AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA"),

Fraser Papers N.H. LLC

is authorized to discharge from a facility located at

Gorham Paper Mill
72 Cascade Flats
Gorham, N.H. 03581

and from associated outfalls in Berlin, NH, to receiving water named

Androscoggin River

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

This permit shall become effective on January 1, 2009.

This permit and the authorization to discharge expire at midnight, five (5) years from the last day of the month preceding the effective date.

This permit supersedes the permit issued on June 10, 1992, last modified on January 21, 1997.

This permit consists of 26 pages in Part I including effluent limitations, monitoring requirements, Attachment 1 – Freshwater Chronic Toxicity Test Procedure and Protocol, Attachment II – Freshwater Acute Toxicity Test Procedure and Protocol, and 25 pages in Part II including General Conditions and Definitions.

Signed this 30th day of September, 2008

/s/ SIGNATURE ON FILE

_____
Stephen S. Perkins, Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge treated wastewater effluent from **Outfall 018** (Gorham Paper Mill Wastewater Treatment Plant) to the Androscoggin River. This treated effluent includes paper process wastewater, general housekeeping water, non-contact cooling water, boiler blowdown, and storm water. This discharge shall be limited and monitored by the permittee as reported below.

Effluent Characteristic	Discharge Limitations				Monitoring Requirements[1]	
	Monthly Average (lbs/day)	Daily Maximum (lbs/day)	Monthly Average (mg/L)	Daily Maximum (mg/L)	Measurement Frequency	Sample Type
Flow (MGD)	----	----	Report (MGD)	Report (MGD)	Continuous	Recorder
Ambient Flow (MGD)	----	----	Report (MGD)	Report Min (MGD)	Continuous	Recorder[5]
pH (SU) [2]	----	----	----	6.0-8.0	Continuous	Recorder
Biochemical Oxygen Demand (BOD) (June 1-Sept. 30) (Oct. 1-May 31)	 9,149 9,160	 10,298 17,078	 Report Report	 Report Report	 1/Day 1/Day	 Composite[3] Composite[3]
Total Suspended Solids (TSS) (June 1-Sept. 30) (Oct. 1-May 31)	 9,282 9,282	 18,095 18,095	 Report Report	 Report Report	 1/Day 1/Day	 Composite[3] Composite[3]
Total Phosphorus (June 1-Sept. 30)	129	Report	Report	Report	1/Month	Composite[3]
Ortho-Phosphorus (June 1-Sept. 30)	Report	Report	Report	Report	1/Month	Composite[3]

See pages 5-7 for explanation of footnotes.

(Part I.A.1, Continued)

Effluent Characteristic	Discharge Limitations		Monitoring Requirements[1]	
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Temperature (°F)				
Effluent [9]				
(June 1-Sept. 30)	Report	Report	1/Week	Grab[12]
(Oct. 1-May 31)	Report	Report	1/Week	Grab[12]
Upstream River Location [8,9]	Report	Report [13]	1/Week	Grab[12]
Downstream River Location [9]	Report	Report [13]	1/Week	Grab[12]
Predicted River Temperature Increase (PRTI) [10]	Report	Report	1/Week	Calculate
Heat Load (MMBTU/day)				
(June 1-Sept. 30)	Report	1595	1/Week	Calculate[14]
(Oct. 1-May 31)	Report	2499	1/Week	Calculate[14]
Turbidity (NTU)				
Effluent [9]	Report	Report	1/Week	Grab
Upstream River Condition [8,9]	Report	Report	1/Week	Grab
Downstream River Location [9]	Report	Report	1/Week	Grab
Difference [11]	Report	Report	1/Week	Calculate

See pages 5-7 for explanation of footnotes.

(Part I.A.1, Continued)

Effluent Characteristic	Discharge Limitations					Monitoring Requirements[1]	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity[4]							
Acute LC_{50} (%)[6]			100%			1/Quarter	Composite[3]
Chronic IC_{25} (%)[6]			Report			1/Quarter	Composite[3]
Hardness (mg/L) [7]			Report			1/Quarter	Composite[3]
Alkalinity (mg/L) [7]			Report			1/Quarter	Composite[3]
pH (SU) [7]			Report			1/Quarter	Composite[3]
Specific Conductance(µmhos/cm) [7]			Report			1/Quarter	Composite[3]
Total Solids (mg/L) [7]			Report			1/Quarter	Composite[3]
Total Ammonia Nitrogen as N(mg/L) [7]			Report			1/Quarter	Composite[3]
Total Organic Carbon (mg/L) [7]			Report			1/Quarter	Composite[3]
Total Residual Chlorine (mg/L) [7]			Report			1/Quarter	Composite[3]
Dissolved Oxygen (mg/L) [7]			Report			1/Quarter	Composite[3]
Total Cadmium (mg/L) [7]			Report			1/Quarter	Composite[3]
Total Chromium (mg/L) [7]			Report			1/Quarter	Composite[3]
Total Lead (mg/L) [7]			Report			1/Quarter	Composite[3]
Total Copper (mg/L) [7]			Report			1/Quarter	Composite[3]
Total Zinc (mg/L) [7]			Report			1/Quarter	Composite[3]
Total Nickel (mg/L) [7]			Report			1/Quarter	Composite[3]
Total Aluminum (mg/L) [7]			Report			1/Quarter	Composite[3]
Total Magnesium (mg/L) [7]			Report			1/Quarter	Composite[3]
Total Calcium (mg/L) [7]			Report			1/Quarter	Composite[3]

See pages 5-7 for explanation of footnotes.

(Part I.A.1, Continued)
Footnotes:

1. The final effluent from Outfall 018 (Gorham Paper Mill Wastewater Treatment Plant) shall be sampled year-round for all parameters, at the point of discharge from the final treatment pond to the outfall pipe (at the Parshall Flume) and prior to mixing with the river or any other discharges from the paper mill. Any change in sampling location must be reviewed and approved in writing by EPA and the NHDES prior to making such change.

2. See Part I.G.3, Special Conditions Section of this permit.

3. Composite samples shall be 24-hour composite samples taken over a 24-hour period consisting of a minimum of four grab samples collected at equal intervals of no less than sixty (60) minutes and combined proportionally to flow; or, a composite sample continuously collected over a full operating day proportionally to flow.

4. The permittee shall conduct acute and chronic whole effluent toxicity (WET) tests on effluent samples from Outfall 018 using two species, Daphnid (Ceriodaphnia dubia) and Fathead Minnow (Pimephales promelas) following the protocol in **Attachment 1** (Freshwater Chronic Toxicity Test Procedure and Protocol dated May 2007) to this permit. This test protocol includes the procedure to calculate an LC_{50} at the end of 48 hours for the two species. The acute and chronic toxicity testing is to be completed using an alternate dilution water, as approved by EPA. Toxicity test samples shall be collected and tests completed during the calendar quarters ending March 31st, June 30th, September 30th, and December 31st each year. Toxicity test results are to be submitted by the 15th day of the month following the end of the quarter sampled.

5. The permittee shall report the daily minimum and monthly average flow data for the USGS Gorham gauging station (#01054000).

6. The LC_{50} is defined as the concentration of wastewater (effluent) causing mortality to 50 percent of the test organisms. The "100 %" limit is defined as a sample which is composed of 100 percent effluent. The inhibition concentration (IC25) is defined as the toxicant concentration that would cause a 25% reduction in growth, survival, and reproduction for the test population. If unacceptable results are found in a routine WET test, the permittee shall conduct an additional toxicity test on the species of concern. The additional test shall be conducted as soon as possible. The additional test will be used to determine if the results found in the routine test are verifiable.

7. For each WET test the permittee shall report on the appropriate DMR, the concentrations of the Hardness, Total Ammonia Nitrogen as Nitrogen, Alkalinity, pH, Specific Conductance, Total Solids, Total Organic Carbon, Total Residual Chlorine,

Dissolved Oxygen, Aluminum, Cadmium, Chromium, Copper, Lead, Nickel, Zinc, Magnesium, and Calcium found in the 100 percent effluent sample. Metals shall be reported as total recoverable concentrations. The permittee should note that all chemical parameter results must still be reported in the appropriate toxicity report.

8. As a minimum, the upstream sampling location shall be representative of naturally occurring conditions in the Androscoggin River and must be taken prior to mixing with any of the discharges from the Gorham Paper Mill WWTP. Fraser Papers shall identify in writing the upstream and downstream sampling locations to EPA and the NHDES for review and approval within 30 days of the effective date of the permit. Turbidity and temperature sampling is to commence on the effective date of the permit.

9. The permittee is required to measure and report the temperature and turbidity at both the upstream and downstream locations (as described herein) as close in time as possible, but not greater than 1 hour from the time during which the turbidity and temperature samples from Outfall 018 are measured and reported, to obtain concurrent turbidity and temperature measurements.

10. The permittee shall use the measured daily minimum ambient upstream river water temperatures (required for an upstream location from Outfall 018 in this part of the permit) in conjunction with the measured daily maximum discharge flow rates and measured daily maximum discharge temperatures (required for Outfall 018 in this part of the permit), and the reported daily minimum river flow rates (the flow rate identified at Gorham USGS gauging station), to calculate and report the Predicted River Temperature Increase (PRTI) of the Androscoggin caused by the discharge from the Paper Mill WWTP, as described in detail in Part I.D.3 of the permit.

11. The turbidity difference is calculated using the concurrent turbidity measurements for Outfall 018 and the upstream site, as the Outfall 018 turbidity measurement minus the upstream turbidity measurement.

12. Temperature samples shall be grab samples, unless the permittee installs a recorder, in which case the temperature shall be continuously recorded.

13. The permittee shall report the upstream and downstream river temperatures that are concurrent with the daily maximum discharge temperature reported for the month for Outfall 018.

14. The Heat Load shall be calculated on a daily basis using the following equation:

$$Q = C_p m(\Delta T)$$

Where Q = Heat Load, million British Thermal Units per day (MMBTU/day)
C_p = Heat Capacity (Specific Heat) of pure water
= 1.0 BTU/lb°F
M = mass of water
= flow rate * specific gravity of pure water
= flow rate, million gallons day (MGD) * 8.344 lbs/gallon
ΔT = discharge temperature – upstream temperature, °F

The monthly average head load shall be calculated by averaging the daily maximum heat loads calculated for the month.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

2.a. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge filter backwash water from **Outfall 010a** (Burgess Filter House Backwash Water when no chemicals are added) to the Androscoggin River. This discharge shall be limited and monitored by the permittee as reported below.

Effluent Characteristic	Discharge Limitations [1]			Monitoring Requirements [1,2]	
	Weekly Average	Average Monthly	Daily Maximum	Measurement Frequency	Sample Type
Flow (MGD)	----	Report	Report	1/Month	Estimate
pH (SU) [6]					
Effluent		----	6.5 - 8.0	1/Month	Grab
Upstream River Condition [7, 14]		----	Report	1/Month	Grab
Difference [7]		----	Report	1/Month	Calculate
Total Suspended Solids (TSS) (mg/L)	----	----	60	1/Month	Grab
Turbidity (NTU)					
Effluent [13]	Report	----	Report	1/Week	Grab
Upstream River Condition [13,14]	Report	----	Report	1/Week	Grab
Difference [15]	Report	----	Report	1/Week	Calculate

See pages 10-11 for explanation of footnotes.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

2.b. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge filter backwash water from **Outfall 010b** (Burgess Filter House Backwash Water with addition of polymer (e.g. cationic polyelectrolytes) to the Androscoggin River. This discharge shall be limited and monitored by the permittee as reported below.

Effluent Characteristic	Discharge Limitations [1]					Monitoring Requirements [1,2,3]	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow (MGD)	----	----	----	8.0 MGD	10.0 MGD	1/Month	Estimate
pH (SU) [15]	----	----	----	----	6.0 – 8.0	1/Month	Grab
Iron, Total	267 lbs/day	----	400 lbs/day	4.0 mg/L	6.0 mg/L	2/Month	Composite [5]
Color, PCU	----	----	----	Report	----	2/Month	Grab
Total Suspended Solids (TSS)	----	----	----	----	60 mg/L	1/Month	Grab
Free cationic polymer [4,8,9]	----	----	----	0.5 mg/L	0.8 mg/L	2/Month	Composite [5]
Whole Effluent Toxicity [10,11] Acute NOEC (%)[12]	----	----	----	----	≥ 80 %	1/Quarter	Composite [5]
Turbidity (NTU) Effluent [13] Upstream River Condition [13,14] Difference [15]	 ---- ---- ----	 Report Report Report	 Report Report Report	 ---- ---- ----	 ---- ---- ----	 1/Week 1/Week 1/Week	 Grab Grab Calculate

See pages 10-11 for explanation of footnotes.

(Part I.A.2 continued)
Footnotes:

1. If EPA receives written certification from the permittee that the Burgess Filter House Backwash operation has ceased and no further filter backwash water will be discharged from Outfall 010 (a & b) and this operation change is verified by an EPA or NHDES inspection, then, upon receipt of written notification from EPA, the effluent limitations and monitoring requirements shall not be required for Outfall 010 (Parts I.A.2.a and I.A.2.b of this permit).

2. Final effluent sampling for all parameters for Outfall 010 (a & b) shall be collected on a year-round basis at a point in the system before the effluent from this outfall is mixed with river water or any other discharges from the former Pulp Mill. Any change in sampling location(s) must be reviewed and approved in writing by EPA and the NHDES prior to making such change.

3. Monitoring is required to occur when polymer is in use at the facility.

4. The amount of polymer used shall not exceed the specific manufacturer recommendations.

5. Composite samples shall be 24-hour composite samples taken over a 24-hour period consisting of a minimum of four grab samples collected at equal intervals of no less than sixty (60) minutes and combined proportionally to flow; or, a composite sample continuously collected over a full operating day proportionally to flow.

6. The pH of the discharge shall be in the range of 6.5 to 8.0 Standard Units (SU) unless the upstream ambient pH in the Androscoggin River is outside of this range and is not altered by the facility's discharge or activities. If the permittee's discharge pH is lower than 6.5 SU the permittee may demonstrate compliance by showing that the discharge pH was either: (a) higher than, or (b) no more than 0.5 SU lower than, the ambient upstream river water pH. If the permittee's discharge pH is higher than 8.0 SU the permittee may demonstrate compliance by showing that the discharge pH is either: (a) lower than, or (b) no more than 0.5 SU higher than, the upstream river water pH. The sampling of upstream river water pH necessary to demonstrate compliance shall occur as close in time as possible, but not greater than 1 hour from the time during which the effluent pH is measured, to obtain concurrent measurements.

7. The reporting of upstream river water pH and the difference between the effluent pH and the upstream pH is only necessary when the effluent pH is outside the pH effluent limitation range. The pH difference is calculated, using concurrent pH measurements for Outfall 010 and the upstream site, as the Outfall 010 pH measurement minus the upstream pH measurement.

8. Allowable polymers (e.g. cationic polyelectrolytes) shall be only those demonstrated to meet or exceed the following acute

aquatic toxicity criteria: NOEC ≥ 0.1 mg/L free residual polymer for the 48-hour static test using the Fathead Minnow (Pimephales promelas) test species in accordance with Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, Third Edition. Office of Research and Development, Cincinnati, OH. EPA/600/4-85/013.

9. As measured by BETZ Cationic Polymer QAC Test Method, BPR 3763-PS 8/93, or equivalent.

10. The permittee shall conduct acute whole effluent toxicity (WET) tests on effluent samples from Outfall 010 using two species, Daphnid (Ceriodaphnia dubia) and Fathead Minnow (Pimephales promelas) following the protocol in **Attachment 2** (Freshwater Acute Toxicity Test Procedure and Protocol dated December 1995) to this permit. The additional chemical testing required by this protocol is not required. The acute and chronic toxicity testing is to be completed using an alternate dilution water, as approved by EPA. Toxicity test samples shall be collected and tests completed during the calendar quarters ending March 31st, June 30th, September 30th, and December 31st each year. Toxicity test results are to be submitted by the 15th day of the month following the end of the quarter sampled.

11. The acute no observed effect concentration (NOEC) "≥80" (80 percent or greater) limit is defined as a sample which is composed of 80 percent effluent, the remainder being dilution water. If the test results do not exhibit a linear dose-relationship, the permittee should report the lowest effluent concentration where there is no observable effect. If unacceptable results are found in a routine WET test, the permittee shall conduct an additional toxicity test on the species of concern. The additional test shall be conducted as soon as possible. The additional test will be used to determine if the results found in the routine test are verifiable.

12. The permittee is required to measure and report the turbidity in terms of nephelometric turbidity units (NTU) at an upstream location (as described herein) as close in time as possible, but not greater than 1 hour from the time during which the effluent turbidity is measured and reported, to obtain concurrent turbidity measurements.

13. As a minimum the upstream sampling location shall be representative of naturally occurring conditions in the Androscoggin River and must be taken prior to mixing with any of the discharges from the former Burgess Pulp Mill. Fraser Papers shall identify in writing the upstream sampling location to EPA and the NHDES for review and approval within 30 days of the effective date of the final permit. Turbidity and pH sampling is to commence on the effective date of the final permit.

14. The turbidity difference is calculated, using the concurrent turbidity measurements for Outfall 010 and the upstream site, as the Outfall 010 turbidity measurement minus the upstream turbidity measurement.

15. See Part I.G.3, Special Conditions Section of this permit.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

3. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge excess filtered water from **Outfall 025** (excess filtered water from the former Pulp Mill Filter House) to the Androscoggin River. This discharge shall be limited and monitored by the permittee as reported below.

Effluent Characteristic	Discharge Limitations			Monitoring Requirements [1]	
	Weekly Average	Average Monthly	Daily Maximum	Measurement Frequency	Sample Type
Flow (MGD)	----	Report	Report	1/Month	Estimate
pH (SU) [2]					
Effluent	----	----	6.5 - 8.0	1/Month	Grab
Upstream River Condition [3, 4]	----	----	Report	1/Month	Grab
Difference [3]	----	----	Report	1/Month	Calculate
Total Suspended Solids (TSS) (mg/L) [5]	----	----	Report	1/Month	Grab

See page 13 for explanation of footnotes

(Part I.A.3 continued)
Footnotes:

1. Final effluent sampling for all parameters for Outfall 025 shall be collected on a year-round basis at a point in the system before the effluent from this outfall is mixed with river water or any other discharges from the former Pulp Mill. Any change in sampling location(s) must be reviewed and approved in writing by EPA and the NHDES prior to making such change.

2. The pH of the discharge shall be in the range of 6.5 to 8.0 Standard Units (SU) unless the upstream ambient pH in the Androscoggin River is outside of this range and is not altered by the facility's discharge or activities. If the permittee's discharge pH is lower than 6.5 SU the permittee may demonstrate compliance by showing that the discharge pH was either: (a) higher than, or (b) no more than 0.5 SU lower than, the ambient upstream river water pH. If the permittee's discharge pH is higher than 8.0 SU the permittee may demonstrate compliance by showing that the discharge pH is either: (a) lower than, or (b) no more than 0.5 SU higher than, the upstream river water pH. The sampling of upstream river water pH necessary to demonstrate compliance shall occur as close in time as possible, but not greater than 1 hour from the time during which the effluent pH is measured, to obtain concurrent measurements.

3. The reporting of upstream river water pH and the difference between the effluent pH and the upstream pH is only necessary when the effluent pH is outside the pH effluent limitation range. The pH difference is calculated, using concurrent pH measurements for Outfall 025 and the upstream site, as the Outfall 025 pH measurement minus the upstream pH measurement.

4. As a minimum, the upstream sampling location shall be representative of naturally occurring conditions in the Androscoggin River and must be taken prior to mixing with any of the discharges from the former Burgess Pulp Mill. Fraser Papers shall identify in writing the upstream sampling location to EPA and the NHDES for review and approval within 30 days of the effective date of the final permit. The pH sampling is to commence on the effective date of the permit.

5. The permittee may request a reduction of the monitoring frequency for TSS following one year of samples which do not detect elevated levels of TSS in the discharge from Outfall 025.

PART I.A. (Continued)

4. The permittee shall evaluate the potential erosion, habitat, and water quality effects of the discharge configuration and the vertical drop at Outfall 025 (excess filtered water from the former Pulp Mill Filter House) and design and construct an outfall configuration that minimizes adverse effects to the bank and River.

5. This permit shall be modified, or alternatively, revoked and reissued to incorporate additional toxicity testing requirements, including new and/or additional chemical specific limits, if the results of the toxicity tests indicate that the discharge causes an exceedance of any State Water Quality Criterion. Results from these toxicity tests are considered "New Information" and the permit may be modified as provided in 40 Code of Federal Regulations (CFR) §122.62(a)(2).

6. The discharges either individually or in combination shall not cause a violation of State Water Quality Standards of the receiving waters.

7. The discharge shall be adequately treated to ensure that the surface water remains free from pollutants in concentrations or combinations that settle or float to form harmful deposits, foam, a visible oil sheen, debris, scum or other visible pollutants which would render the receiving water unsuitable for its designated uses.

8. The discharge shall be adequately treated to ensure that the surface waters remains free from pollutants which produce odor, color, taste or turbidity in the receiving waters which is not naturally occurring and would render the receiving water unsuitable for its designated uses.

9. The discharge shall not contain materials in concentrations or combinations which are hazardous or toxic to human health, aquatic life of the receiving surface waters or which would impair the uses designated by its classification.

10. The permittee shall submit the results to EPA of any additional testing done beyond that required herein, if it is conducted in accordance with EPA approved methods consistent with the provisions of 40 CFR §122.41(l)(4)(ii).

11. The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from the outfalls listed in Parts I.A.1, I.A.2, and I.A.3 of this permit. Discharges of wastewater from any other point sources are not authorized and shall be reported in accordance with Section D.1.e(1) of the General Requirements (Part II) of this permit (Twenty-four hour reporting).

12. All existing manufacturing, commercial, mining and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

    a. That any activity has occurred or will occur which would result in the discharge, on a routine basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) One hundred micrograms per liter (100 µg/l);

(2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrite; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or

(4) Any other notification level established by the Director in accordance with 40 CFR §122.44(f).

b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) Five hundred micrograms per liter (500 µg/l);

(2) One milligram per liter (1 mg/l) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7).

(4) Any other notification level established by the Director in accordance with 40 CFR §122.44(f).

c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

13. Toxics Control

a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.

b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any State or Federal Water Quality Standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

c. EPA or NHDES may use the results of chemical analyses conducted pursuant to this permit, as well as National Water Quality Criteria developed pursuant to 304(a)(a) of the Clean Water Act (CWA), State Water Quality Criteria, and any other appropriate

information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

B. UNAUTHORIZED DISCHARGES

1. The discharge from Outfall 030 consisting of wastewater treatment plant bypass water at the former Pulp Mill, including storm water generated during the shut down (e.g. annual) of the former Pulp Mill Wastewater Treatment Plant for maintenance is prohibited.

2. The discharge from Outfall 100 consisting of Bleach Plant effluent to the wastewater treatment plant at the Berlin Facility is prohibited. Outfall 100 is a former internal waste stream.

3. The discharge from Outfall 017 consisting of filter backwash from the Paper Plant is prohibited unless the conditions in Part I.C.4 apply. If the conditions in Part I.C.4 apply, the permittee shall apply the monitoring and reporting requirements of Part I.A.2.a and I.A.2.b, above, to the discharge through Outfall 017.

4. The discharge from Outfalls 001, 003, 005, 006, 009, 011, 014, and 015 consisting of non-contact cooling water (NCCW) is prohibited.

5. The discharges from Outfalls 019, 020, 021, 022, 023, and 024 consisting of non-contact hydro cooling waters is prohibited.

C. COOLING WATER INTAKE STRUCTURES - 316(b) Determination and Summary

1. Each cooling water intake structure (CWIS) shall be designed, maintained, and operated by the permittee to meet requirements which reflect the Best Technology Available (BTA) for minimizing adverse environmental effects.

2. For the former Burgess Pulp Mill CWIS, the following requirements reflect BTA for minimizing adverse environmental effects. At any time prior to the expiration date of this permit, the permittee may submit written certification, in accordance with 40 CFR 122.22, that the Pulp Mill CWIS has ceased operation and no further cooling water will be withdrawn from this CWIS. Cooling water consists of any water used for contact or noncontact cooling (including water used for equipment cooling, evaporative cooling tower makeup, and dilution of effluent heat content, but *not* including any such cooling water that was used in a manufacturing process either before or after it was used for cooling). After this operational change is verified by an EPA or NHDES inspection, and upon written approval from EPA, the permittee shall not be required to comply with the requirements of Part I.C.1-3. Unless and until the permittee received written approval from EPA, the permittee shall comply with all requirements of Part I.C.

    a. The CWIS shall be designed, constructed, operated, and maintained with the intake elevated sufficiently above the bottom of the river inlet to prevent and/or reduce entrainment of demersal eggs (eggs which sink or are deposited on the bottom) and

larvae or other benthic organisms that may be present in the vicinity of the CWIS. The permittee shall inspect the intake on an annual basis and clear sediment buildup as necessary. For this purpose, the displacement of sediment is required in the area in close proximity to the intake, approximately 2 feet before and leading up to the intake.

b. The permittee shall minimize the intake of water at the CWIS to the maximum extent practicable using best management practices (BMPs). In no event shall the volume of water withdrawn exceed 17 MGD on any day. **The permittee shall report the maximum daily and monthly average water intake flow.**

c. The permittee shall install a screen or mesh barrier at the Gate House, prior to the penstock, with a mesh size of 3/8-inch or smaller.

d. The through-screen intake velocity of the CWIS, as measured or calculated at the intake screen or mesh barrier at the Gate House, shall not exceed 0.5 ft/s at any time.

e. All live adult and juvenile fish and other aquatic organisms impinged, entrained, or trapped on or in the CWIS shall be returned to the river by means designed to maximize their survival. All solid materials except for naturally occurring materials such as leaves, branches, and grass shall be removed from the trash rack and will not be discharged to the river.

3. EPA has determined on a best professional judgement (BPJ) basis that the above suite of technology measures will satisfy CWA § 316(b) at Fraser Papers and comply with New Hampshire Water Quality Standards. However, based on unavoidable uncertainty about exactly how these technologies will perform at the former Burgess Pulp Mill CWIS, the following BTA related biological monitoring will be required to assess technological performance.

a. The permittee shall implement a CWIS Monitoring Program to determine, as a baseline, the number of adult and juvenile fish of all species being impinged on or within the CWIS throughout the year. All locations in the CWIS where fish could potentially be impinged or trapped shall be included as sampling sites. Monitoring shall take place a minimum of three days each week. Monitoring shall be for all fish species. Monitoring logs shall include the following: date; time; observer/operator; number of fish; and for each fish observed, the fish length, species, condition (whether the fish was alive when collected), and whether the fish was returned to the river.

b. Each year, the permittee shall prepare and submit to EPA an Annual CWIS Biological Monitoring report. This Annual CWIS Biological Monitoring Report shall include all data from the monitoring logs collected in the previous year's CWIS Monitoring Program described above in Part (a), as well as a summary of the data. The initial Annual CWIS Biological Monitoring Report shall contain monitoring and sampling information for the period from the effective date of the permit through December 31 of the same calendar year, and shall be due on February 15 of the following calendar year.

In each such report, monitoring and sampling results shall be recorded and summarized for each month. The report shall include the locations in the CWIS that were monitored, the specific sampling methods used, the date and time of sampling, the length of any fish observed (in inches), the species of any fish observed, the condition (whether the fish was alive when collected), and whether the fish was returned to the river. The average daily flows for the CWIS on each date sampled, as well as any excursions from the CWIS Monitoring Program or plan operations shall be reported. The Annual CWIS Biological Monitoring Report also shall describe the measures taken to ensure that those involved in planning and conducting the monitoring have the necessary knowledge and ability to (1) ensure sampling accuracy and effectiveness, including the ability to identify all fish found in this area to the species level, and (2) return trapped organisms to the river by means designed to maximize their survival.

c. The permittee shall submit a copy of all the reports required in this Part to EPA, NHDES, U. S. Fish and Wildlife Service (USFWS), and New Hampshire Fish and Game Department (NHFGD) at the addresses listed in Part I.E of the permit, Monitoring and Reporting.

d. Any unusual impingement event must be reported to the EPA, the NHDES, and the NHFGD within 24 hours by telephone. If the permittee observes four (4) or more fish on the CWIS during any one of the following situations, this would qualify as an unusual impingement event, warranting notification: 1) during a required impingement monitoring program observation event, 2) at any time the CWIS is viewed, or 3) when the cumulative number of individual fish observed on the CWIS totals four or more based on multiple observations over the course of any 24-hour period. The 24-hour notice must be followed with a written report.

The written report, to be submitted within ten working days of the event, shall include the following information:

(1) The species, sizes, and approximate number of fish involved in the incident.

(2) The time and date of the occurrence.

(3) The operating mode of the facility, including the estimated volume of intake water.

(4) The permittee's opinion as to the reason the incident occurred.

(5) The remedial action the permittee will take to prevent or reduce the likelihood of a recurrence of the incident, to the maximum extent practicable.

4. The intake of cooling water through the Paper Mill CWIS, and all associated discharges

(including paper plant CWIS filter backwash), are prohibited (with the exception of during emergency use, as described in Part I.C.5 below). Cooling water consists of any water used for contact or noncontact cooling (including water used for equipment cooling, evaporative cooling tower makeup, and dilution of effluent heat content, but *not* including any such cooling water that was used in a manufacturing process either before or after it was used for cooling). The permittee may, at any time, submit a request for a permit modification to authorize the use of the Paper Mill CWIS and associated discharges. Prior to submission of such a request, the permittee shall upgrade the CWIS to reflect BTA. Any such permit modification request must include sufficient information for EPA to make a BTA determination. The permittee shall not withdraw cooling water through the Paper Mill CWIS unless and until EPA issues a permit modification authorizing such withdrawals.

5. The following conditions apply to operation of the Paper Mill CWIS during emergency use:

   a. The volume of water withdrawn through the CWIS shall be limited to 12 MGD.

   b. The permittee shall implement a CWIS Monitoring Program to determine, as a baseline, the number of adult and juvenile fish of all species being impinged on or within the CWIS. All locations in the CWIS where fish could potentially be impinged or trapped shall be included as sampling sites. Monitoring shall take place hourly, during CWIS operation. Monitoring shall be for all fish species. Monitoring logs shall include the following: date; time; observer/operator; number of fish; and for each fish observed, the fish length, species, condition (whether the fish was alive when collected), and whether the fish was returned to the river.

   c. Use of the CWIS shall be discontinued as soon as the pulp mill CWIS is re-operable. The total number of days on which use of the CWIS occurs shall not exceed fourteen days in any calendar year. Following each use, the permittee shall prepare and submit to EPA a CWIS Biological Monitoring report. This CWIS Biological Monitoring Report shall include all data from the monitoring logs collected in the CWIS Monitoring Program described above in Part (b), as well as a summary of the data. The CWIS Biological Monitoring Report shall be due on the month following CWIS use. In each such report, monitoring and sampling results shall be recorded and summarized for each operating period. The report shall include the locations in the CWIS that were monitored, the specific sampling methods used, the date and time of sampling, the length of any fish observed (in inches), the species of any fish observed, the condition (whether the fish was alive when collected), and whether the fish was returned to the river. The average daily flows for the CWIS on each date sampled, as well as any excursions from the CWIS Monitoring Program shall be reported. The CWIS Biological Monitoring Report also shall describe the measures taken to ensure that those involved in planning and conducting the monitoring have the necessary knowledge and ability to (1) ensure sampling accuracy and effectiveness, including the ability to identify all fish found in this area to the species level, and (2) return trapped organisms to the river by means designed to maximize their survival. The report shall

also include the dates during which the CWIS was used and a detailed explanation of the reason for the use.

d. The permittee shall submit a copy of all the reports required in this Part to EPA, NHDES, and the U. S. Fish and Wildlife Service (USFWS), and the New Hampshire Fish and Game Department (NHFGD) at the addresses listed in Part I.E of the permit, Monitoring and Reporting.

e. Any unusual impingement event must be reported to the EPA, the NHDES, and the NHFGD within 24 hours by telephone. If the permittee observes four (4) or more fish on the CWIS during any one of the following situations, this would qualify as an unusual impingement event, warranting notification: 1) during a required impingement monitoring program observation event, 2) at any time the CWIS is viewed, or 3) when the cumulative number of individual fish observed on the CWIS totals four or more based on multiple observations over the course of any 24-hour period. The 24-hour notice must be followed with a written report.

The written report, to be submitted within ten working days of the event, shall include the following information:

(1) The species, sizes, and approximate number of fish involved in the incident.

(2) The time and date of the occurrence.

(3) The operating mode of the facility, including the estimated volume of intake water.

(4) The permittee's opinion as to the reason the incident occurred.

(5) The remedial action the permittee will take to prevent or reduce the likelihood of a recurrence of the incident, to the maximum extent practicable.

6. Any change in the location, design, or capacity of the intake structures must be approved in advance in writing by the EPA and NHDES – WD. The design of the intake structures shall be reviewed for conformity to the regulations pursuant to Section 316(b) of the CWA when such are promulgated.

D. ENVIRONMENTAL STUDIES AND MONITORING

1. Ambient Water Quality Monitoring of Gulf Island Pond (GIP)

By February 1st of each year (beginning February 1, 2009) the permittee shall independently or

in conjunction with other Gulf Island Pond Oxygenation Partnership (GIPOP) parties, submit an updated ambient water quality monitoring plan for that year to the EPA and the ME DEP for review and comment.

Between June 1st and September 30th of each year (beginning June 1, 2009) the permittee shall independently or in conjunction with other GIPOP parties, participate in the ambient water quality monitoring of GIP and/or designated segments of the Androscoggin River at a frequency of once per week (1/week). There must be at least 72 hours between sampling events. Samples for total phosphorus, ortho-phosphorus, chlorophyll a, secchi disc readings, and dissolved oxygen/temperature profiles at one-meter increments and physical observations shall be taken at five sampling stations. The sampling stations are designated as Twin Bridges, Upper Narrows, Lower Narrows, Gulf Island Pond 4, and Gulf Island Dam (deep hole). Sampling procedures must be consistent with the protocols established in the document entitled Androscoggin River & Gulf Island Pond Water Quality Monitoring Plan 2004, Acheron, May 2004 or the most current revision to said plan approved by the ME DEP.

By November 30th of each year (beginning November 30, 2009) the permittee shall independently or in conjunction with other GIPOP parties, submit a written report to EPA, the NHDES, and the ME DEP summarizing the results of the ambient water quality monitoring of GIP for that year. The report shall include, but not be limited to, all the field data and any pertinent field observations (e.g., identification of algal blooms), a statistical analysis of the field data and interpretation and/or conclusions drawn from the analysis and/or data, and any recommendations for revisions to the monitoring plan (if appropriate) for the following year.

2. Resident Fish Monitoring

The permittee shall be required to conduct a resident fish monitoring program at least once during the five year term of this permit (and once every additional five years until the expired permit is renewed) unless and until a demonstration of no impact is achieved as described in the next paragraph. Resident fish monitoring will be conducted in accordance with a work plan approved by the NHDES prior to the onset of sampling. The work plan will be comparable to that used for the Maine Dioxin Monitoring Program. The work plan will generally consist of a late-season sampling of representative fish of the type (trout and hornpout) and size which typically would be caught and consumed by fishermen. The analysis will include all 2,3,7,8-substituted dioxins and furans and lipid content of representative edible portions of the fish (fillets with the skin on or as directed by the State of New Hampshire).

A demonstration of no impact will be achieved if the fish tissue concentrations are below the EPA fish consumption advisory level. If the Maine Dioxin Monitoring Program demonstrates that fish-tissue dioxin concentrations have declined to levels that rescind the consumption advisory for the Maine portions of the Androscoggin River, such a decline will be taken to reflect the conditions of the River and the permittee may rely on the Maine Dioxin Monitoring Program's data for that season in lieu of conducting testing itself. If the permittee's resident

fish monitoring results also demonstrate acceptable fish tissue dioxin concentrations, this taken together with the pertinent annual Maine data may suffice to demonstrate no impact. A copy of the Maine Dioxin Monitoring Program results used in this demonstration of no impact shall be submitted to EPA annually with the December DMR.

Copies of the monitoring results are to be sent by the permittee to the NHDES/Water Division (WD), NHDES Environmental Health Program, NH Fish and Game Department, and to the ME DEP. The results of testing shall be submitted to EPA and the NHDES annually with the December DMR.

For the years in which the permittee does not perform the annual resident fish monitoring survey, the permittee shall provide EPA and the NHDES with a summary of the annual Maine Dioxin Monitoring Program results with the December DMR.

3. Predicted River Temperature Increase (PRTI)

In order to demonstrate compliance with New Hampshire's water quality temperature criteria, the permittee shall calculate and report the predicted river temperature increase (PRTI) associated with the thermal discharge from the Paper Mill. The PRTI shall be calculated by the following formula:

$$PRTI = \frac{(\text{Daily Max Flow}_{018})(\text{Daily Max Temp}_{018} - \text{Daily Min Temp}_{upstream})}{(\text{Daily Min Flow}_{ambient})}$$

The PRTI is to be calculated year round in order to identify whether there are any cumulative impacts associated with the thermal loading from this outfall to the Androscoggin River. For purposes of the PRTI, the permittee shall use data representative of actual discharge through Outfall 018 along with concurrent ambient river conditions as the basis of the calculation to be submitted to EPA and the NHDES. Accordingly, measured daily maximum discharge flow rates (required in Part I.A.1 of the permit), measured daily maximum discharge temperatures (required in Part I.A.1 of the permit), measured daily minimum ambient upstream river water temperatures (required in Part I.A.1 of the permit), and reported daily minimum river flow rates (the flow rate identified at Gorham USGS gauging station) shall be obtained and used for the calculation and reporting of the PRTI.

E. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the month following the effective date of the permit.

Signed and dated originals of these, and all other notifications and reports required herein, shall be submitted to EPA at the following address:

Environmental Protection Agency, Region 1
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

Duplicate signed copies of all DMRs and all other notifications and reports required herein shall be submitted to the State at:

New Hampshire Department of Environmental Services
Water Division
Wastewater Engineering Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

Additional Contacts:

New Hampshire Fish and Game Department
11 Hazen Drive
Concord, New Hampshire 03301

U.S. Fish and Wildlife Service
Northeast Regional Office
300 Westgate Center Drive
Hadley, MA 01035

F. STATE PERMIT CONDITIONS

This NPDES Discharge Permit is issued by the EPA under Federal law. Upon final issuance by the EPA, the New Hampshire Department of Environmental Services -Water Division (NHDES-WD) may adopt this permit, including all terms and conditions, as a State permit pursuant to RSA 485-A:13.

If NHDES-WD adopts this permit, each Agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of the permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation.

G. SPECIAL CONDITIONS

1. Gulf Island Pond Oxygen Injection Operation

The permittee shall, independently or in cooperation with FPL Energy Maine Hydro LLC, Rumford Paper and Verso Paper, or their successors-in-interest, operate an upgraded oxygen injection system at Upper Narrows in Gulf Island Pond. The permittee shall be responsible for ensuring that oxygen is injected at the rate of at least 34,144 pounds per day at Upper Narrows in Gulf Island Pond, at an oxygen transfer efficiency of 33%. With prior written approval from EPA in consultation with the Maine Department of Environmental Protection (ME DEP), the permittee may inject oxygen at equivalent rates at higher transfer efficiencies and/or other locations, or take other equivalent measures to increase dissolved oxygen levels in Gulf Island Pond.

After re-calibration of the water quality model for Gulf Island Pond following the correction of any errors relating to dispersive mixing, as well as any other future modifications to the model and revisions to Maine DEP's May 2005 Androscoggin River Total Daily Maximum Load (TMDL) Report, and/or after reviewing the results of monitoring following the implementation of all additional oxygen injection or other equivalent measures and all reductions in point source discharges required pursuant to the TMDL Report and any future revisions thereto, EPA may reopen the permit pursuant to 40 C.F.R. § 122.62 and modify the permit to require reduced effluent limitations, changes in oxygen injection system(s) and/or oxygen injection rates, or changes in other equivalent measures, as may be deemed necessary to ensure that the permittee's wastewater discharge, either by itself or in combination with other discharges, does not cause or contribute to the violation of water quality standards in Gulf Island Pond.

2. Whole Effluent Toxicity Test Frequency Adjustment

The permittee may submit a written request to the EPA requesting a reduction in the frequency (to not less than once per year) of required toxicity testing, after completion of a minimum of four (4) successive toxicity tests of effluent, all of which must be valid tests and demonstrate compliance with the permit limit(s) for whole effluent toxicity. Until written notice is received by certified mail from the EPA indicating that the whole effluent toxicity testing requirement has been changed, the permittee is required to continue testing at the frequency specified in the respective permit.

3. pH Limit Adjustment

The permittee may submit a written request to the EPA requesting a change in the permitted pH limit range for this facility to be not less restrictive than the range found in the applicable National Effluent Limitation Guideline for the Pulp, Paper, and Paperboard Point Source Category, in 40 CFR Part 430 (5.0 to 9.0 Standard Units). The permittee's written request must include a copy of the State's approval letter for such a change. The State's letter shall state that the permittee has demonstrated to the State's satisfaction that as long as discharges to the receiving water from a specific outfall are within a specific numeric pH range the naturally occurring receiving water pH will be unaltered. That letter must specify for each outfall the associated numeric pH limit range. Upon receipt of this information EPA may modify the pH

limit range(s) in the permit via a certified letter to be sent to the permittee. Until written notice is received by certified mail from the EPA indicating the pH limit range has been changed, the permittee is required to meet the permitted pH limit range in the respective permit.

4. Visible Plume Identification and Removal

The permittee shall identify and remove the source of the visible plume in the discharge from Outfall 018 to the Androscoggin River. As an initial step, the permittee shall determine the source of the visible plume unless the visibility is removed by a diffuser or other physical means. The component, if any, of plume visibility consisting of air or reduction in color (from the original river water by processing of the river) need not be removed.

5. Toxicity Reduction Evaluation (TRE)

The permittee shall conduct a toxicity reduction evaluation (TRE). The TRE shall require a Toxicity Identification Evaluation (TIE) along with an analysis of the cause of acute toxicity, a study of the aluminum level in the intake and its impact on toxicity, as well as all major TRE components as outlined in the EPA *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (August 1999).

Once the permittee reduces toxicity to an acceptable level (or eliminates it) as determined by EPA, and maintains compliance, the TRE goal has been met upon EPA approval. The TRE then may be discontinued, if appropriate, and the routine monitoring schedule resumed. EPA may use the monitoring results of the toxicity tests and the results of the TRE to develop numerical effluent limitations for any pollutants in the future, as necessary. The permittee shall submit a TRE scope of work within 60 days of the effective date of the permit, begin the TRE within 90 days of the effective date of the permit, and complete the TRE within four years of the effective date of the permit.

H. REOPENER CLAUSES

This permit may be modified, or alternatively revoked and reissued, if a future reallocation of the Total Maximum Daily Load (TMDL), the temperature monitoring requirements, or any other water quality based study of the Androscoggin River performed by EPA, NHDES, and/or the Maine DEP indicate the discharge causes, has the reasonable potential to cause, or contributes to an exceedance of any State water quality criterion. These results may be considered new information under 40 CFR 122.62(a)(2) and the permit may be modified, or alternatively, revoked and reissued to require further study or revised effluent limitations. Any of these additional limits could be expressed in terms of concentration and/or mass where appropriate. Furthermore, should any of these studies result in a revision of the available dilution, current limits based on dilution could be revised.

Additionally, if EPA receives information that the GIPOP oxygenation system is not installed

and operated pursuant to the plan and schedule approved by the Maine DEP, or new information regarding whether oxygenation remains the preferred economic and environmental method for attaining water quality standards, EPA may reopen the permit pursuant to 40 C.F.R. § 122.62, reevaluate whether oxygenation remains the preferred alternative under § 125.3(f), and decide whether Fraser Papers should be required to achieve further effluent reductions.