}} \right) \times \text{Runoff Coefficient} \times 7.481 \left(\frac{\text{gallon}}{\text{ft}^3} \right)$$

An alternative method for determining flow rate may be used upon EPD approval.

- 4 Within 6 months of the first discharge event, the permittee shall conduct a chronic WET test and shall submit the test result with the following month DMR after the test has been completed in accordance with Part I.D of this permit.

Within 6-12 months of the first discharge event, the permittee shall conduct an additional chronic WET test and submit the test result with the following month DMR after the test has been completed in accordance with Part I.D of this permit.

The testing must comply with the most current U.S. Environmental Protection Agency (EPA) chronic aquatic toxicity testing manuals. The referenced document is entitled Short-Term Methods of Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 4th edition, U.S. EPA, 821-R-02-013, October 2002. Definitive test must be run on the same sample concurrently using both an invertebrate species (i.e., *Ceriodaphnia dubia*) and a vertebrate species (i.e., Fathead Minnow, *Pimephales promelas*) and shall include a dilution equal to the facility's instream waste concentration (IWC) of 100%.

- 5 If two WET tests are failed, the permittee will be required to complete a Toxicity Identification Evaluation (TIE) and Toxicity Reduction Evaluation (TRE) and submit the TIE/TRE to EPD no later than 6 months following the date of the second WET test failure.

A.3. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from internall outfall number 002A^{1,2} – Cooling tower discharge.

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

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements ³		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			1/Week	Continuous	See footnote 4
Free Available Chlorine			1.0	1.0	1/Week	Grab	See footnote 4
Chromium, total			0.2	0.2	1/Week	Grab	See footnote 4
Zinc, total			1.0	1.0	1/Week	Grab	See footnote 4

- ¹ There shall be no discharge of floating solids or visible foam other than trace amounts.
- ² See Special Conditions, Part III.C. of this permit.
- ³ All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.
- ⁴ The sample location shall be at the cooling tower discharge location prior to mixing with any other waste stream.

B. Monitoring

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. The permittee shall maintain a written sampling plan and schedule onsite.

2. Sampling Period

- a. Unless otherwise specified in this permit, quarterly samples shall be taken during the periods January-March, April-June, July-September, and October-December.
- b. Unless otherwise specified in this permit, semiannual samples shall be taken during the periods January-June and July-December.
- c. Unless otherwise specified in this permit, annual samples shall be taken during the period of January-December.

3. Monitoring Procedures

Analytical methods, sample containers, sample preservation techniques, and sample holding times must be consistent with the techniques and methods listed in 40 CFR Part 136. The analytical method used shall be sufficiently sensitive. EPA-approved methods must be applicable to the concentration ranges of the NPDES permit samples.

4. Detection Limits

All parameters will be analyzed using the appropriate detection limits. If the results for a given sample are such that a parameter is not detected at or above the specified detection limit, a value of "NOT DETECTED" will be reported for that sample and the detection limit will also be reported.

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 or measurements, and the person(s) performing the sampling or the measurements;
- b. The dates and times the analyses were performed, and the person(s) performing the analyses;
- c. The analytical techniques or methods used;
- d. The results of all required analyses.

6. Additional Monitoring by Permittee

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

7. Records Retention

The permittee shall retain records of all monitoring information, including all records of analyses performed, calibration and maintenance of instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a minimum of three (3) years from the date of the sample, measurement, report or application, or longer if requested by EPD.

8. Penalties

The Federal Clean Water Act and the Georgia Water Quality Control Act provide that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit, makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine or by imprisonment, or by both. The Federal Clean Water Act and the Georgia Water Quality Control Act also provide procedures for imposing civil penalties which may be levied for violations of the Act, any permit condition or limitation established pursuant to the Act, or negligently or intentionally failing or refusing to comply with any final or emergency order of the Director of EPD

C. Definitions

1. The "daily average" mass means the total discharge by mass during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of all the measured daily discharges by weight divided by the number of days sampled during the calendar month when the measurements were made.
2. The "daily maximum" mass means the total discharge by mass during any calendar day.
3. The "daily average" concentration means the arithmetic average of all the daily determinations of concentrations made during a calendar month. Daily determinations of concentration made using a composite sample shall be the concentration of the composite sample.
4. The "daily maximum" concentration means the daily determination of concentration for any calendar day.
5. A "calendar day" is defined as any consecutive 24-hour period.
6. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
7. "Severe property damage" means substantial physical damage to property, damage to treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
8. "EPD" as used herein means the Environmental Protection Division of the Department of Natural Resources.
9. "State Act" as used herein means the Georgia Water Quality Control Act (Official Code of Georgia Annotated; Title 12, Chapter 5, Article 2).
10. "Rules" as used herein means the Georgia Rules and Regulations for Water Quality Control.

D. Reporting Requirements

1. The permittee must electronically report the DMR, OMR and additional monitoring data using the web based electronic NetDMR reporting system, unless a waiver is granted by EPD.
 - a. The permittee must comply with the Federal National Pollutant Discharge Elimination System Electronic Reporting regulations in 40 CFR §127. The permittee must electronically report the DMR, OMR, and additional monitoring data using the web based electronic NetDMR reporting system online at: <https://netdmr.epa.gov/netdmr/public/home.htm>
 - b. Monitoring results obtained during the calendar month shall be summarized for each month and reported on the DMR. The results of each sampling event shall be reported on the OMR and submitted as an attachment to the DMR.
 - c. The permittee shall submit the DMR, OMR and additional monitoring data no later than 11:59 p.m. on the 15th day of the month following the sampling period.
 - d. All other reports required herein, unless otherwise stated, shall be submitted to the EPD Office listed on the permit issuance letter signed by the Director of EPD.
2. No later than December 21, 2020, the permittee must electronically report the following compliance monitoring data and reports using the online web based electronic system approved by EPD, unless a waiver is granted by EPD:
 - a. Sewer Overflow/Bypass Event Reports;
 - b. Noncompliance Notification;
 - c. Other noncompliance; and
 - d. Bypass

3. Other Reports

All other reports required in this permit not listed above in Part I.D.2 or unless otherwise stated, shall be submitted to the EPD Office listed on the permit issuance letter signed by the Director of EPD.

4. Other Noncompliance

All instances of noncompliance not reported under Part I.B. and Part II. A. shall be reported to EPD at the time the monitoring report is submitted.

5. Signatory Requirements

All reports, certifications, data or information submitted in compliance with this permit or requested by EPD must be signed and certified as follows:

- a. Any State or NPDES Permit Application form submitted to the EPD shall be signed as follows in accordance with the Federal Regulations, 40 C.F.R. 122.22:
 1. For a corporation, by a responsible corporate officer. A responsible corporate officer means:
 - i. a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision making functions for the corporation, or
 - ii. the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
 2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
 3. For a municipality, State, Federal, or other public facility, by either a principal executive officer or ranking elected official.
- b. All other reports or requests for information required by the permit issuing authority shall be signed by a person designated in (a) above or a duly authorized representative of such person, if:
 1. The representative so authorized is responsible for the overall operation of the facility from which the discharge originates, e.g., a plant manager, superintendent or person of equivalent responsibility;
 2. The authorization is made in writing by the person designated under (a) above; and
 3. The written authorization is submitted to the Director.
- c. Any changes in written authorization submitted to the permitting authority under (b) above which occur after the issuance of a permit shall be reported to the permitting authority by submitting a copy of a new written authorization which meets the requirements of (b) and (b.1) and (b.2) above.
- d. Any person signing any document under (a) or (b) above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

PART II

A. Management Requirements

1. Notification of Changes

- a. The permittee shall provide EPD at least 90 days advance notice of any planned physical alterations or additions to the permitted facility that meet the following criteria:
 1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b);
 2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1); or
 3. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- b. The permittee shall give at least 90 days advance notice to EPD of any planned changes to the permitted facility or activity which may result in noncompliance with permit requirements.
- c. Following the notice in paragraph a. or b. of this condition the permit may be modified. The permittee shall not make any changes, or conduct any activities, requiring notification in paragraph a. or b. of this condition without approval from EPD.
- d. The permittee shall provide at least 30 days advance notice to EPD of:
 1. any planned expansion or increase in production capacity; or
 2. any planned installation of new equipment or modification of existing processes that could increase the quantity of pollutants discharged or result in the discharge of pollutants that were not being discharged prior to the planned change

if such change was not identified in the permit application(s) upon which this permit is based and for which notice was not submitted under paragraphs a. or b. of this condition.

- e. All existing manufacturing, commercial, mining, and silvicultural dischargers shall notify EPD as soon as it is known or there is reason to believe that any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant not limited in the permit, if that discharge will exceed (i) 100 µg/L, (ii) five times the maximum concentration reported for that pollutant in the permit application, or (iii) 200 µg/L for acrolein and acrylonitrile, 500 µg/L for 2,4 dinitrophenol and for 2-methyl-4-6-dinitrophenol, or 1 mg/L antimony.
- f. All existing manufacturing, commercial, mining, and silvicultural dischargers shall notify EPD as soon as it is known or there is reason to believe that any activity has occurred or will occur which would result in any discharge on a nonroutine or infrequent basis, of any toxic pollutant not limited in the permit, if that discharge will exceed (i) 500 µg/L, (ii) ten times the maximum concentration reported for that pollutant in the permit application, or (iii) 1 mg/L antimony.
- g. Upon the effective date of this permit, the permittee shall submit to EPD an annual certification in June of each year certifying whether or not there has been any change in processes or wastewater characteristics as described in the submitted NPDES permit application that required notification in paragraph a., b., or d. of this condition. The permittee shall also certify annually in June whether the facility has received offsite wastes or wastewater and detail any such occurrences.

2. Noncompliance Notification

If, for any reason, the permittee does not comply with, or will be unable to comply with any effluent limitation specified in this permit, the permittee shall provide EPD with an oral report within 24 hours from the time the permittee becomes aware of the circumstances followed by a written report within five (5) days of becoming aware of such condition. The written submission shall contain the following information:

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

3. Facility Operation

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. 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.

4. Adverse Impact

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. Bypassing

a. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to EPD at least 10 days (if possible) before the date of the bypass. The permittee shall submit notice of any unanticipated bypass with an oral report within 24 hours from the time the permittee becomes aware of the circumstances followed by a written report within five (5) days of becoming aware of such condition. The written submission shall contain the following information:

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

b. Any diversion or bypass of facilities covered by this permit is prohibited, except (i) where unavoidable to prevent loss of life, personal injury, or severe property damage; (ii) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime (this condition is not satisfied if the permittee could have installed adequate back-up equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance); and (iii) the permittee submitted a notice as required above. The permittee shall operate the treatment works, including the treatment plant and total sewer system, to minimize discharge of the pollutants listed in Part I of this permit from combined sewer overflows or bypasses. Upon written notification by EPD, the permittee may be required to submit a plan and schedule for reducing bypasses, overflows, and infiltration in the system.

6. Sludge Disposal Requirements

Sludge shall be disposed of in accordance with the regulations and guidelines established by EPD, the Federal Clean Water Act, and the Resource Conservation and Recovery Act (RCRA). Prior to disposal of sludge by any method other than co-disposal in a permitted sanitary landfill, the permittee shall submit a sludge management plan to the Watershed Protection Branch of EPD for written approval. For land application of nonhazardous sludge, the permittee shall comply with the applicable criteria outlined in the most current version of EPD's "Guidelines for Land Application of Sewage Sludge (Biosolids) at Agronomic Rates" and with the State Rules, Chapter 391-3-6-.17. EPD may require more stringent control of this activity. Prior to land applying nonhazardous sludge, the permittee

shall submit a sludge management plan to EPD for review and approval. Upon approval, the plan for land application will become a part of the NPDES permit upon modification of the permit.

7. Sludge Monitoring Requirements

The permittee shall develop and implement procedures to ensure adequate year-round sludge disposal. The permittee shall monitor the volume and concentration of solids removed from the plant. Records shall be maintained which document the quantity of solids removed from the plant. The ultimate disposal of solids shall be reported (in the unit of lbs) as specified in Part I.D of this permit.

8. Power Failures

Upon the reduction, loss, or failure of the primary source of power to said water pollution control facilities, the permittee shall use an alternative source of power if available to reduce or otherwise control production and/or all discharges in order to maintain compliance with the effluent limitations and prohibitions of this permit.

If such alternative power source is not in existence, and no date for its implementation appears in Part I, the permittee shall halt, reduce or otherwise control production and/or all discharges from wastewater control facilities upon the reduction, loss, or failure of the primary source of power to said wastewater control facilities.

9. Operator Certification Requirements

The permittee shall ensure that, when required, a certified operator is in charge of the facility in accordance with Georgia State Board of Examiners for Certification of Water and Wastewater Treatment Plant operators And Laboratory Analysts Rule 43-51-6.(b)

10. Laboratory Analyst Certification Requirements

The permittee shall ensure that, when required, the person in responsible charge of the laboratory performing the analyses for determining permit compliance is certified in accordance with the Georgia Certification of Water and Wastewater Treatment Plant operators and Laboratory Analysts Act, as amended, and the Rules promulgated thereunder.

B. Responsibilities

1. Right of Entry

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

- a. To enter upon the permittee's premises where a discharge source is located or in which any records are required to be kept under the terms and conditions of this permit; and
- b. At reasonable times, to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and to sample any substance or parameters in any location.

2. Transfer of Ownership or Control

A permit may be transferred to another person by a permittee if:

- a. The permittee notifies the Director of EPD in writing of the proposed transfer at least thirty (30) days in advance of the proposed transfer;
- b. A written agreement containing a specific date for transfer of permit responsibility and coverage between the current and new permittee (including acknowledgement that the existing permittee is liable for violations up to that date, and that the new permittee is liable for violations from that date on) is submitted to the Director at least thirty (30) days in advance of the proposed transfer; and
- c. The Director, within thirty (30) days, does not notify the current permittee and the new permittee of EPD's intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

3. Availability of Reports

Except for data deemed to be confidential under O.C.G.A. § 12-5-26 or by the Regional Administrator of the EPA under the Code of Federal Regulations, Title 40, Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at an office of EPD. Effluent data, permit applications, permittee's names and addresses, and permits shall not be considered confidential.

4. Permit Modification

This permit may be modified, suspended, revoked or reissued in whole or in part during its term for cause including, but not limited to, the following:

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

5. Toxic Pollutants

The permittee shall comply with effluent standards or prohibitions established pursuant to Section 307(a) of the Federal Clean Water Act for toxic pollutants, which are present in the discharge within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

6. Civil and Criminal Liability

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

7. State Laws

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

8. Water Quality Standards

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

9. Property Rights

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

10. Expiration of Permit

The permittee shall not discharge after the expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information, forms, and fees as are required by EPD at least 180 days prior to the expiration date.

11. Contested Hearings

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

12. Severability

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

13. Best Management Practices

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

14. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a 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.

15. Duty to Provide Information

- a. The permittee shall furnish to the EPD Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish upon request copies of records required to be kept by this permit.

- b. When the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts and information.

16. Duty to Comply

- a. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Georgia Water Quality Control Act (O.C.G.A. § 12-5-20 et. seq.) and is grounds for enforcement action; for permit termination; revocation and reissuance, or modification; or for denial of a permit renewal application. Any instances of noncompliance must be reported to EPD as specified in Part I. D and Part II.A. of this permit.
- b. Penalties for violations of permit conditions. The Federal Clean Water Act and the Georgia Water Quality Control Act (O.C.G.A. § 12-5-20 et. seq.) provide that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under this permit, makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine or by imprisonment, or by both. The Georgia Water Quality Control Act (Act) also provides procedures for imposing civil penalties which may be levied for violations of the Act, any permit condition or limitation established pursuant to the Act, or negligently or intentionally failing or refusing to comply with any final or emergency order of the Director.

17. Upset Provisions

Provisions of 40 CFR 122.41(n)(1)-(4), regarding "Upset" shall be applicable to any civil, criminal, or administrative proceeding brought to enforce this permit.

PART III

A. Previous Permits

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

B. Schedule of Compliance

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:
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, any remedial actions taken, and the probability of meeting the next scheduled requirement.

C. Special Conditions

1. No later than two years from the commencement of discharge, the permittee must complete and submit to EPD Items V and VI of NPDES application Form 2C (EPA Form 3510-2C). The completed form should be submitted to:

Georgia Environmental Protection Division
Wastewater Regulatory Program
2 Martin Luther King Jr. Drive Suite 1152E
Atlanta, GA 30334

2. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.
3. Neither free available chlorine (FAC) nor total residual chlorine (TRC) may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge these materials at any one time unless the permittee can demonstrate to and get written authorization from the EPD Director that the units in a particular location cannot operate at or below this level of chlorination. The permittee has demonstrated the need for continuous chlorination of the service water system to maintain FAC between 0.5 mg/L and 1.0 mg/L. This special condition is waived during periods of continuous chlorination of the service water system and the effluent limitation for FAC has been determined to be 1.0 mg/L in accordance with the manufacture's recommendation.
4. The free available chlorine (FAC) average means the average over any individual chlorine or oxidant release period. The FAC maximum is the instantaneous maximum which may occur at any time. Further, the permittee will develop a system for monitoring and recording

total time of FAC and TRC discharges. The results shall be reported in a suitably concise form in accordance with the reporting requirements in Part 1.B.2 of this permit.

5. If bromine or a combination of bromine and chlorine is utilized for control of biofouling, limitations for TRC and FAC shall be applicable to TRO (Total Residual Oxidants) and FAO (Free Available Oxidants). There is no difference in test methods between TRC/FAC and TRO/FAO.
6. The permittee shall certify annually that none of the 126 priority pollutants, excluding chromium and zinc, is above detectable limits in outfall 002A (cooling tower blowdown). This certification may be based on manufacturers certifications or engineering calculations. A certification for chromium and/or zinc may be used in lieu of the monitoring required in Part I.A.2.

D. Biomonitoring and Toxicity Reduction Requirements

1. The permittee shall comply with effluent standards or prohibitions established by section 307(a) of the Federal Act and with chapter 391-3-6-.03(5)(e) of the State Rules and may not discharge toxic pollutants in concentrations or combinations that are harmful to humans, animals, or aquatic life.

If toxicity is suspected in the effluent, EPD may require the permittee to perform any of the following actions:

- a. Acute biomonitoring tests;
 - b. Chronic biomonitoring tests;
 - c. Stream studies;
 - d. Priority pollutant analyses;
 - e. Toxicity reduction evaluations (TRE); or
 - f. Any other appropriate study.
2. EPD will specify the requirements and methodologies for performing any of these tests or studies. Unless other concentrations are specified by EPD, the critical concentration used to determine toxicity in biomonitoring tests will be the effluent instream wastewater concentration (IWC) based on the representative plant flow of the facility and the critical low flow of the receiving stream (7Q10). The endpoints that will be reported are the effluent concentration that is lethal to 50% of the test organisms (LC50) if the test is for acute toxicity, and the no observed effect concentration (NOEC) of effluent if the test is for chronic toxicity.

The permittee must eliminate effluent toxicity and supply EPD with data and evidence to confirm toxicity elimination.



The Georgia Environmental Protection Division proposes to issue an NPDES permit to the applicant identified below. The draft permit places conditions on the discharge of pollutants from the wastewater treatment plant to waters of the State.

Technical Contact: Whitney Fenwick (*Whitney.Fenwick@dnr.ga.gov*)
404-656-2795

Draft permit:

- first issuance
- reissuance with no or minor modifications from previous permit
- reissuance with substantial modifications from previous permit
- modification of existing permit
- requires EPA review
- designated as a Major facility

1. FACILITY INFORMATION

1.1 **NPDES Permit No.:** GA0050283

1.2 **Name and Address of Owner/Applicant**

GRP Madison Renewable Energy Facility, LLC
PO Box 909
Colbert, Georgia 30628

1.3 **Name and Address of Facility**

GRP Madison Renewable Energy Facility, LLC
268 Office Drive
Colbert, Georgia 30628
(Madison County)

1.4 **Location and Description of the discharge (as reported by applicant)**

Outfall ID	Latitude	Longitude	Receiving Waterbody
001	34.038762	-83.192422	Unnamed tributary to Beaverdam Creek
002	34.040836	-83.190083	Unnamed tributary to Beaverdam Creek

1.5 Production Capacity

Not Applicable

1.6 SIC Code & Description

4911 – Electric Services

1.7 Description of Industrial Processes

The GRP-Madison facility is a 65 MegaWatt facility that consists of a spreader stoker vibrating water cooled grate boiler/steam generator, and one steam turbine generator (STG). The project includes a flue gas Air Quality Control System (AQCS) consisting of a Selective Catalytic Reducer (SCR) NOx/CO emissions control systems, Mechanical Dust Collector (Multi-Cyclone), and Electrostatic Precipitator. The facility burns wood biomass (wood debris). The facility will operate continuously 24 hours a day, 7 days a week.

1.8 Description of the Wastewater Treatment Facility

Outfall	Operation Description	Treatment Description
001	Stormwater	Sedimentation (settling)
002	Boiler blowdown, boiler feedwater, boiler area drains, reverse osmosis reject water, STG sump area drains, cooling tower blowdown, and stormwater.	Neutralization, oil/water separator

1.9 Type of Wastewater Discharge

- | | |
|---|--|
| <input checked="" type="checkbox"/> process wastewater | <input checked="" type="checkbox"/> stormwater |
| <input type="checkbox"/> domestic wastewater | <input checked="" type="checkbox"/> combined |
| <input checked="" type="checkbox"/> other (boiler blowdown, boiler area feedwater, boiler area drains, reverse osmosis reject water, STG sump area drain, cooling tower blowdown) | |

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1.10 Characterization of Effluent Discharge as Reported by Applicant

(Form 2D, Section V, Part A only. Please refer to the application for additional analysis)

1.10.a Outfall No. 001: Stormwater

Effluent Characteristics (as Reported by Applicant)	Maximum Daily Value	Average Daily Value
Flow (MGD)	2.9	0.068
Biochemical Oxygen Demand, ^{5-day} (mg/L)	6.56	6.41
Total Suspended Solids (mg/L)	22	14.68
Temperature, Winter (°F)	62.96	62.96
Temperature, Summer (°F)	66.92	66.92
Ammonia (mg/L)	<0.8	<0.8
Total Phosphorus (mg/L)	0.136	0.095

1.10.b Outfall No. 002: Boiler blowdown, boiler feedwater, boiler area drains, reverse osmosis reject water, STG sump area drains, cooling tower blowdown, and stormwater.

Effluent Characteristics (as Reported by Applicant)	Maximum Daily Value	Average Daily Value
Flow (MGD)	0.65	0.205
Biochemical Oxygen Demand, ^{5-day} (mg/L)	49	49
Total Suspended Solids (mg/L)	82.3	33.37
Temperature, Winter (°F)	68.72	68.72
Temperature, Summer (°F)	68.72	68.72
Ammonia (mg/L)	4.44	1.218
Total Phosphorus (mg/L)	6.066	3.658

2. APPLICABLE REGULATIONS

2.1 State Regulations

Chapter 391-3-6 of the Georgia Rules and Regulations for Water Quality Control

2.2 Federal Regulations

Source	Activity	Applicable Regulation
Industrial (Non POTW)	Non-Process Water Discharges	40 CFR 122
		40 CFR 125
		40 CFR 127
		40 CFR 136
	Process Water Discharges	40 CFR 122
		40 CFR 125
		40 CFR 136

2.3 Industrial Effluent Limit Guideline(s)

Not applicable

The effluent limit guidelines (ELGs) at 40 CFR 423 apply to discharges resulting from the operation of a generating unit by an establishment whose generation of electricity is the predominant source of revenue or principal reason for operation, and whose generation of electricity results primarily from a process utilizing fossil-type fuel (coal, oil, or gas), fuel derived from fossil fuel (e.g., petroleum coke, synthesis gas), or nuclear fuel in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium. The ELGs do not apply to plants that use non-fossil fuel or non-nuclear fuel or other energy sources, such as biomass.

3. WATER QUALITY STANDARDS & RECEIVING WATERBODY INFORMATION

Section 301(b)(1)(C) of the Clean Water Act (CWA) requires the development of limitations in permits necessary to meet water quality standards. Federal Regulations 40 CFR 122.4(d) require that conditions in NPDES permits ensure compliance with the water quality standards which are composed of use classifications, numeric and or narrative water quality criteria and an anti-degradation policy. The use classification system designates the beneficial uses that each waterbody is expected to achieve, such as drinking water, fishing, or recreation. The numeric and narrative water quality criteria are deemed necessary to support the beneficial use classification for each water body. The antidegradation policy represents an approach to maintain and to protect various levels of water quality and uses.

3.1 Receiving Waterbody Classification and Information

[391-3-6-.03(6)]

Fishing

- (i) Dissolved Oxygen: A daily average of 6.0 mg/L and no less than 5.0 mg/L at all times for water designated as trout streams by the Wildlife Resources

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Division. A daily average of 5.0 mg/L and no less than 4.0 mg/L at all times for waters supporting warm water species of fish.

- (ii) pH: Within the range of 6.0 - 8.5.
- (iii) Bacteria:
 - 1. For the months of May through October, when water contact recreation activities are expected to occur, fecal coliform not to exceed a geometric mean of 200 per 100 mL based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours. Should water quality and sanitary studies show fecal coliform levels from non-human sources exceed 200/100 mL (geometric mean) occasionally, then the allowable geometric mean fecal coliform shall not exceed 300 per 100 mL in lakes and reservoirs and 500 per 100 mL in free flowing freshwater streams. For the months of November through April, fecal coliform not to exceed a geometric mean of 1,000 per 100 mL based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours and not to exceed a maximum of 4,000 per 100 mL for any sample. The State does not encourage swimming in these surface waters since a number of factors which are beyond the control of any State regulatory agency contribute to elevated levels of bacteria.
 - 2. For waters designated as shellfish growing areas by the Georgia DNR Coastal Resources Division, the requirements will be consistent with those established by the State and Federal agencies responsible for the National Shellfish Sanitation Program. The requirements are found in National Shellfish Sanitation Program Guide for the Control of Molluscan Shellfish, 2007 Revision (or most recent version), Interstate Shellfish Sanitation Conference, U.S. Food and Drug Administration.
- (iv) Temperature: Not to exceed 90°F. At no time is the temperature of the receiving waters to be increased more than 5°F above intake temperature except that in estuarine waters the increase will not be more than 1.5°F. In streams designated as primary trout or smallmouth bass waters by the Wildlife Resources Division, there shall be no elevation of natural stream temperatures. In streams designated as secondary trout waters, there shall be no elevation exceeding 2°F natural stream temperatures.

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3.2 Ambient Information

Outfall ID	7Q10 (cfs)	1Q10 (cfs)	Hardness (mg/L as CaCO ₃)	Annual Average Flow (cfs)	Upstream Total Suspended Solids (mg/L)
001	0.000605	0.000428	Data unavailable ¹	0.0518	Data unavailable ²
002	0.000522	0.000372	Data unavailable ¹	0.0367	Data unavailable ²

¹ For the Reasonable Potential Analysis calculations, EPD used 20 mg/l as a conservative value.

² For the Reasonable Potential Analysis calculations, EPD used 10 mg/l as a conservative value.

3.3 Georgia 305(b)/303(d) List Documents

Unnamed tributary to Beaverdam Creek is not listed on the 305(b)/303(d) List.

Beaverdam Creek (Mill Shoal Creek to South Fork Broad River) is listed as not supporting the designated use for sediment (Bio F). There are currently no TMDLs for this segment.

Beaverdam Creek	Mill Shoal Creek to South Fork Broad River	Savannah	Not Supporting	Bio F	4	5
GAR030601040406	Oglethorpe, Madison	Fishing	4	NP	Miles	2020

3.4 Total Maximum Daily Load (TMDL)

Not Applicable.

3.5 Wasteload Allocation Date (if applicable)

See Appendix B of the Fact Sheet

4. PERMIT CONDITIONS AND EFFLUENT LIMITATIONS

4.1 Water Quality Based Effluent Limitations (WQBELs) & Technology Based Effluent Limits (TBELs)

When drafting a National Pollutant Discharge Elimination System (NPDES) permit, a permit writer must consider the impact of the proposed pollutants in a discharge on the quality of the receiving water. Water quality goals for a waterbody are defined by state water quality criteria or standards. By analyzing the effect of a pollutant in the discharge on the receiving water, a permit writer could find that technology-based effluent limitations (TBELs) alone will not achieve the applicable water quality standards or protect downstream users. In such cases, the Clean Water Act (CWA) and its implementing regulations require development of water quality-based effluent limitations (WQBELs). WQBELs help meet the CWA objective

of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters and the goal of water quality that provides for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water (fishable/swimmable).

WQBELs are designed to protect water quality by ensuring water quality standards are met in the receiving water and the designated use and downstream uses are protected. On the basis of the requirements of 40 C.F.R. §125.3(a), additional or more stringent effluent limitations and conditions, such as WQBELs, are imposed when TBELs are not sufficient to protect water quality.

TBELs aim to prevent pollution by requiring a minimum level of effluent quality that is attainable using demonstrated technologies for reducing discharges of pollutants or pollution into the waters of the State. TBELs are developed independently of the potential impact of a discharge on the receiving water, which is addressed through water quality standards and WQBELs. The NPDES regulations at 40 C.F.R. §125.3(a) require NPDES permit writers to develop technology-based treatment requirements, consistent with CWA section 301(b), that represent the minimum level of control that must be imposed in a permit. The regulation also requires permit writers to include in permits additional or more stringent effluent limitations and conditions, including those necessary to protect water quality.

For pollutants not specifically regulated by Federal Effluent Limit Guidelines (ELGS), the permit writer must identify any needed TBELs and utilize best professional judgment to establish TBELs or determine other appropriate means to control its discharge if there is a reasonable potential to cause or contribute to a violation of the water quality standards.

4.2 Reasonable Potential Analysis (RPA)

EPA regulations at 40 C.F.R. §122.44(d)(1)(i) state, "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level that will *cause*, have the *reasonable potential to cause*, or *contribute* to an excursion above any [s]tate water quality standard, including [s]tate narrative criteria for water quality." [emphasis added]

EPA regulations at 40 C.F.R. §122.44(d)(1)(ii) require States to develop procedures for determining whether a discharge causes, has the reasonable potential to cause, or contributes to an instream excursion above a narrative or numeric criterion within a state water. If such reasonable potential is determined to exist, the NPDES permit must contain pollutant effluent limits and/or effluent limits for whole effluent toxicity. Georgia has reasonable potential procedures, based upon the specific category of pollutants and/or specific pollutant of concern. Chemical specific and biomonitoring data and other pertinent information in EPD's files will be considered in accordance with the review procedures specified in the GA Rules and Regulations for Water Quality Control, Chapter 391-3-6 in the evaluation of a permit application and in the evaluation of the reasonable potential for a discharge to cause an exceedance in the numeric or narrative criteria.

The term "pollutant" is defined in CWA section 502(6) and 40 C.F.R. §122.2. Pollutants are grouped into three categories under the NPDES program: conventional, toxic, and

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nonconventional. Conventional pollutants are those defined in CWA section 304(a)(4) and 40 C.F.R.§401.16 (five day-biochemical oxygen demand (BOD₅), total suspended solids (TSS), fecal coliform, pH, and oil and grease). Toxic (priority) pollutants are those defined in CWA section 307(a)(1) and include 126 metals and manmade organic compounds. Nonconventional pollutants are those that do not fall under either of the above categories (conventional or toxic pollutants) and include parameters such as, but not limited to, chlorine, ammonia, nitrogen, phosphorus, chemical oxygen demand (COD), and whole effluent toxicity (WET).

EPD evaluates the data provided in the application and supporting documents. If a pollutant is listed in the following sections of this fact sheet below, the permit writer determined the pollutant is a pollutant of concern and there may be a reasonable potential to cause or contribute to an instream violation of the Georgia water quality standards. If a pollutant is not listed below, EPD determined the pollutant is not a pollutant of concern or has determined, based on the data provided in the application, there is no reasonable potential to cause or contribute to an instream violation of the Georgia water quality standards. An example may be if the applicant reported “not detect” or “below detection limit”.

Upon identification of a pollutant of concern by the permit writer, in accordance with 40 C.F.R. §122.44(d)(1)(ii), the permit writer must then perform a reasonable potential analysis using a procedure which has accounted for any combination of the following criteria: existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water to determine if the pollutant and its discharge has the reasonable potential to cause, or contribute to an in-stream excursion above the allowable ambient concentration of a state narrative or numeric criteria within the state’s water quality standard for an individual pollutant.

In accordance with 40 C.F.R. §122.44(d)(1)(iii), if the permit writer has determined, using a reasonable potential procedure the pollutant of concern in the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a state numeric or narrative criteria within a state water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant. If the permit writer has determined there is insufficient data, the permit writer might also consider monitoring requirements to collect the additional data related to the presence or absence of a specific pollutant to provide information for further analyses for the development of appropriate numeric or narrative standard .

The conventional, nonconventional, and toxic pollutants listed in the following sections have been identified by the permit writer as pollutants of concern and the permit writer has determined through current practices and procedures one of the following: no additional monitoring or numeric and/or narrative effluent limits are needed; additional monitoring is required; or numeric and/or narrative effluent limits are necessary to protect the receiving water body and its downstream users and those limits have been included in the permit.

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The monitoring and sampling locations are prescribed in the permit and determined by the permit writer after considering, at a minimum, the following: type of discharge, specific pollutant, discharge frequency, location of the discharge, receiving waterbody, downstream users, etc.

The sample type, grab vs. composite, is prescribed in the permit and determined by the permit writer after considering, at a minimum, the analytical method required in 40 C.F.R. §136, the type of pollutant, retention time, etc. Grab samples are required for the analysis of pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform (including *E. coli*), or volatile organics.

4.3 Whole Effluent Toxicity

Chronic WET test measures the effect of wastewater on indicator organisms' growth, reproduction and survival. Effluent toxicity is predicted when the No Observable Effect Concentrations for a test organism is less than the facility's Instream Wastewater Concentration.

One Chronic WET test will be required within 6 months of commencement of facility operation and an additional test will be required within 6-12 months of commencement of facility operation.

4.4 Conventional Pollutants

Pollutants of Concern	Basis
pH 001, 002	<u>WQBEL</u> The instream waste concentrations are 99.99% (outfall 001) and 99.82% (outfall 002). When the instream waste concentration is above 50%, it results in a reasonable potential to cause or contribute to violation of the instream Georgia Water Quality Standard; therefore limits of 6.0 s.u. to 8.5 s.u has been added. <u>TBEL</u> The limits are based on EPD's best professional judgment, on a case by case basis in accordance with 40 C.F.R. § 125.3(c). Due to the similarities between the discharge from this facility and discharges from steam electric facilities which utilize fossil-type fuels or nuclear fuels in 40 C.F.R. § 423.15(a)(10)(i), the pH of all discharges shall be within the range of 6.0-9.0 s.u.

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Total Suspended Solids	002	<u>WQBEL</u> Georgia has a narrative Water Quality Standard for total suspended solids. A narrative permit condition stating, “there shall be no floating solids or visible foam other than in trace amounts” has been added.
------------------------	-----	--

TBEL

The limits are based on EPD’s best professional judgment, on a case by case basis in accordance with 40 C.F.R. § 125.3(c). Due to the similarities between the discharge from this facility and low volume wastes from steam electric facilities which utilize fossil-type fuels or nuclear fuels in 40 C.F.R. § 423.15(a)(3), a limit of 30.0 mg/L is used for the daily average and 100.0 mg/L for the daily maximum.

Temperature	002	<u>WQBEL</u> This specific type of industry has the reasonable potential to have discharges with elevated temperatures. Temperature monitoring has been included to collect additional data to determine if an effluent limit is needed.
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TBEL

There is no applicable federal technology based effluent limit.

Oil and Grease	001	<u>WQBEL</u> Georgia has a narrative Water Quality Standard for oil and grease.
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The discharge from outfall 001 is industrial stormwater. The NPDES General Permit for Stormwater Discharges Associated with Industrial Activity (GAR050000, 2017) identifies oil and grease as a pollutant of concern for the steam electric industrial category. The long standing technology based effluent limits of 10 mg/L, daily average and 15 mg/L, daily maximum is representative of the concentration at which a visible oil sheen is likely to occur and may have the reasonable potential to cause or contribute to violation of the narrative water quality standard, and have been added to the permit.

TBEL

There is no applicable federal technology based effluent limit.

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Oil and Grease 002

WQBEL

Georgia has a narrative Water Quality Standard for oil and grease.

TBEL

The limits are based on EPD's best professional judgment, on a case by case basis in accordance with 40 C.F.R. § 125.3(c). Due to the similarities between the discharge from this facility and low volume wastes from steam electric facilities which utilize fossil-type fuels or nuclear fuels in 40 C.F.R. § 423.15(a)(3), a limit of 15 mg/L is used for the daily average and 20 mg/L for the daily maximum.

4.5 Nonconventional Pollutants

Pollutants of Concern		Basis
Total Phosphorus 001, 002		<p><u>WQBEL</u></p> <p>Per the requirements of the Strategy for Addressing Phosphorus in NPDES Permitting, effluent limits of 1.0 mg/L daily average and 1.5 mg/L daily maximum; respectively, have been added to this permit. The daily maximum was calculated by multiplying the daily average concentration limit by 1.5.</p>
		<p><u>TBEL</u></p> <p>There is no applicable federal technology based effluent limit.</p>
Orthophosphate 001, 002		<p><u>WQBEL</u></p> <p>Per the Strategy for Addressing Phosphorus in NPDES Permitting (the Strategy is available to review on EPD's website) all routine permit reissuances that have discharges upstream from reservoirs, lakes, impoundments, and/or estuaries must include ortho-phosphate monitoring. The facility and/or outfall discharges upstream of Clarks Hill Lake, hence monitoring requirements have been added.</p>
		<p><u>TBEL</u></p> <p>There is no applicable federal technology based effluent limit.</p>

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Free Available
Chlorine

002A

WQBEL

Georgia does not have Water Quality Standards applicable to internal outfalls.

TBEL

The limits are based on EPD's best professional judgment, on a case by case basis in accordance with 40 C.F.R. §125.3(c). Due to the similarities between the discharge from this facility and cooling tower blowdown from steam electric facilities which utilize fossil-type fuels or nuclear fuels in 40 C.F.R. § 423.15(a)(10)(i), a limit of 0.2 mg/L is used for the daily average and 0.5 mg/L for the daily maximum.

Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the permittee can demonstrate to and receive written authorization from the EPD Director that the units in a particular location cannot operate at or below this level of chlorination. The permittee has demonstrated the need for continuous chlorination of the service water system to maintain FAC between 0.5 mg/L and 1.0 mg/L. This special condition is waived during periods of continuous chlorination of the service water system and the effluent limitation for FAC has been determined to be 1.0 mg/L in accordance with the manufacture's recommendation.

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4.6 Toxics & Manmade Organic Compounds (126 priority pollutants and metals)

Pollutants of Concern		Basis
Chloroform	002	<p><u>WQBEL</u> Chloroform data was not provided with the permit application, however, data from outfall 002 was later provided to the Georgia EPD Northeast District Office on August 13, 2020. This data was included in the reasonable potential analysis. The reasonable potential analysis showed there is a reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standard for chloroform.</p> <p>Effluent limits of 3.93 lbs/day and 5.85 lbs/day, daily average and daily maximum; respectively, and 0.471 mg/L and 0.706 mg/L, daily average and daily maximum; respectively, have been added to this permit.</p>
		<p><u>TBEL</u> There is no applicable federal technology based effluent limit.</p>
Chromium, Total	002A	<p><u>WQBEL</u> Georgia does not have Water Quality Standards applicable to internal outfalls.</p>
		<p><u>TBEL</u> The limits are based on EPD’s best professional judgment, on a case by case basis in accordance with 40 C.F.R. § 125.3(c). Due to the similarities between the discharge from this facility and cooling tower blowdown from steam electric facilities which utilize fossil-type fuels or nuclear fuels in 40 C.F.R. § 423.15(a)(10)(i), a limit of 0.2 mg/L is used for the daily average and 0.2 mg/L for the daily maximum.</p>
Copper, Total	001	<p><u>WQBEL</u> The discharge from outfall 001 is industrial stormwater. The discharge from outfall 001 is industrial stormwater. The NPDES General Permit for Stormwater Discharges Associated with Industrial Activity (GAR050000, 2017) identifies copper as a pollutant of concern for the steam electric industrial category. Monitoring has been included to determine if water quality based effluent limits are necessary.</p>
		<p><u>TBEL</u> There is no applicable federal technology based effluent limit.</p>

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Copper, Total 002

WQBEL

Copper data was not provided with the permit application, however, data from outfall 002 was later provided to the Georgia EPD Northeast District Office on August 13, 2020. This data was included in the reasonable potential analysis. The reasonable potential analysis showed there is a reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standard for copper.

Effluent limits of 0.011 lbs/day and 0.014 lbs/day, daily average and daily maximum; respectively, and 0.007 mg/L and 0.009 mg/L, daily average and daily maximum; respectively, have been added to this permit.

TBEL

There is no applicable federal technology based effluent limit.

Cyanide 002

WQBEL

Cyanide data was not provided with the permit application, however, data from outfall 002 was later provided to the Georgia EPD Northeast District Office on August 13, 2020. This data was included in the reasonable potential analysis. The reasonable potential analysis showed there is a reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standard for cyanide.

Effluent limits of 0.043 lbs/day and 0.065 lbs/day, daily average and daily maximum; respectively, and 0.005 mg/L and 0.008 mg/L, daily average and daily maximum; respectively, have been added to this permit.

TBEL

There is no applicable federal technology based effluent limit.

Nickel, Total 001

WQBEL

The discharge from outfall 001 is industrial stormwater. The discharge from outfall 001 is industrial stormwater. The NPDES General Permit for Stormwater Discharges Associated with Industrial Activity (GAR050000, 2017) identifies nickel as a pollutant of concern for the steam electric industrial category. Monitoring has been included to determine if water quality based effluent limits are necessary.

TBEL

There is no applicable federal technology based effluent limit.

FACT SHEET

Zinc, Total 001 WQBEL
The discharge from outfall 001 is industrial stormwater. The discharge from outfall 001 is industrial stormwater. The NPDES General Permit for Stormwater Discharges Associated with Industrial Activity (GAR050000, 2017) identifies zinc as a pollutant of concern for the steam electric industrial category. Monitoring has been included to determine if water quality based effluent limits are necessary.

TBEL
There is no applicable federal technology based effluent limit.

002A WQBEL
Georgia does not have Water Quality Standards applicable to internal outfalls.

TBEL
The limits are based on EPD's best professional judgment, on a case by case basis in accordance with 40 C.F.R. § 125.3(c). Due to the similarities between the discharge from this facility and cooling tower blowdown from steam electric facilities which utilize fossil-type fuels or nuclear fuels in 40 C.F.R. § 423.15(a)(10)(i), a limit of 1.0 mg/L is used for the daily average and 1.0 mg/L for the daily maximum.

002 WQBEL
The reasonable potential analysis showed there is a reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standard for zinc.

Effluent limits of 0.180 lbs/day and 0.180 lbs/day, daily average and daily maximum; respectively, and 0.114 mg/L and 0.114 mg/L, daily average and daily maximum; respectively, have been added to this permit.

TBEL
There is no applicable federal technology based effluent limit.

FACT SHEET

Polychlorinated 002
Biphenyl
Compounds

WQBEL

Based on the data submitted in the application, there is no reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standards.

TBEL

The limits are based on EPD's best professional judgment, on a case by case basis in accordance with 40 C.F.R. § 125.3(c). Due to the similarities between the discharge from this facility and discharges from steam electric facilities which utilize fossil-type fuels or nuclear fuels in 40 C.F.R. § 423.15(a)(10)(i), there shall be no discharge of polychlorinated biphenyl compounds.

126 Priority 002A
Pollutants

WQBEL

Based on the data submitted in the application, there is no reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standards.

TBEL

The limits are based on EPD's best professional judgment, on a case by case basis in accordance with 40 C.F.R. § 125.3(c). Due to the similarities between the discharge from this facility and discharges from steam electric facilities which utilize fossil-type fuels or nuclear fuels in 40 C.F.R. § 423.15(a)(10)(i), there should be no detectable amount of the 126 priority pollutants contained in chemicals added for cooling tower maintenance (except chromium, total and zinc, total).

4.7 Calculations for Water Quality Based Effluent Limits

4.7.a Instream Waste Concentration (IWC)

Outfall 001:

$$\text{IWC} = \frac{\text{Effluent Flow (gal/day)}}{\text{Effluent Flow (gal/day)} + 7\text{Q10 (gal/day)}}$$

$$\text{IWC} = \frac{2,900,000 \text{ (gal/day)}}{(2,900,000 \text{ (gal/day)} + 391 \text{ (gal/day)})}$$

IWC = 99.99%

Outfall 002:

$$\text{IWC} = \frac{\text{Effluent Flow (gal/day)}}{\text{Effluent Flow (gal/day)} + 7\text{Q10 (gal/day)}}$$

$$\text{IWC} = \frac{190,000 \text{ (gal/day)}}{(190,000 \text{ (gal/day)} + 337 \text{ (gal/day)})}$$

IWC = 99.82%

4.7.b Metals

See the calculations for applicable metals in Appendix C of Fact Sheet. Sample calculation shown below.

Outfall ID 001: Copper

Mass Based Limits

Daily Average Loading = Chronic C_T

Daily Average: 0.011 (lbs/day)

$\text{Chronic } C_T = \frac{\frac{\text{WQC}_{\text{Chronic}}}{f_D} \times (Q_E + 7\text{Q10})}{Q_E}$
--

Daily Maximum Loading = Acute C_T

Daily Maximum = 0.014 (lbs/day)

$\text{Acute } C_T = \frac{\frac{\text{WQC}_{\text{Acute}}}{f_D} \times (Q_E + 1\text{Q10})}{Q_E}$
--

FACT SHEET

Concentration Based Limits

Daily Average Concentration = Chronic C_T

$$\text{Chronic } C_T = \frac{\frac{WQC_{\text{Chronic}}}{f_D} \times (Q_E + 7Q_{10})}{Q_E}$$

Daily Average = 6.99 ($\mu\text{g/L}$)

Daily Average (mg/L) = 0.001 x Daily Average ($\mu\text{g/L}$)

Daily Average (mg/L) = 0.001 x 6.99 ($\mu\text{g/L}$)

Daily Average: 0.007 (mg/L)

Daily Maximum Concentration = Acute C_T

$$\text{Acute } C_T = \frac{\frac{WQC_{\text{Acute}}}{f_D} \times (Q_E + 1Q_{10})}{Q_E}$$

Daily Maximum = 9.10 ($\mu\text{g/L}$)

Daily Maximum (mg/L) = 0.001 x Daily Maximum ($\mu\text{g/L}$)

Daily Maximum (mg/L) = 0.001 x 9.10 ($\mu\text{g/L}$)

Daily Maximum = 0.009 (mg/L)

4.8 Technology Based Effluent Limitation Calculations

There are several ways to calculate TBELs when developing case-by-case limitations. EPD can use an approach consistent with the statistical approach EPA has used to develop effluent guidelines or they can utilize several other mathematically and statistically accepted approaches depending on characteristics of the data. In general, EPD utilizes EPA's "NPDES Permit Writer Manual," September 2010, Section 5.2.3, "Case-by-Case TBELs for Industrial Dischargers" and EPA's "Technical Support Document for Water Quality Based Toxic Control," March 1991, Section 5.2, "Basis Principles of Effluent Variability," as guidance to develop limits.

If applicable, when there is no federal technology based effluent limit EPD evaluates the effluent data, operating records and discharge monitoring reports to calculate the long term average for the parameter. The long term average is then used to derive the effluent limits.

EPD recognizes there are several ways to calculate technology based limits and, when applicable, may deviate from the general practice.

FACT SHEET

4.9 Comparison & Summary of Water Quality vs. Technology Based Effluent Limits

After preparing and evaluating applicable technology-based effluent limitations and water quality-based effluent limitations, the most stringent limits are applied in the permit. Pollutants of concern with an effluent limit of monitor and report are not included in the below table.

Outfall 001

Parameter	WQBELs	TBELs	Explanation
pH (s.u.)	6.0 – 8.5	6.0-9.0	WQBEL – WQS
Oil and Grease (mg/L)	10/15	None	WQBEL – WQS
Total Phosphorus (mg/L)	1.0/1.5	None	WQBEL – Strategy for Addressing Phosphorus

Outfall 002

Parameter	WQBELs	TBELs	Explanation
pH (s.u.)	6.0 – 8.5	6.0-9.0	WQBEL – Water Quality Standard
Total Suspended Solids (mg/L)	Narrative	30/100	TBEL – BPJ
Oil and Grease (mg/L)	Narrative	15/20	TBEL – BPJ
Total Phosphorus (lbs/day)	1.0/1.5	None	WQBEL – Strategy for Addressing Phosphorus
Chloroform (lbs/day)	3.93/5.85	None	WQBEL – WQS
Chloroform (mg/L)	0.471/0.706	None	WQBEL – WQS
Copper, total (lbs/day)	0.011/0.014	None	WQBEL – WQS
Copper, total (mg/L)	0.007/0.009	None	WQBEL – WQS
Cyanide (lbs/day)	0.043/0.065	None	WQBEL – WQS
Cyanide (mg/L)	0.005/0.008	None	WQBEL – WQS
Zinc, total (lbs/day)	0.180/0.180	None	WQBEL – WQS
Zinc, total (mg/L)	0.114/0.114	None	WQBEL – WQS

Outfall 002A

Parameter	WQBELs	TBELs	Explanation
Free Available Chlorine (mg/L)	None	1.0/1.0	TBEL – BPJ
Chromium, total (mg/L)	None	0.2/0.2	TBEL – BPJ
Zinc, total (mg/L)	None	1.0/1.0	TBEL – BPJ

5. OTHER PERMIT REQUIREMENTS AND CONSIDERATIONS

5.1 Antidegradation Analysis

Alternatives Analysis

The facility evaluated the alternative of offsite treatment. There is not a public or private treatment system within a 25-mile radius with sufficient capacity to treat the entire volume of wastewater generated at the facility. The Madison County Industrial Development and Building Authority Water Pollution Control Plant (Madison County IDBA WPCP) currently has a capacity to treat and discharge up to 50,000 gpd via land application and treats an average of 10,000 gpd from commercial residents and customers. Madison County IDBA WPCP is evaluating the possibility of updating the land application system (LAS) permit to allow for up to 70,000 gpd of water to be discharged to the LAS. However, this is not sufficient capacity to land apply the entire volume of wastewater that is anticipated to be generated at this facility. Additional infrastructure to connect to Madison County IDBA WPCP was estimated to cost over \$100,000 in addition to the cost to installation and operate wastewater pretreatment equipment.

The facility also evaluated the alternative of land application. Based on the dominant soils in the area, they estimated a site in the vicinity of the facility would have a maximum estimated hydraulic loading rate of 2.13 in/week. Considering the wastewater flow from the facility, 27.31 acres of land at a cost of approximately \$720,000 would be required for treatment and disposal. Operating costs would require an additional 3,600,000 including trucking, operation, and maintenance. As a result, this alternative was deemed infeasible.

Underground Injection Control was also evaluated. The facility is expected to discharge an average of 205,000 gallons per day of process water from outfall 002. Underground injection control (discharge to a non-domestic septic system) is not feasible for this volume of waster.

The facility is designed as a closed loop system which allows the utilized potable water to be cycled through the system at least 7 times before solid build up occurs, thus requiring disposal of the wastewater. The facility does not have sufficient property for land application of reuse water for agricultural irrigation.

Social and Economic Analysis

The facility is located in Madison County, Georgia which has an estimated population of 29,650 people, a median household income of \$51,700, and an employment rate of 59.9%. The facility provides electricity to over 60,000 homes per year. The facility is expected to deliver the following economic impacts to the community; payment of \$1,600,000 per year in tax revenue, 36 direct employes and 400 related jobs, and \$3,000,000 in direct payroll and benefits. Additionally, GRP has paid for a \$3,500,000 water system upgrade for Madison County.

The Antidegradation Analysis indicated that the alternatives (discharge to a local municipality, land application, underground injection control, 100% recycle) evaluated were

FACT SHEET

not able to be put into practice or were not economically viable. The Antidegradation Analysis demonstrated that the discharge is necessary to accommodate important economic or social development.

5.2 Special Conditions

1. No later than two years from the commencement of discharge, the permittee must complete and submit to EPD Items V and VI of NPDES application Form 2C (EPA Form 3510-2C). The completed form should be submitted to:

Georgia Environmental Protection Division
Wastewater Regulatory Program
2 Martin Luther King Jr. Drive Suite 1152E
Atlanta, GA 30334

2. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.
3. Neither free available chlorine (FAC) nor total residual chlorine (TRC) may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge these materials at any one time unless the permittee can demonstrate to and get written authorization from the EPD Director that the units in a particular location cannot operate at or below this level of chlorination. The permittee has demonstrated the need for continuous chlorination of the service water system to maintain FAC between 0.5 mg/L and 1.0 mg/L. This special condition is waived during periods of continuous chlorination of the service water system and the effluent limitation for FAC has been determined to be 1.0 mg/L in accordance with the manufacture's recommendation.
4. The free available chlorine (FAC) average means the average over any individual chlorine or oxidant release period. The FAC maximum is the instantaneous maximum which may occur at any time. Further, the permittee will develop a system for monitoring and recording total time of FAC and TRC discharges. The results shall be reported in a suitably concise form in accordance with the reporting requirements in Part 1.B.2 of this permit.
5. If bromine or a combination of bromine and chlorine is utilized for control of biofouling, limitations for TRC and FAC shall be applicable to TRO (Total Residual Oxidants) and FAO (Free Available Oxidants). There is no difference in test methods between TRC/FAC and TRO/FAO.
6. The permittee shall certify annually that none of the 126 priority pollutants, excluding chromium and zinc, is above detectable limits in outfall 002A (cooling tower blowdown). This certification may be based on manufacturers certifications or engineering calculations. A certification for chromium and/or zinc may be used in lieu of the monitoring required in Part I.A.2.

5.3 Compliance Schedules

The permittee shall attain compliance with all limits on the effective date of the permit.

5.4 Anti-Backsliding

Not Applicable

6. REPORTING

The facility has been assigned to the following EPD office for reporting, compliance and enforcement.

Georgia Environmental Protection Division
Watershed Compliance Program
2 Martin Luther King Jr. Drive
Suite 1152 East
Atlanta, Georgia 30334

6.1 E-Reporting

The permittee is required to electronically submit documents in accordance with 40 CFR Part 127.

7. REQUESTED VARIANCES OR ALTERNATIVES TO REQUIRED STANDARDS

Not applicable

8. PERMIT EXPIRATION

The permit will expire five years from the effective date.

9. PROCEDURES FOR THE FORMULATION OF FINAL DETERMINATIONS

9.1 Comment Period

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

Georgia Environmental Protection Division
Wastewater Regulatory Program
2 Martin Luther King Jr. Drive
Suite 1152 East
Atlanta, Georgia 30334

The permit application, draft permit, and other information are available for review at 2 Martin Luther King Jr. Drive, Suite 1152 East, Atlanta, Georgia 30334, between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday and on EPD's website accessible through the publicly available Georgia EPD Online System (GEOS) at: <https://geos.epd.georgia.gov/GA/GEOS/Public/GovEnt/Shared/Pages/Main/Login.aspx>. For additional information, you can contact 404-463-1511.

9.2 Public Comments

Persons wishing to comment upon or object to the proposed determinations are invited to submit same in writing to the EPD address above, or via e-mail at EPDcomments@dnr.ga.gov within 30 days of the initiation of the public comment period. All comments received prior to that date will be considered in the formulation of final determinations regarding the application. The permit number should be placed on the top of the first page of comments to ensure that your comments will be forwarded to the appropriate staff.

9.3 Public Hearing

Any applicant, affected state or interstate agency, the Regional Administrator of the U.S. Environmental Protection Agency (EPA) or any other interested agency, person or group of persons may request a public hearing with respect to an NPDES permit application if such request is filed within thirty (30) days following the date of the public notice for such application. Such request must indicate the interest of the party filing the request, the reasons why a hearing is requested, and those specific portions of the application or other NPDES form or information to be considered at the public hearing.

The Director shall hold a hearing if he determines that there is sufficient public interest in holding such a hearing. If a public hearing is held, notice of same shall be provided at least thirty (30) days in advance of the hearing date.

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

Following a public hearing, the Director, unless it is decided to deny the permit, may make such modifications in the terms and conditions of the proposed permit as may be appropriate and shall issue the permit.

If no public hearing is held, and, after review of the written comments received, the Director determines that a permit should be issued and that the determinations as set forth in the proposed permit are substantially unchanged, the permit will be issued and will become final in the absence of a request for a contested hearing. Notice of issuance or denial will be made available to all interested persons and those persons that submitted written comments to the Director on the proposed permit.

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

9.4 Final Determination

At the time that any final permit decision is made, the Director shall issue a response to comments. The issued permit and responses to comments can be found at the following address:

<http://epd.georgia.gov/watershed-protection-branch-permit-and-public-comments-clearinghouse-0>

9.5 Contested Hearings

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

Petitions for a contested hearing must include the following:

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

APPENDIX A

NPDES MAJOR/MINOR RATING WORKSHEET

FACT SHEET

NPDES Permit Rating Work Sheet

- Regular Addition
- Discretionary Addition
- Score change, but no status change
- Deletion

NPDES No.: GA0050283

Facility Name:
GRP Madison Renewable Energy Facility, LLC

City: Colbert, GA

Receiving Water: Unnamed tributary to Beaverdam Creek

Reach Number: _____

Is this facility a steam electric power plant (SIC=4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
 2. A nuclear power plant
 3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate
- YES; score is 600 (stop here) NO (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

- YES; score is 700 (stop here)
 NO (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: _____ Primary SIC Code: 4911

Other SIC Codes: _____

Industrial Subcategory Code: _____ (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. (Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	15	<input type="checkbox"/> 7.	7	35
<input type="checkbox"/> 1.	1	5	<input type="checkbox"/> 4.	4	20	<input type="checkbox"/> 8.	8	40
<input type="checkbox"/> 2.	2	10	<input type="checkbox"/> 5.	5	25	<input type="checkbox"/> 9.	9	45
			<input type="checkbox"/> 6.	6	30	<input type="checkbox"/> 10.	10	50

Code Number Checked: _____

Total Points Factor 1: 0

FACTOR 2: Flow/Stream Flow Volume (Complete either Section A or Section B; check only one)

Section A - Wastewater Flow Only Considered

Wastewater type (See Instructions)	Code	Points
Type I: Flow < 5 MGD	<input type="checkbox"/> 11	0
Flow 5 to 10 MGD	<input type="checkbox"/> 12	10
Flow > 10 to 50 MGD	<input type="checkbox"/> 13	20
Flow > 50 MGD	<input type="checkbox"/> 14	30
Type II: Flow < 1 MGD	<input type="checkbox"/> 21	10
Flow 1 to 5 MGD	<input type="checkbox"/> 22	20
Flow > 5 to 10 MGD	<input type="checkbox"/> 23	30
Flow > 10 MGD	<input type="checkbox"/> 24	50
Type III: Flow < 1 MGD	<input type="checkbox"/> 31	0
Flow 1 to 5 MGD	<input type="checkbox"/> 32	10
Flow > 5 to 10 MGD	<input type="checkbox"/> 33	20
Flow > 10 MGD	<input type="checkbox"/> 34	30

Section B - Wastewater and Stream Flow Considered

Wastewater type (See Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow	Code	Points
Type I/III:	<10%	<input type="checkbox"/> 41	0
	≥10% to <50%	<input type="checkbox"/> 42	10
	≥50%	<input type="checkbox"/> 43	20
Type II	<10%	<input type="checkbox"/> 51	0
	≥10% to <50%	<input type="checkbox"/> 52	20
	≥50%	<input type="checkbox"/> 53	30

Code Checked from Section A or B: _____

Total Points Factor 2: 0

FACT SHEET

NPDES Permit Rating Work Sheet

FACTOR 3: Conventional Pollutants
(only when limited by the permit)

NPDES No.: GA0050283

A. Oxygen Demanding Pollutants (check one) BOD COD OTHER: _____

Permit Limits (check one)	<input type="checkbox"/>		Code	Points
	<input type="checkbox"/>	<100 lbs/day	1	0
	<input type="checkbox"/>	100 to 1000 lbs/day	2	5
	<input type="checkbox"/>	>1000 to 3000 lbs/day	3	15
	<input type="checkbox"/>	>3000 lbs/day	4	20

Code Checked: _____

Points Scored: 0

B. Total Suspended Solids (TSS)

Permit Limits (check one)	<input type="checkbox"/>		Code	Points
	<input type="checkbox"/>	<100 lbs/day	1	0
	<input type="checkbox"/>	100 to 1000 lbs/day	2	5
	<input type="checkbox"/>	>1000 to 5000 lbs/day	3	15
	<input type="checkbox"/>	>5000 lbs/day	4	20

Code Checked: _____

Points Scored: 0

C. Nitrogen Pollutants (check one)

Ammonia OTHER: _____

Permit Limits (check one)	<input type="checkbox"/>	Nitrogen Equivalent	Code	Points
	<input type="checkbox"/>	<300 lbs/day	1	0
	<input type="checkbox"/>	300 to 1000 lbs/day	2	5
	<input type="checkbox"/>	>1000 to 3000 lbs/day	3	15
	<input type="checkbox"/>	>3000 lbs/day	4	20

Code Checked: _____

Points Scored: 0

Total Points Factor 3: 0

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.

- YES (if yes, check toxicity potential number below)
 NO (if no, go to Factor 5)

Determine the human health toxicity potential from Appendix A. Use the same SIC Code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column and check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	0	<input type="checkbox"/> 7.	7	15
<input type="checkbox"/> 1.	1	0	<input type="checkbox"/> 4.	4	0	<input type="checkbox"/> 8.	8	20
<input type="checkbox"/> 2.	2	0	<input type="checkbox"/> 5.	5	5	<input type="checkbox"/> 9.	9	25
			<input type="checkbox"/> 6.	6	10	<input type="checkbox"/> 10.	10	30

Code Number Checked: _____

Total Points Factor 4: 0

FACT SHEET

NPDES Permit Rating Work Sheet

FACTOR 5: Water Quality Factors

NPDES No.: GA0050283

A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge?

	Code	Points
<input type="checkbox"/> YES	1	10
<input type="checkbox"/> NO	2	0

B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

	Code	Points
<input type="checkbox"/> YES	1	0
<input type="checkbox"/> NO	2	5

C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

	Code	Points
<input type="checkbox"/> YES	1	10
<input type="checkbox"/> NO	2	0

Code Number Checked: **A.** **B.** **C.**

Total Points Factor 5 A. 0 + B. 0 + C. 0 = 0

FACTOR 6: Proximity to Near Coastal Waters

A. Base Score: Enter flow code here (from Factor 2): _____

Enter the multiplication factor that corresponds to the flow code: 0.00

Check appropriate facility HPRI Code (from PCS):

HPRI#	Code	HPRI Score
<input type="checkbox"/> 1	1	20
<input type="checkbox"/> 2	2	0
<input type="checkbox"/> 3	3	30
<input type="checkbox"/> 4	4	0
<input type="checkbox"/> 5	5	20

Flow code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI Code Checked: _____

Base Score (HPRI Score) 0 x (Multiplication Factor) 0.00 = 0 (Total Points)

B. Additional Points – NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

	Code	Points
<input type="checkbox"/> YES	1	10
<input type="checkbox"/> NO	2	0

C. Additional Points – Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see instructions)?

	Code	Points
<input type="checkbox"/> YES	1	10
<input type="checkbox"/> NO	2	0

Code Number Checked: **A.** **B.** **C.**

Total Points Factor 6 A. 0 + B. 0 + C. 0 = 0

FACT SHEET

NPDES Permit Rating Work Sheet

Score Summary

NPDES No.: GA0050283

Factor	Description	Total Points
1.	Toxic Pollutant Potential	0
2.	Flow/Streamflow Volume	0
3.	Conventional Pollutants	0
4.	Public Health Impacts	0
5.	Water Quality Factors	0
6.	Proximity to Near Coastal Waters	0
TOTAL (Factors 1 through 6)		0

S1. Is the total score equal to or greater than 80? YES (Facility is a major) NO

S2. If the answer to the above question is no, would you like this facility to be discretionary major?

NO

YES (Add 500 points to the above score and provide reason below:

Reason: _____

NEW SCORE: 0

OLD SCORE: _____

Whitney Fenwick
Permit Reviewer's Name
4046562795
Phone Number
6/01/2019
Date

Reset Form

APPENDIX B

WASTELOAD ALLOCATION

FACT SHEET

StreamStats

<https://streamstats.usgs.gov/ss/>

Unnamed Trib to Beaverdam Creek

Region ID: GA

Workspace ID: GA20200521173427766000

Clicked Point (Latitude, Longitude): 34.03865, -83.19221

Time: 2020-05-21 13:34:45 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.0511	square miles
PRECPRI00	Basin average mean annual precipitation for 1971 to 2000 from PRISM	49.5	inches
RRMEAN	Relief ratio defined as $(ELEV-MINBELEV)/(ELEVMAX-MINBELEV)$	0.539	dimensionless

FACT SHEET

StreamStats

<https://streamstats.usgs.gov/ss/>

Low-Flow Statistics Parameters [N Georgia low flow 2017 5001]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0511	square miles	1.67	576
PRECPRIS00	Mean Annual Precip PRISM 1971 2000	49.5	inches	47.6	81.6
RRMEAN	Relief Ratio Mean	0.539	dimensionless	0.146	0.607

Low-Flow Statistics Disclaimers [N Georgia low flow 2017 5001]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [N Georgia low flow 2017 5001]

Statistic	Value	Unit
1 Day 10 Year Low Flow	0.000428	ft ³ /s
7 Day 10 Year Low Flow	0.000605	ft ³ /s

Low-Flow Statistics Citations

Gotvald, A.J., 2017, Methods for estimating selected low-flow frequency statistics and mean annual flow for ungaged locations on streams in North Georgia: U.S. Geological Survey Scientific Investigations Report 2017–5001, 25 p. (<https://doi.org/10.3133/sir20175001>)

Annual Flow Statistics Parameters [N Georgia mean flow 2017 5001]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0511	square miles	1.67	576
PRECPRIS00	Mean Annual Precip PRISM 1971 2000	49.5	inches	47.6	81.6

Annual Flow Statistics Disclaimers [N Georgia mean flow 2017 5001]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

FACT SHEET

StreamStats

<https://streamstats.usgs.gov/ss/>

Annual Flow Statistics Flow Report [N Georgia mean flow 2017 5001]

Statistic	Value	Unit
Mean Annual Flow	0.0518	ft ³ /s

Annual Flow Statistics Citations

Gotvald, A.J., 2017, Methods for estimating selected low-flow frequency statistics and mean annual flow for ungaged locations on streams in North Georgia: U.S. Geological Survey Scientific Investigations Report 2017-5001, 25 p. (<https://doi.org/10.3133/sir20175001>)

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Application Version: 4.3.11

FACT SHEET

StreamStats

<https://streamstats.usgs.gov/ss/>

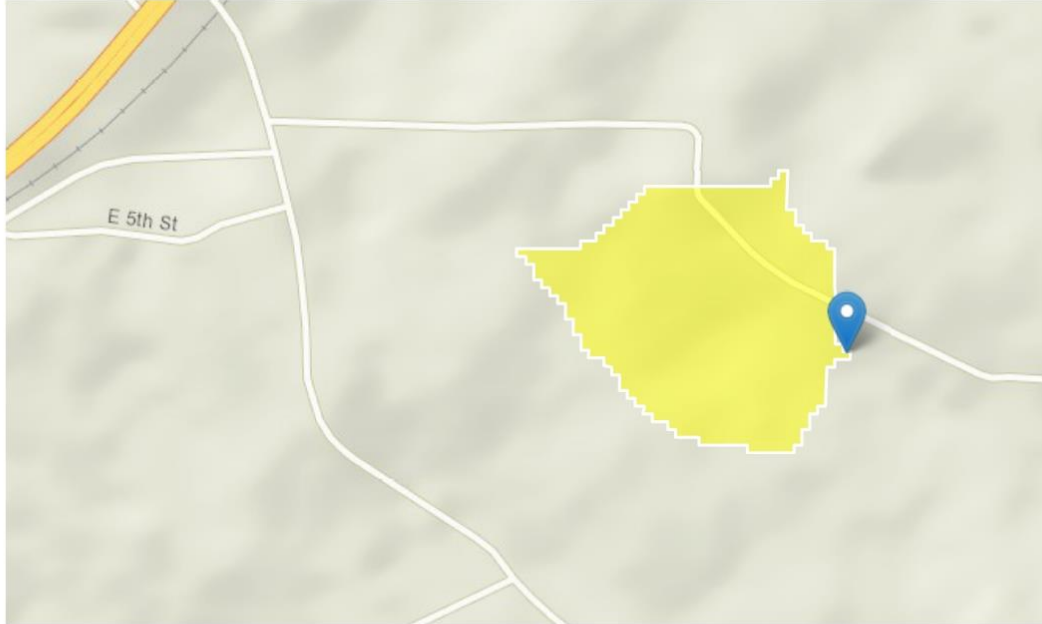
Unnamed Trib to Beaverdam Creek

Region ID: GA

Workspace ID: GA20200521180141328000

Clicked Point (Latitude, Longitude): 34.04041, -83.18796

Time: 2020-05-21 14:01:57 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.0361	square miles
PRECPRI00	Basin average mean annual precipitation for 1971 to 2000 from PRISM	49.5	inches
RRMEAN	Relief ratio defined as (ELEV-MINBELEV)/(ELEVMAX-MINBELEV)	0.51	dimensionless

FACT SHEET

StreamStats

<https://streamstats.usgs.gov/ss/>

Low-Flow Statistics Parameters [N Georgia low flow 2017 5001]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0361	square miles	1.67	576
PRECPRIS00	Mean Annual Precip PRISM 1971 2000	49.5	inches	47.6	81.6
RRMEAN	Relief Ratio Mean	0.51	dimensionless	0.146	0.607

Low-Flow Statistics Disclaimers [N Georgia low flow 2017 5001]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [N Georgia low flow 2017 5001]

Statistic	Value	Unit
1 Day 10 Year Low Flow	0.000372	ft ³ /s
7 Day 10 Year Low Flow	0.000522	ft ³ /s

Low-Flow Statistics Citations

Gotvald, A.J., 2017, Methods for estimating selected low-flow frequency statistics and mean annual flow for ungaged locations on streams in North Georgia: U.S. Geological Survey Scientific Investigations Report 2017–5001, 25 p. (<https://doi.org/10.3133/sir20175001>)

Annual Flow Statistics Parameters [N Georgia mean flow 2017 5001]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0361	square miles	1.67	576
PRECPRIS00	Mean Annual Precip PRISM 1971 2000	49.5	inches	47.6	81.6

Annual Flow Statistics Disclaimers [N Georgia mean flow 2017 5001]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

FACT SHEET

StreamStats

<https://streamstats.usgs.gov/ss/>

Annual Flow Statistics Flow Report [North Georgia mean flow 2017 5001]

Statistic	Value	Unit
Mean Annual Flow	0.0367	ft ³ /s

Annual Flow Statistics Citations

Gotvald, A.J., 2017, Methods for estimating selected low-flow frequency statistics and mean annual flow for ungaged locations on streams in North Georgia: U.S. Geological Survey Scientific Investigations Report 2017-5001, 25 p. (<https://doi.org/10.3133/sir20175001>)

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Application Version: 4.3.11

APPENDIX C

REASONABLE POTENTIAL ANALYSIS

FACT SHEET

Reasonable Potential Analysis for Freshwater

Permit Name GRP-Madison Renewable Energy Facility LLC
NPDES Permit No. GA0050283 Outfall 001

Stream Data:

Receiving stream Hardness:	20	mg/L
Upstream TSS:	10	mg/L
7Q10:	0.000605	ft ³ /s
	391	gal/day
1Q10:	0.000428	ft ³ /s
	277	gal/day

Effluent Data:

Flow:	2,900,000	gal/day
TSS:	14.68	mg/L
Instream TSS:	14.68	mg/L
Acute Dilution factor:	1.00	
Chronic Dilution factor:	1.00	

Water Quality Criteria:

Mean annual streamflow at discharge:	0.05	ft ³ /s
	33,477	gal/day
Dilution factor:	1.012	
IWC:	99.98651925	

$$IWC = \frac{Flow \left(\frac{gal}{day} \right)}{Flow \left(\frac{gal}{day} \right) + 7Q10 \left(\frac{gal}{day} \right)}$$

Acute Water Quality Criteria (WQC_{Acute})

Metal	K ₁₀	α	f ₀	Maximum effluent C _T (μg/L)	Instream C ₀ (μg/L)	WQC _{Acute} (μg/L)	Action needed?
Arsenic	4.80 E+05	-0.729	0.00		0.00	340.00	no
Cadmium	4.00 E+06	-1.131	0.000		0.00	0.42	no
Chromium III	3.36 E+06	-0.930	0.00		0.00	152.49	no
Chromium VI	3.36 E+06	-0.930	0.00		0.00	16.00	no
Copper	1.04 E+06	-0.744	0.00		0.00	2.95	no
Lead	2.80 E+06	-0.800	0.00		0.00	10.79	no
Mercury	NA	NA	NA		0.0000	1.40	no
Nickel	4.90 E+05	-0.572	0.00		0.00	119.99	no
Zinc	1.25 E+06	-0.704	0.27	50.00	13.26	29.97	no

$$\text{Acute Dilution Factor} = \frac{1Q10 \left(\frac{gal}{day} \right) + Flow \left(\frac{gal}{day} \right)}{Flow \left(\frac{gal}{day} \right)}$$

Chronic Water Quality Criteria (WQC_{Chronic})

Metal	K ₁₀	α	f ₀	Average effluent C _T (μg/L)	Instream C ₀ (μg/L)	WQC _{Chronic} (μg/L)	Action needed?
Arsenic	4.80 E+05	-0.729	0.00		0.00	150.00	no
Cadmium	4.00 E+06	-1.131	0.000		0.00	0.08	no
Chromium III	3.36 E+06	-0.930	0.00		0.00	19.84	no
Chromium VI	3.36 E+06	-0.930	0.00		0.00	11.00	no
Copper	1.04 E+06	-0.744	0.00		0.00	2.26	no
Lead	2.80 E+06	-0.800	0.00		0.00	0.42	no
Mercury	NA	NA	NA		0.0000	0.012	no
Nickel	4.90 E+05	-0.572	0.00		0.00	13.33	no
Zinc	1.25 E+06	-0.704	0.27	20.30	5.38	30.21	no
Selenium	NA	NA	NA		0.00	5.00	no

$$f_D = \frac{1}{1 + K_{10} \times TSS_{stream} \left(\frac{mg}{L} \right)^{0.85} \times 10^{-5}}$$

$$\text{Instream } C_D = \frac{\text{Effluent } C_T \left(\frac{mg}{L} \right) \times f_D}{DF} \quad \text{mg/L}$$

$$\text{Chronic Dilution Factor} = \frac{7Q10 \left(\frac{gal}{day} \right) + Flow \left(\frac{gal}{day} \right)}{Flow \left(\frac{gal}{day} \right)}$$

Total Recoverable Effluent Limit

Metal	C _s (μg/L)	Chronic C _T (μg/L) 30-Day Avg	Chronic C _T (lbs/day) 30-Day Avg	Acute C _T (μg/L) Daily Max	Acute C _T (lbs/day) Daily Max
Arsenic	0.0	N/A	N/A	N/A	N/A
Cadmium	0.0	N/A	N/A	N/A	N/A
Chromium III	0.0	N/A	N/A	N/A	N/A
Chromium VI	0.0	N/A	N/A	N/A	N/A
Copper	0.0	N/A	N/A	N/A	N/A
Lead	0.0	N/A	N/A	N/A	N/A
Mercury	0.0	N/A	N/A	N/A	N/A
Nickel	0.0	N/A	N/A	N/A	N/A
Zinc	0.0	N/A	N/A	N/A	N/A
Selenium	0.0	N/A	N/A	--	--

$$(1) \quad \text{Acute } C_T = \frac{WQC_{Acute} \times (Q_e + 1Q10) - (1Q10 \times C_s)}{Q_e}$$

$$\text{Chronic } C_T = \frac{WQC_{Chronic} \times (Q_e + 7Q10) - (7Q10 \times C_s)}{Q_e}$$

$$(2) \quad \text{Acute } C_T = \frac{WQC_{Acute} \times (Q_e + 1Q10)}{Q_e}$$

$$\text{Chronic } C_T = \frac{WQC_{Chronic} \times (Q_e + 7Q10)}{Q_e}$$

NOTES:

- (1) Chronic and acute total recoverable metal effluent concentration (C_T) from EPA 823-B-96-007, June 1996, page 33:
- (2) Assuming background dissolved metal concentration (C_s) in the stream is 0 μg/L, equations above become:

NOTES:

*Water Quality Criteria (WQC) from State of Georgia Rules and Regulations 391-3-6-.03.

*If the calculated instream concentration is less than 50% of the instream water quality criteria, then the constituent will be considered not to be present at levels of concern in the effluent and it will not be included in the permit.

*If the calculated instream concentration is 50% or more of the instream water quality criteria, then a permit limit for that constituent will be placed in the permit.

End of report

FACT SHEET

Reasonable Potential Analysis for Freshwater

Permit Name GRP-Madison Renewable Energy Facility LLC
NPDES Permit No. GA0050283 Outfall 002

Stream Data:

Receiving stream Hardness:	20	mg/L
Upstream TSS:	10	mg/L
7Q10:	0.000522	ft ³ /s
	337	gal/day
1Q10:	0.000372	ft ³ /s
	240	gal/day

Effluent Data:

Flow:	190,000	gal/day
TSS:	15.00	mg/L
Instream TSS:	14.99	mg/L
Acute Dilution factor:	1.00	
Chronic Dilution factor:	1.00	

Water Quality Criteria:

Mean annual streamflow at discharge:	0.65	ft ³ /s
	420,077	gal/day
Dilution factor:	3.211	
IWC:	99.82275997	

$$IWC = \frac{Flow \left(\frac{gal}{day}\right)}{Flow \left(\frac{gal}{day}\right) + 7Q10 \left(\frac{gal}{day}\right)}$$

Acute Water Quality Criteria (WQC_{Acute})

Metal	K ₁₀	α	f ₀	Maximum effluent C _T (µg/L)	Instream C ₀ (µg/L)	WQC _{Acute} (µg/L)	Action needed?
Arsenic	4.80 E+05	-0.729	0.00		0.00	340.00	no
Cadmium	4.00 E+06	-1.131	0.000		0.00	0.42	no
Chromium III	3.36 E+06	-0.930	0.20	11.00	2.17	152.49	no
Chromium VI	3.36 E+06	-0.930	0.20	11.00	2.17	16.00	no
Copper	1.04 E+06	-0.744	0.32	31.00	10.05	2.95	yes
Lead	2.80 E+06	-0.800	0.00		0.00	10.79	no
Mercury	NA	NA	NA		0.0000	1.40	no
Nickel	4.90 E+05	-0.572	0.00		0.00	119.99	no
Zinc	1.25 E+06	-0.704	0.26	740.00	195.34	29.97	yes

$$Acute\ Dilution\ Factor = \frac{1Q10 \left(\frac{gal}{day}\right) + Flow \left(\frac{gal}{day}\right)}{Flow \left(\frac{gal}{day}\right)}$$

Chronic Water Quality Criteria (WQC_{Chronic})

Metal	K ₁₀	α	f ₀	Average effluent C _T (µg/L)	Instream C ₀ (µg/L)	WQC _{Chronic} (µg/L)	Action needed?
Arsenic	4.80 E+05	-0.729	0.00		0.00	150.00	no
Cadmium	4.00 E+06	-1.131	0.000		0.00	0.08	no
Chromium III	3.36 E+06	-0.930	0.20	11.00	2.17	19.84	no
Chromium VI	3.36 E+06	-0.930	0.20	11.00	2.17	11.00	no
Copper	1.04 E+06	-0.744	0.32	31.00	10.04	2.26	yes
Lead	2.80 E+06	-0.800	0.00		0.00	0.42	no
Mercury	NA	NA	NA		0.0000	0.012	no
Nickel	4.90 E+05	-0.572	0.00		0.00	13.33	no
Zinc	1.25 E+06	-0.704	0.26	159.30	41.99	30.21	yes
Selenium	NA	NA	NA		0.00	5.00	no

$$f_D = \frac{1}{1 + K_{10} \times TSS_{stream} \left(\frac{mg}{L}\right) \times 10^{-5}}$$

$$Instream\ C_D = \frac{Effluent\ C_T \left(\frac{mg}{L}\right) \times f_D}{DF} \quad \text{mg/L}$$

$$Chronic\ Dilution\ Factor = \frac{7Q10 \left(\frac{gal}{day}\right) + Flow \left(\frac{gal}{day}\right)}{Flow \left(\frac{gal}{day}\right)}$$

Total Recoverable Effluent Limit

Metal	C ₁ (µg/L)	Chronic C _T (µg/L) 30-Day Avg	Chronic C _T (lbs/day) 30-Day Avg	Acute C _T (µg/L) Daily Max	Acute C _T (lbs/day) Daily Max
Arsenic	0.0	N/A	N/A	N/A	N/A
Cadmium	0.0	N/A	N/A	N/A	N/A
Chromium III	0.0	N/A	N/A	N/A	N/A
Chromium VI	0.0	N/A	N/A	N/A	N/A
Copper	0.0	6.99	0.011	9.10	0.014
Lead	0.0	N/A	N/A	N/A	N/A
Mercury	0.0	N/A	N/A	N/A	N/A
Nickel	0.0	N/A	N/A	N/A	N/A
Zinc	0.0	114.62	0.182	113.63	0.180
Selenium	0.0	N/A	N/A	--	--

$$(1) \quad Acute\ C_T = \frac{WQC_{Acute} \times (Q_e + 1Q10) - (1Q10 \times C_1)}{Q_e}$$

$$Chronic\ C_T = \frac{WQC_{Chronic} \times (Q_e + 7Q10) - (7Q10 \times C_1)}{Q_e}$$

$$(2) \quad Acute\ C_T = \frac{WQC_{Acute} \times (Q_e + 1Q10)}{Q_e}$$

$$Chronic\ C_T = \frac{WQC_{Chronic} \times (Q_e + 7Q10)}{Q_e}$$

NOTES:

- (1) Chronic and acute total recoverable metal effluent concentration (C_T) from EPA 823-B-96-007, June 1996, page 33:
- (2) Assuming background dissolved metal concentration (C₁) in the stream is 0 µg/L, equations above become:

NOTES:

*Water Quality Criteria (WQC) from State of Georgia Rules and Regulations 391-3-6-.03.

*If the calculated instream concentration is less than 50% of the instream water quality criteria, then the constituent will be considered not to be present at levels of concern in the effluent and it will not be included in the permit.

*If the calculated instream concentration is 50% or more of the instream water quality criteria, then a permit limit for that constituent will be placed in the permit.

End of report

FACT SHEET

Reasonable Potential Analysis for Freshwater

Permit Name GRP-Madison Renewable Energy Facility LLC
NPDES Permit No. GA0050283 Outfall 002

Stream Data: Receiving stream Hardness: 20 mg/L Upstream TSS: 10 mg/L 7Q10: 0 ft ³ /s 337 gal/day 1Q10: 0 ft ³ /s 240 gal/day	Effluent Data: Flow: 190,000 gal/day TSS: 15 mg/L Instream TSS: 14.99 mg/L Acute Dilution factor: 1.00 Chronic Dilution factor: 1.00	Water Quality Criteria: Mean annual streamflow at discharge: 0.65 ft ³ /s 420,077 gal/day Dilution factor: 3.211
--	--	---

Water Quality Criteria (WQC)

Nonmetal	Maximum effluent C _r (µg/L)	Instream Concentration (µg/L)	WQC (µg/L)	WQC/2 (µg/L)	Action needed?
Cyanide	11.0	10.98	5.2	2.6	yes
Chloroform	1240.00	386.18	470	235	yes

$$\text{Dilution Factor} = \frac{\text{Mean annual streamflow at discharge } \left(\frac{\text{ft}^3}{\text{day}} \right)}{\text{Flow} \left(\frac{\text{ft}^3}{\text{day}} \right)}$$

	Chronic C _r (µg/L) 30-Day Avg	Chronic C _r (lbs/day) 30-Day Avg
Cyanide	5.209232846	0.043445002
Chloroform	470.8345072	3.92675979

NOTES:

- *Water Quality Criteria (WQC) from State of Georgia Rules and Regulations 391-3-6-.03.
- *If the calculated instream concentration is less than 50% of the instream water quality criteria, then the constituent will be considered not to be present at levels of concern in the effluent and it will not be included in the permit.
- *If the calculated instream concentration is 50% or more of the instream water quality criteria, then a permit limit for that constituent will be placed in the permit.

End of report