



State of Vermont  
Department of Environmental Conservation

*Agency of Natural Resources*

Wastewater Management Division  
103 South Main St. - Sewing Bldg.  
Waterbury VT 05671-0405  
Telephone: (802) 241-3822  
FAX: (802) 241-2596

March 23, 2010

Larry Anderson  
Ryegate Associates  
247 Weesner Drive  
Ryegate, VT 05042

**RE: Discharge Permit No. 3-1324 – Ryegate Biomass Power Generation Facility  
Response Summary – Discharge Permit No. 3-1324**

Dear Mr. Anderson,

Enclosed is your copy of Discharge Permit No. 3-1324 which has been signed on behalf of the Commissioner of the Department of Environmental Conservation. The permit authorizes the discharge from the Ryegate Biomass Power Generation Facility to the Connecticut River.

Please review the permit carefully and make note of the effluent limitations, monitoring requirements, and other special conditions.

The Agency received comments on the draft permit during the public notice period from you, the Connecticut River Watershed Council, the Connecticut River Joint Commission. The attached Response Summary addresses these comments and any changes in the permit.

If there are any questions regarding this permit please contact Randy Bean at our office.

Sincerely,

A handwritten signature in cursive script that reads "Brian D. Kooiker".

Brian D. Kooiker, Chief  
Direct Discharge and O&M Section

attachments

cc

David Deen, Connecticut River Watershed Council  
Richard Walling, Connecticut River Joint Commission (Riverbend Subcommittee)  
Liz Dickson, VT DEC WWMD



AGENCY OF NATURAL RESOURCES  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
WASTEWATER MANAGEMENT DIVISION  
103 SOUTH MAIN STREET, - THE SEWING BUILDING  
WATERBURY, VERMONT 05671-0405

Permit No.: 3-1324  
File No.: 03-10  
PIN: SJ95-0114  
NPDES No.: VT0020893

DISCHARGE PERMIT

In compliance with the provisions of the Vermont Water Pollution Control Act, as amended, (10 V.S.A. Chapter 47 §1251 et. seq), and the Federal Clean Water Act, as amended (33 U.S.C. § 1251 et. seq),

Ryegate Associates  
247 Weesner Drive  
East Ryegate, VT 05042

(hereinafter referred to as the "permittee") is authorized, by the Secretary, Agency of Natural Resources, to discharge from a facility located at:

Weesner Drive  
East Ryegate, Vermont

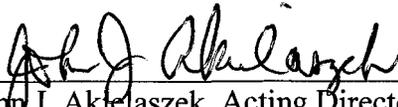
to the Connecticut River, Class B at the point of discharge in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, III hereof.

This permit shall become effective on July 1, 2010.

This permit and the authorization to discharge shall expire on June 30, 2015.

Signed this 24<sup>th</sup> day of MARCH, 2010.

Justin G. Johnson, Commissioner  
Department of Environmental Conservation

By   
John J. Akfelaszek, Acting Director  
Wastewater Management Division

**PART I**

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

- From July 1, 2010 through June 30, 2015, the permittee is authorized to discharge from outfall serial number **S/N 001**: Process wastewater (cooling tower blowdown, reverse osmosis regeneration, demineralization regenerant, filter backwash, miscellaneous cooling waters, and floor drains). Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow		65,000 gpd	Continuous	Daily total
Total Suspended Solids <sup>(1)</sup>	30 mg/l <sup>(2,3)</sup>	100 mg/l	1 x month	24 hour composite
Oil & Grease	15 mg/l	20 mg/l	1 x month	Grab
Turbidity <sup>(1)</sup>		Monitor only (NTU)	1 x month	24 hour composite
Temperature (May through Sept)		90° F	1 x week	Grab
Temperature (Oct through April)		90° F	1 x month	Grab
Total Metals <sup>(4)</sup>		Monitor only (mg/l)	Annually	24 hour composite
pH		6.5 to 8.5 SU	daily	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken prior to combining with Discharge S/N 002.

<sup>(1)</sup> Samples of Total Suspended Solids and Turbidity shall be collected during normal R.O. regenerant operations or during filter backwashing if the filters are backwashed during that month.

<sup>(2)</sup> At the permittee's choice this effluent limitation may be a "Net Limitation". The net limitation value shall be determined by subtracting the intake water sample concentration from the effluent water sample concentration. The difference cannot be greater than 30 mg/l, monthly average.

Intake (source water) Total Suspended Solids sampling shall be conducted to account for the detention time in the system based on the current effluent flows. If the permittee fails to collect and analyze a valid Total Suspended Solids sample of the source water, then the "Net Limitation" cannot be evoked.

If the permittee chooses to report net effluent limitations, the intake water sample results shall also be submitted on the Discharge Monitoring Report (DMR) and the sampling indicated on the DMR.

<sup>(3)</sup> If the "Net" Total Suspended Solids is result is greater than 30 mg/l, then at a minimum, the permittee shall collect and analyze additional samples for "Net" Total Suspended Solids.

<sup>(4)</sup> The Total Metals sample shall be collected in September and analyzed for Total Cadmium, Total Copper, Total Iron, Total Lead, Total Nickel, and Total Zinc. Each metal concentration shall be reported separately.

- 1.<sup>cont</sup> From the period of July 1, 2010 and lasting through June 30, 2015, the permittee is authorized to discharge from outfall serial number S/N 001: Process wastewater (cooling tower blowdown, reverse osmosis regenerant, demineralization regenerant, filter backwash, miscellaneous cooling water and floor drains) from a biomass (wood) fired electrical power plant. Such discharges shall be limited and monitored by the permittee as specified below:

**For a Discharge of not more than 2 hours in a day**

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	2 Hour Average	Instantaneous Maximum	Measurement Frequency	Sample Type
Free Available Chlorine <sup>(1)</sup>	0.2 mg/l	0.5 mg/l	daily	grab
Total Residual Chlorine <sup>(1)</sup>		1.0 mg/	daily	grab
Free Available Oxidants <sup>(1)</sup>	0.1 mg/	0.25 mg/l	daily	grab
Total Residual Oxidants <sup>(1)</sup>		0.5 mg/l	daily	grab

Samples taken in compliance with the monitoring requirements specified above shall be taken prior to combining with Discharge S/N 002. For this requirement, the discharge valve is not opened for more than 2 hours per day.

- (1) Samples for Free Available Chlorine, Free Available Oxidants (Bromine), Total Residual Chlorine, and Total Residual Oxidants (Bromine) shall be collected only during periods when the discharge of chlorinated or brominated cooling water is occurring.

**For Continuous Discharges (more than 2 hours in a day)**

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Monthly Average	Instantaneous Maximum	Measurement Frequency	Sample Type
Free Available Chlorine <sup>(1)</sup>		0.0 mg/l	daily	grab
Total Residual Chlorine <sup>(1)</sup>		0.0 mg/	daily	grab
Free Available Oxidants <sup>(1)</sup>		0.0 mg/l	daily	grab
Total Residual Oxidants <sup>(1)</sup>		0.0 mg/l	daily	grab

Samples taken in compliance with the monitoring requirements specified above shall be taken prior to combining with Discharge S/N 002. For this requirement, the discharge valve is opened for more than 2 hours per day.

- (1) Samples for Free Available Chlorine, Free Available Oxidants (Bromine), Total Residual Chlorine, and Total Residual Oxidants (Bromine) shall be collected only during periods when the discharge of chlorinated or brominated cooling water is occurring.
- (2) Neither Free Available Chlorine, Free Available Oxidants (Bromine), Total Residual Chlorine, and Total Residual Oxidants (Bromine) shall be discharged for more than 2 hours in a day unless the permittee can demonstrate to the Agency that the unit in question cannot operate at or below this level of chlorination or bromination. **If these residuals are removed by dechlorination or debromination, then a continuous discharge is allowed.**

2. From the period of July 1, 2010 and lasting through June 30, 2015, the permittee is authorized to discharge from outfall serial number **S/N 002**: Stormwater runoff from the wood chip storage area. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow		as naturally occurs	none	none
Biochemical Oxygen Demand		monitor only (mg/l)	1 x month (seasonal) <sup>(1)</sup>	grab <sup>(1)</sup>
Total Suspended Solids		monitor only (mg/l)	1 x month (seasonal) <sup>(1)</sup>	grab <sup>(1)</sup>
Turbidity		monitor only (NTU)	1 x month (seasonal) <sup>(1)</sup>	grab <sup>(1)</sup>
pH		monitor only (SU)	1 x month (seasonal) <sup>(1)</sup>	grab <sup>(1)</sup>

Samples taken in compliance with the monitoring requirements specified above shall be taken prior to combining with Discharge S/N 001.

- <sup>(1)</sup> A grab sample shall be collected each month during the period of **May 1<sup>st</sup> through October 31<sup>st</sup>**. The sample shall be collected during the first 30 minutes of discharge after a rainstorm has started. If a stormwater discharge does not occur during a month (reporting period), then the monthly discharge monitoring report shall indicate "no discharge" for that month.

**3. Special Conditions:**

- a. The permittee is limited to using the chemicals that are similar in composition, concentration, and toxicity to those identified in the permit application (received December 23, 2009). An increase in the dosage rate or a substantial change in the chemicals used shall be reviewed by the Agency (Wastewater Management Division) to assure that there is no adverse impact to the receiving water.

A change in chemical vendors shall require that the permittee, at a minimum, submit the appropriate MSDS sheets to the Agency (Wastewater Management Division)

A substantial change in chemical usage may require the permittee to conduct a priority pollutant analysis of the discharge for some or all of the pollutants listed in Appendix A of 40 CFR Part 423 or conduct Whole Effluent Toxicity (WET) Testing on the discharge.

A substantial change in chemical usage shall be defined as chemicals that are not similar in composition, concentration, or toxicity to those identified in the application.

- b. The permittee shall maintain a current spill prevention and contingency plan for the facility (current version date February 2006). The plan shall be reviewed periodically and updated as necessary to reflect changes in the facility's design or operations. If the plan is updated, the revised plan shall be submitted to the Agency (Wastewater

Management Division). The plan shall define management, operations, and procedures to properly contain and dispose of any unuseable hazardous materials that may be generated by this facility's processes or as a result of a spill. The plan shall minimize the potential for spills and prevent the discharge of these materials to floor drains, the cooling tower, or waters of the State.

- c. The facility shall maintain and utilize a Chip Management Plan. At a minimum the Chip Management Plan shall include the following:
1. The chip pile shall be built on sloped asphalt or concrete.
  2. The chip pile shall be rotated at least every 120 days or as necessary in order to prevent significant decomposition, acid formation, or spontaneous combustion.
  3. The storage area shall be kept free of oil or other chemical residues, litter and other miscellaneous refuse.

The Chip Management Plan shall be updated as necessary and the updated version shall be submitted to the Wastewater Management Division.

- d. There shall be no discharge of scum, foam, or floating solids other than in trace amounts
- e. This discharge shall not cause or contribute to violations of Water Quality Standards in the receiving water.
- f. This discharge shall not cause a visible discoloration of the receiving waters.
- g. The discharge of polychlorinated biphenyl compounds is prohibited.
- h. Chlorine and bromine based compounds may be used as biocides. No other chemically based biocides or slimicides may be used without review and approval of the Agency.

## **B. REAPPLICATION**

If the permittee desires to continue to discharge after the expiration date of this permit, he shall apply on the application forms then in use at least 180 days before the permit expires.

Reapply for a Discharge permit by December 31, 2014.

## **C. OPERATING FEES**

This discharge is subject to operating fees. The permittees shall submit the operating fees in accord with the procedures provided by the Secretary.

## D. TOXICITY TESTING

The permittee shall conduct and submit the results of one, two-species (*Pimephales promelas*) and (*Ceriodaphnia dubia*), 48 hour acute Whole Effluent Toxicity (WET) test to the Agency as specified below.

1. In **August or September 2014**, the Permittee shall conducted a WET test on S/N 001 and the results shall be submitted to the Agency by **November 15, 2014**.
2. Based upon the results of these tests or any other toxicity tests conducted on this discharge, this permit may be amended to require additional Whole Effluent Toxicity testing or a Toxicity Reduction Evaluation be conducted.
3. The whole effluent toxicity tests shall be conducted according to the procedures and guidelines specified in: *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (most recent edition)*, USEPA document.

## E. MONITORING AND REPORTING

### 1. Sampling and Analysis

The sampling, preservation, handling, and analytical methods used shall conform to regulations published pursuant to Section 304(g) of the Clean Water Act, under which such procedures may be required. Guidelines establishing these test procedures have been published in the Code of Federal Regulations, Title 40, Part 136 (Federal Register, Vol. 56, No. 195, July 1, 1999 or as amended).

If applicable, *Escherichia coli* shall be tested using one of the following methods:

- a. "Most Probable Number" (MPN) method 9223B found in Standard Methods for the Examination of Water and Wastewater, 18<sup>th</sup> or subsequent approved edition(s). Premade formulations are available as Colilert and Colilert 18 from IDEXX Labs Inc., Westbrook, ME;
- b. EPA "membrane filtration" (MF) method 1603 using modified mTEC; or
- c. A single step membrane filtration (MF) method using mColiBlue 24 available from Hach Company, Loveland, CO.

Samples shall be representative of the volume and quality of effluent discharged over the sampling and reporting period. All samples are to be taken during normal operating hours. The permittee shall identify the effluent sampling location used for each discharge.

## 2. Reporting

The Permittee is required to submit monitoring results as specified on a Discharge Monitoring Report (Form WR-43). Reports are due on the 15th day of each month, beginning with the month following the effective date of this permit.

If, in any reporting period, there has been no discharge, the permittee must submit that information by the report due date.

Signed copies of these, and all other reports required herein, shall be submitted to the Secretary at the following address:

Agency of Natural Resources  
Department of Environmental Conservation  
Wastewater Management Division  
103 South Main Street, The Sewing Building  
Waterbury, Vermont 05671-0405

All reports shall be signed:

- a. In the case of corporations, by a principal executive officer of at least the level of vice president, or his/her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the permit form originates;
- b. In the case of a partnership, by a general partner;
- c. In the case of a sole proprietorship, by the proprietor;
- d. In the case of a municipal, State, or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

## 3. Recording of Results

The permittee shall maintain records of all information resulting from any monitoring activities required including:

- a. The exact place, date, and time of sampling;
- b. The dates and times the analyses were performed;
- c. The person(s) who performed the analyses;
- d. The analytical techniques and methods used including sample collection handling and preservation techniques;
- e. The results of all required analyses.
- f. The records of monitoring activities and results, including all instrumentation and calibration and maintenance records;
- g. The original calculation and data bench sheets of the operator who performed analysis of the influent or effluent pursuant to requirements of Section I.(A) of this permit.

The results of monitoring requirements shall be reported (in the units specified) on the Vermont reporting form WR-43 or other forms approved by the Secretary.

**4. Additional Monitoring**

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 Form WR-43. Such increased frequency shall also be indicated.

**PART II**

**A. MANAGEMENT REQUIREMENTS**

**1. Facility Modification / Change in Discharge:**

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than, or at a level in excess of, that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit. Such a violation may result in the imposition of civil and/or criminal penalties as provided for in Section 1274 and 1275 of the Vermont Water Pollution Control Act. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new permit application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

**2. Noncompliance Notification**

In the event the permittee is unable to comply with any of the conditions of this permit due, among other reasons, to:

- a. breakdown or maintenance of waste treatment equipment (biological and physical-chemical systems including, but not limited to, all pipes, transfer pumps, compressors, collection ponds or tanks for the segregation of treated or untreated wastes, ion exchange columns, or carbon absorption units),
- b. accidents caused by human error or negligence, or
- c. other causes such as acts of nature,

the permittee shall notify the Secretary within 24 hours of becoming aware of such condition or by the next business day and shall provide the Secretary with the following information, in writing, within five (5) days:

- i. cause of non-compliance
- ii. a description of the non-complying discharge including its impact upon the receiving water;
- iii. anticipated time the condition of non-compliance is expected to continue or, if such condition has been corrected, the duration of the period of non-compliance;
- iv. steps taken by the permittee to reduce and eliminate the non-complying discharge; and
- v. steps to be taken by the permittee to prevent recurrence of the condition of non-compliance.

### **3. Operation and Maintenance**

All waste collection, control, treatment, and disposal facilities shall be operated in a manner consistent with the following:

- a. 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.
- b. The permittee shall provide an adequate operating staff which is duly qualified to carry out the operation, maintenance, and testing functions required to insure compliance with the conditions of this permit; and

### **4. Quality Control**

The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at regular intervals to ensure accuracy of measurements, or shall ensure that both activities will be conducted.

The permittee shall keep records of these activities and shall provide such records upon request of the Secretary.

The permittee shall demonstrate the accuracy of the flow measurement device monthly and report the results on the monthly report forms. The acceptable limit of error is  $\pm 10\%$ .

The permittee shall analyze any additional samples as may be required by the Agency of Natural Resources to ensure analytical quality control.

### **5. Bypass**

The diversion or bypass of facilities, necessary to maintain compliance with the terms and conditions of this permit, is prohibited, except where authorized under terms and conditions of an emergency pollution permit issued pursuant to 10 V.S.A. Section 1268.

**6. Duty to Mitigate**

The permittee shall take all reasonable steps to minimize or prevent any adverse impact to waters of the State resulting from non-compliance with any condition specified in this permit, including accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

**7. Records Retention**

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed, calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, and shall be submitted to Department representatives upon request. This period shall be extended during the course of unresolved litigation regarding the discharge of pollutants or when requested by the Secretary.

**8. Solids Management**

Collected screenings, sludges, and other solids removed in the course of treatment and control of wastewaters shall be stored, treated and disposed of in accord with 10 V.S.A., Chapter 159 and with the terms and conditions of any certification, interim or final, transitional operation authorization or order issued pursuant to 10 V.S.A., Chapter 159 that is in effect on the effective date of this permit or is issued during the term of this permit.

**9. Emergency Pollution Permits**

Maintenance activities, or emergencies resulting from equipment failure or malfunction, including power outages, which result in an effluent which exceeds the effluent limitations specified herein, shall be considered a violation of the conditions of this permit, unless the permittee immediately applies for, and obtains, an emergency pollution permit under the provisions of 10 V.S.A., Chapter 47, Section 1268. The permittee shall notify the Department of the emergency situation by the next working day.

10 V.S.A., Chapter 47, Section 1268 reads as follows:

"When a discharge permit holder finds that pollution abatement facilities require repairs, replacement or other corrective action in order for them to continue to meet standards specified in the permit, he may apply in the manner specified by the secretary for an emergency pollution permit for a term sufficient to effect repairs, replacements or other corrective action. The permit may be issued without prior public notice if the nature of the emergency will not provide sufficient time to give notice; provided that the secretary shall give public notice as soon as possible but in any event no later than five days after the effective date of the emergency pollution permit. No emergency pollution permit shall be issued unless the applicant certifies and the secretary finds that:

- (1) there is no present, reasonable alternative means of disposing of the waste other than by discharging it into the waters of the state during the limited period of time of the emergency;

- (2) the denial of an emergency pollution permit would work an extreme hardship upon the applicant;
- (3) the granting of an emergency pollution permit will result in some public benefit;
- (4) the discharge will not be unreasonably harmful to the quality of the receiving waters;
- (5) the cause or reason for the emergency is not due to wilful or intended acts or omissions of the applicant."

Application shall be made to the Secretary of the Agency of Natural Resources, Department of Environmental Conservation, 103 South Main Street, Waterbury, Vermont 05671-0405.

#### **10. Power Failure**

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

- a. Provide an alternative power source sufficient to operate the wastewater control facilities, or if such alternative power source is not in existence,
- b. Halt, reduce, or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

### **B. RESPONSIBILITIES**

#### **1. Right of Entry**

The permittee shall allow the Secretary or authorized representative, upon the presentation of proper credentials:

- a. to enter upon the permittee's premises in which an effluent source or any records required to be kept under terms and conditions of the permit are located;
- b. to have access to and copy any records required to be kept under the terms and conditions of the permit;
- c. to inspect any monitoring equipment or method required in the permit; or
- d. to sample any discharge of pollutants.

## 2. **Transfer of Ownership or Control**

This permit is not transferable without prior written approval of the Secretary. All application and operating fees must be paid in full prior to transfer of this permit. In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall provide a copy of this permit to the succeeding owner or controller and shall send written notification of the change in ownership or control to the Secretary. The permittee shall also inform the prospective owner or operator of their responsibility to make an application for transfer of this permit.

This request for transfer application must include as a minimum:

- a. A properly completed application form provided by the Secretary and the applicable processing fee.
- b. A written statement from the prospective owner or operator certifying:
  - i.. The conditions of the operation that contribute to, or affect, the discharge will not be materially different under the new ownership.
  - ii. The prospective owner or operator has read and is familiar with the terms of the permit and agrees to comply with all terms and conditions of the permit.
  - iii. The prospective owner or operator has adequate funding to operate and maintain the treatment system and remain in compliance with the terms and conditions of the permit.
- c. The date of the sale or transfer.

The Secretary may require additional information dependent upon the current status of the facility operation, maintenance, and permit compliance.

## 3. **Confidentiality**

Pursuant to 10 V.S.A. 1259(b):

“Any records, reports or information obtained under this permit program shall be available to the public for inspection and copying. However, upon a showing satisfactory to the secretary that any records, reports or information or part thereof, other than effluent data, would, if made public, divulge methods or processes entitled to protection as trade secrets, the secretary shall treat and protect those records, reports or information as confidential. Any records, reports or information accorded confidential treatment will be disclosed to authorized representatives of the state and the United States when relevant to any proceedings under this chapter.”

**4. Permit Modification**

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

- a. violation of any terms or conditions of this permit;
- b. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
- c. a change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

**5. Toxic Effluent Standards**

That if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under section 307(a) of the Federal Act for a toxic pollutant which is present in the permittee's discharge and such standard or prohibition is more stringent than any limitation upon such pollutant in the permit, the secretary shall revise or modify the permit in accordance with the toxic effluent standard or prohibition and so notify the permittee.

**6. Oil and Hazardous Substance Liability**

Nothing in this permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under 10 V.S.A. §1281.

**7. Civil and Criminal Liability**

Except as provided in, "Bypass" (Part II, paragraph A.5.), "Power Failure" (Part II, paragraph A.10.), and "Emergency Pollution Permits" (Part II, paragraph A.9.), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Civil penalties, as authorized under 10 V.S.A. §1274 and 10 V.S.A. §8010, shall not exceed \$10,000 a day for each day of violation. Criminal penalties, as authorized under 10 V.S.A. §1275, shall not exceed \$25,000 for each day of violation, imprisonment for up to six months, or both.

**8. 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 Clean Water Act.

**9. Property Rights**

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. 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.

**11. Authority**

This permit is issued under authority of 10 V.S.A. §1259 which states that: "No person shall discharge any waste, substance, or material into waters of the State, nor shall any person discharge any waste, substance, or material into an injection well or discharge into a publicly owned treatment works any waste which interferes with, passes through without treatment, or is otherwise incompatible with those works or would have a substantial adverse effect on those works or on water quality, without first obtaining a permit for that discharge from the Secretary", and under the authority of Section 402 of the Clean Water Act, as amended.

**PART III**

**A. OTHER REQUIREMENTS**

This permit shall be modified, suspended or revoked to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b) (2) (C), and (D), 304(b) (2), and 307 (a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
2. Controls any pollutant not limited in the permit.

The permit as modified under this paragraph shall also contain any other requirements of the Vermont Water Pollution Control Act then applicable.

**B. DEFINITIONS**

For purposes of this permit, the following definitions shall apply:

**The Act** - The Vermont Water Pollution Control Act, 10 V.S.A. Chapter 47

**Annual Average** - The highest allowable average of daily discharges calculated as the sum of all daily discharges (mg/l, lbs or gallons) measured during a calendar year divided by the number of daily discharges measured during that year.

**Average** - The arithmetic means of values taken at the frequency required for each parameter over the specified period.

**The Clean Water Act** - The federal Clean Water Act, as amended.

**Composite Sample** - A sample consisting of a minimum of one grab sample per hour collected during a 24-hour period (or lesser period as specified in the section on Monitoring and Reporting) and combined proportionally to flow over that same time period.

**Daily Discharge** - The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.

For pollutants with limitation expressed in pounds the daily discharge is calculated as the total pounds of pollutants discharged over the day.

For pollutants with limitations expressed in mg/l the daily discharge is calculated as the average measurement of the pollutant over the day.

**Grab Sample** - An individual sample collected in a period of less than 15 minutes.

**Incompatible Substance (Pollutant)** - Any waste being discharged into the treatment works which interferes with, passes through without treatment, or is otherwise incompatible with said works or would have a substantial adverse effect on these works or on water quality. This includes all pollutants required to be regulated under the Federal Clean Water Act.

**Instantaneous Maximum** - A value not to be exceeded in any grab sample.

**Major Contributing Industry** - One that: (1) has a flow of 50,000 gallons or more per average work day; (2) has a flow greater than five percent of the flow carried by the municipal system receiving the waste; (3) has in its wastes a toxic pollutant in toxic amounts as defined in standards issued under Section 307(a) of the Act; or (4) has a significant impact, either singly or in combination with other contributing industries, on a publicly owned treatment works or on the quality of effluent from that treatment works.

**Maximum Day** (maximum daily discharge limitation) - The highest allowable "daily discharge" (mg/l, lbs or gallons).

**Mean** - The mean value is the arithmetic mean.

**Monthly Average** - (Average monthly discharge limitation) - The highest allowable average of daily discharges (mg/l, lbs or gallons) over a calendar month, calculated as the sum of all daily discharges (mg/l, lbs or gallons) measured during a calendar month divided by the number of daily discharges measured during that month.

**NPDES** - The National Pollutant Discharge Elimination System.

**Secretary** - The Secretary of the Agency of Natural Resources

**State Certifying Agency**      Agency of Natural Resources  
Department of Environmental Conservation  
Wastewater Management Division  
103 South Main Street  
Waterbury, Vermont 05671-0405

**Weekly Average** - (Average weekly discharge limitation) - The highest allowable average of daily discharges (mg/l, lbs or gallons) over a calendar week, calculated as the sum of all daily discharges (mg/l, lbs or gallons) measured during a calendar week divided by the number of daily discharges measured during that week.

07/2000; u.4/2007

AGENCY OF NATURAL RESOURCES  
DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
WASTEWATER MANAGEMENT DIVISION  
103 SOUTH MAIN STREET  
WATERBURY, VERMONT 05671-0405

FACT SHEET

May 2005

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

FILE NO.: 03-10  
PROJECT ID NO.: SJ95-0114  
NPDES NO: VT0020893  
PERMIT NO.: 3-1324

NAME AND ADDRESS OF APPLICANT:

Ryegate Associates  
247 Weesner Drive  
East Ryegate, VT 05042

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Ryegate Power Station  
247 Weesner Drive  
East Ryegate, VT

RECEIVING WATERS AND CLASSIFICATION: Connecticut River: Class B. Class B waters are suitable for bathing and recreation; irrigation and agricultural uses; good fish habitat; good aesthetic value; acceptable of public water supply with filtration and disinfection.

I. Proposed Action, Type of Facility, and Discharge Location

The above named applicant has applied to the Vermont Department of Environmental Conservation for renewal of its permit to discharge into the designated receiving water. The facility generates electrical power by burning wood.

II. Description of Discharge

This permit authorizes the discharge of 65,000 GPD, daily maximum, of cooling water and other miscellaneous wastewaters. A quantitative description of the discharge in terms of significant effluent parameters is presented in section IV. below.

III. Limitations and Conditions

The effluent limitations of the permit, the monitoring requirements, and any implementation schedule (if required), may be found on the following pages of the permit:

Effluent Limitations: Pages 2, 3 and 4

Monitoring Requirements: Pages 2, 3, 4 and 6

#### IV. Permit Basis and Explanation of Effluent Limitation Derivation

##### **History & Summary**

Ryegate Associates owns and operates the "East Ryegate Power Station" (East Ryegate) a 20 MW wood burning electric generating facility. The facility uses sawmill residue and tree chips as fuel. These materials are delivered to site and stored prior to use. Water is pumped from the Connecticut River and from wells to provide cooling and process waters at the facility.

Wastewater is generated at the facility from the following processes:

**Cooling Tower and Circulating Water:** Water is pumped from the river and used to cool components in the facility such as the main condenser, turbines, feed pump bearings, etc. Sulfuric acid is added for pH control at the intake structure. Sodium hypochlorite, bromine based compounds and other biocides are added to this water. This water is recirculated through the cooling system and conveyed to a 12,000 gallon wastewater tank, combined with other waste streams and is then discharged to the receiving water.

**Boiler Blowdown Water:** Both continuous and intermittent boiler blowdown is generated at this facility. The boiler blowdown is combined with the cooling tower water and is conveyed to the 12,000 gallon wastewater tank and is then discharged to the receiving water via S/N 001.

**Demineralizer Regenerate and Reverse Osmosis wastewaters:** Wastewater is generated from the demineralizer and reverse osmosis treatment process. Water is extracted from a deep water well and is treated through a water softener, a demineralization process, and reverse osmosis process prior to being used in the facility. The water softener brine, the reverse osmosis concentrate and the wastewater from the regeneration process of the demineralization process are transferred to the 12,000 gallon wastewater storage tank and then discharged via S/N 001.

**Floor Drains:** Floor drains from the facility are connected to the collections system for Discharge S/N 001 at various locations in the facility. All the floor drains are piped to the 12,000 gallon wastewater storage tank and then discharged via S/N 001.

**Chip Storage Pile Runoff:** Wood chips are stored at the facility in covered silos and an outdoor storage pile. Stormwater from the storage pile is discharged via a pipe system (S/N 002) which combines with the primary outfall (S/N 001) prior to entering the Connecticut River.

Ryegate Associates has submitted an application for renewal of their discharge permit. Having completed its review of the application, the Department has made a determination to renew the discharge permit for this discharge. Following is a discussion of the specific factors considered in the renewal of this permit.

##### **Effluent Limitations**

40 CFR Part 423 contains effluent guidelines for steam electric power plants but are specific for facilities using fossil fuels (oil, gas, and coal) and nuclear power. However the discharge from the East Ryegate facility is similar so the Agency consulted these guidelines and the Vermont Water Quality Standards, effective July 2, 2000 (VWQS) in deriving the effluent limitations in this permit.

**Discharge Point S/N 001****Flow**

The permit contains a flow limitation of 65,000 GPD, daily maximum. This limitation is based on the capacity of the cooling system and is unchanged from the previous permit. Continuous flow monitoring is required.

**Total Suspended Solids (TSS)**

The permit contains a TSS limitation of 100 mg/l, daily maximum and 30 mg/l, monthly average. This limitation is based on 40 CFR Part 423. The previous permit contained only a 100 mg/l, daily maximum, limitation. The 30 mg/l, monthly average, limitation has been added to be consistent with federal regulations. A review of the monitoring data collected in the past year indicates that this additional limitation can be met. TSS monitoring is once per month and should be collected when the R.O. regenerant and/or filter backwash discharge is occurring.

**Oil and Grease**

The permit contains an Oil and Grease limitation of 20 mg/l, daily maximum and 15 mg/l, monthly average. This limitation is based on 40 CFR Part 423. The previous permit contained only a 20 mg/l, daily maximum, limitation. The 15 mg/l, monthly average, limitation has been added to be consistent with federal regulations. A review of the monitoring data collected in the past year indicates that this additional limitation can be met. Oil and grease monitoring is required once per month.

**Turbidity**

The permit contains a monitor only requirement for Turbidity. This monitoring provides evidence that the requirements of Section 3-04.B.1 of the VWQS are met and is unchanged from the previous permit. Turbidity monitoring is required once per month and should be collected when the R.O. regenerant and/or filter backwash discharge is occurring.

**Temperature**

The permit contains an effluent temperature limitation of 90°F, daily maximum, and is unchanged from the current permit. This limitation will meet the requirements of Section 3-01B.1 of the Vermont Water Quality Standards (VWQS), since at the permitted flow the discharge will not raise the in-stream temperature by more than 0.01°F. Temperature monitoring is required once per week from May through September and once per month from October through April.

**Total Metals**

The permit contains a monitor only requirement for Total Metals (Total Cadmium, Total Copper, Total Iron, Total Lead, Total Nickel, and Total Zinc). This monitoring requirement is based on 40 CFR Part 423 and is unchanged from the previous permit. Due to the low concentrations of metals detected during the past permitting period, sampling has been reduced from once per quarter to twice per year (biannually).

**Chlorine**

For discharges lasting not more than 2 hours per day, the permit contains a Free Available Chlorine limitation of 0.2 mg/l, 2-Hour Average, and 0.5 mg/l, instantaneous maximum, and a Total Residual Chlorine limitation of 1.0 mg/l, instantaneous maximum. These limitations are based on 40 CFR Part 423 and are unchanged from the previous permit.

For discharges lasting more than 2 hours per day, the permit contains a Free Available Chlorine limitation of 0.0 mg/l, instantaneous maximum, and a Total Residual Chlorine limitation of 0.0 mg/l, instantaneous maximum. These limitations are based on 40 CFR Part 423 and are unchanged from the previous permit.

#### **Oxidants (ie Bromine)**

For discharges lasting not more than 2 hours per day, the permit contains a Free Available Oxidants limitation of 0.1 mg/l, 2-Hour Average, and 0.25 mg/l, instantaneous maximum, and a Total Residual Oxidants limitation of 0.5 mg/l, instantaneous maximum. These limitations are based on 40 CFR Part 423 and are unchanged from the previous permit.

For discharges lasting more than 2 hours per day, the permit contains a Free Available Oxidants limitation of 0.0 mg/l, instantaneous maximum, and a Total Residual Oxidant limitation of 0.0 mg/l, instantaneous maximum. These limitations are based on 40 CFR Part 423 and are unchanged from the previous permit.

#### **pH**

The permit contains a pH limitation of 6.5 to 8.5 SU. This limitation is unchanged from the current permit and is based on Section 3-01.B.9 of the Vermont Water Quality Standards effective July 2, 2000. Sampling of pH is required daily. This sampling requirement is unchanged from the current permit.

#### **Other changes**

The “monitor only” requirements for Biochemical Oxygen Demand (BOD) and Total Phosphorus (TP) have been eliminated. Based on a review of the data collected during the past permitting period, this discharge does not contain significant amounts of BOD<sub>5</sub> or TP. Therefore routine monitoring for these parameters is not warranted.

#### **Discharge Point S/N 002: Chip Pile Runoff**

In order to obtain data on the quality of the runoff from the chip pile storage area, Total Suspended Solids, Turbidity, and pH monitoring is required on a seasonal basis (May 1<sup>st</sup> through October 31<sup>st</sup>). Samples shall be collected once per month. Since the permittee is required to implement Best Management Practices (BMPs) as part of the Chip Management Plan which should prevent the excessive degradation of the runoff from the chip piles and the large dilution of this discharge provided by the Connecticut River (greater than 1,000 to 1), the pH limitation has been eliminated.

#### **Special conditions**

Condition I.3.a. limits the permittee to using chemicals that are similar in composition, concentration, and toxicity to those identified in the discharge permit renewal application.

Condition I.3.b. requires the permittee to maintain a current spill prevention and contingency plan for the facility.

Condition I.3.c. requires the permittee to maintain and utilize a chip management plan to prevent decomposition of the chips and the formation of potentially toxic decomposition products.

Condition I.3.h. restricts the permittee to using either chlorine or bromine based compounds as biocides unless the alternative compound is reviewed and approved by the Agency.

#### VI. Procedures for Formulation of Final Determinations

The public comment period for receiving comments on this draft permit is from April 25, 2005 through May 25, 2005. During this time interested persons may submit their written views on the draft permit. All written comments will be retained by the Department and considered in the formulation of the final determination to issue, deny or modify the draft permit. The period of comment may be extended at the discretion of the Department.

Written comments should be sent to:

Vermont Agency of Natural Resources  
Department of Environmental Conservation  
Wastewater Management Division - Sewing Building  
103 South Main Street  
Waterbury, VT 05671-0405

Comments may also be faxed to: 802-241-2596.

Any interested person or groups of persons may request or petition for a public hearing with respect to this draft permit. Any such request or petition for a public hearing shall be filed within the public comment period described above and shall indicate the interest of the party filing such request and the reasons why a hearing is warranted.

The Department will hold a hearing if there is significant public interest in holding such a hearing. Any public hearing brought in response to such a request or petition will be held in the geographical area of the draft discharge or other appropriate area, at the discretion of the Department and may, as appropriate, consider related groups of draft permits. Any person may submit oral or written statements and data concerning the draft permit at the public hearing. The Department may establish reasonable limits on the time allowed for oral statements and may require the submission of statements in writing. All statements, comments, and data presented at the public hearing will be retained by the Department and considered in the formulation of the final determination to issue, deny, or modify the draft permit.

The complete application, draft permit, and other information are on file and may be inspected at the VTDEC, Wastewater Management Division, Waterbury Office. Copies will be made at a cost based on the previous Secretary of State Official Fee Schedule for Copying Public Records from 8:00 am to 4:00 pm, Monday through Friday.