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"),

Androscoggin Valley Regional Refuse Disposal District (AVRRDD)

is authorized to discharge from a facility located at

AVRRDD Wastewater Treatment Plant
Shelby Street
Berlin, N.H. 03570

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 which authorized the discharge from Outfall 016, issued on June 10, 1992 (NH0000655), last modified on January 21, 1997.

This Permit consists of 24 pages in Part I including effluent limitations, monitoring requirements, and Attachment 1 – Freshwater Acute Test Procedure and Protocol, and 25 pages in Part II including General Conditions and Definitions.

Signed this 25th day of November, 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 effluent from **Outfall 016** (AVRRDD Wastewater Treatment Plant) to the Androscoggin River. This treated effluent consists of landfill leachate from the Mt. Carberry Landfill and storm water runoff and infiltration/inflow (I/I) from the former pulp mill site. This discharge shall be limited and monitored by the permittee as reported below.

Effluent Characteristic	Discharge Limitations				Monitoring Requirements [1]	
	Monthly Average (lbs/day) [4]	Daily Maximum (lbs/day) [4]	Average Monthly (mg/L)	Daily Maximum (mg/L)	Measurement Frequency [9]	Sample Type
Flow	----	----	Report (MGD)	Report (MGD)	Continuous	Recorder
pH [2]	----	----	----	6.5 - 9.0 (SU)	Continuous	Recorder
BOD	46	170	Report	Report	1/Week	Composite [3]
TSS	118	250	Report	Report	1/Week	Composite[3]
Total Phosphorus (June 1-Sept. 30)	Report	11	Report	Report	1/Week	Composite[3]
Ortho-Phosphorus (June 1-Sept. 30)	Report	Report	Report	Report	1/Week	Composite[3]

See pages 5-6 for explanation of footnotes.

Part I.A.1, Continued

Effluent Characteristic	Discharge Limitations				Monitoring Requirements [1]	
	Monthly Average (lbs/day) [4]	Daily Maximum (lbs/day) [4]	Average Monthly (mg/L)	Daily Maximum (mg/L)	Measurement Frequency [9]	Sample Type
Ammonia (as N)	6.5	14.5	Report	Report	1/Week	Composite[3]
α – Terpineol	0.014	0.036	Report	Report	1/Week	Composite[3]
Benzoic Acid	0.064	0.13	Report	Report	1/Week	Composite[3]
ρ – Cresol	0.013	0.027	Report	Report	1/Week	Composite[3]
Phenol	0.014	0.028	Report	Report	1/Week	Composite[3]
Zinc	0.099	0.22	Report	Report	1/Week	Composite[3]

See pages 5-6 for explanation of footnotes.

Part I.A.1, Continued

Effluent Characteristic	Discharge Limitations	Monitoring Requirements [1]	
	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity [5,6]			
Acute LC_{50} (%)[5,7]	Report	1/Quarter	Composite[3]
Hardness (mg/L)[8]	Report	1/Quarter	Composite[3]
Alkalinity (mg/L) [8]	Report	1/Quarter	Composite[3]
pH (SU) [8]	Report	1/Quarter	Composite[3]
Specific Conductance(µmhos/cm)[8]	Report	1/Quarter	Composite[3]
Total Solids (mg/L) [8]	Report	1/Quarter	Composite[3]
Total Ammonia Nitrogen, as N (mg/L) [8]	Report	1/Quarter	Composite[3]
Total Organic Carbon (mg/L) [8]	Report	1/Quarter	Composite[3]
Total Residual Chlorine (mg/L) [8]	Report	1/Quarter	Composite[3]
Dissolved Oxygen (mg/L)[8]	Report	1/Quarter	Composite[3]
Total Cadmium (mg/L)[8]	Report	1/Quarter	Composite[3]
Total Chromium (mg/L) [8]	Report	1/Quarter	Composite[3]
Total Lead (mg/L)[8]	Report	1/Quarter	Composite[3]
Total Copper (mg/L) [8]	Report	1/Quarter	Composite[3]
Total Zinc (mg/L)[8]	Report	1/Quarter	Composite[3]
Total Nickel (mg/L) [8]	Report	1/Quarter	Composite[3]
Total Aluminum (mg/L) [8]	Report	1/Quarter	Composite[3]
Total Magnesium (mg/L)[8]	Report	1/Quarter	Composite[3]
Total Calcium (mg/L) [8]	Report	1/Quarter	Composite[3]

See pages 5-6 for explanation of footnotes.

Footnotes:

1. Effluent samples for Outfall 016 (AVRRDD WWTP) shall be collected at a representative location after final treatment and prior to discharge to the Androscoggin River. Any change in sampling location must be reviewed and approved in writing by EPA and the New Hampshire Department of Environmental Services (NH-DES) prior to making such change.

2. See State Permit Conditions, Part I.C. The permittee may submit a written request to the EPA requesting a change in the permitted pH limit range as described in the Special Conditions section of this permit, Part I.D.2.

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 monthly average loading is calculated by dividing the sum of the daily discharge loadings for the month by the number of sample measurements taken during the month. The daily discharge loading is calculated by using the daily concentration measurement and the concurrent flow value. The maximum daily loading is the highest of these calculated daily loadings. See the NPDES Permit Program Instructions for the Discharge Monitoring Report Forms (DMRs) Report Year 2007, Chapter 3 (pages 2-3) and Attachment C-1, for a discussion of these loading calculations.

5. The permittee shall conduct acute whole effluent toxicity (WET) tests on effluent samples from Outfall 016 using two species, Daphnid (Ceriodaphnia dubia) and Fathead Minnow (Pimephales promelas) following the protocol in **Attachment 1** (Freshwater Acute Toxicity Test Procedure and Protocol) to this permit. The acute toxicity testing is to be completed using an alternate dilution water (previously approved for use in a letter dated December 12, 1995 from EPA to the Gorham mill). 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.

6. 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 the absence of 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 permit.

7. The LC_{50} is defined as the concentration of wastewater (effluent) causing mortality to 50 percent of the test organisms. 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.

8. For each WET test, the permittee shall report on the appropriate Discharge Monitoring Report (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, Total Aluminum, Cadmium, Chromium, Copper, Lead, Nickel, Zinc, Magnesium, and Calcium found in the 100 percent effluent sample. The permittee should note that all chemical parameter results must still be reported in the appropriate toxicity report.

9. The permittee may request a reduction of the monitoring frequency for BOD, TSS, total phosphorus, ortho-phosphorus, ammonia (as N), α – terpineol, benzoic acid, ρ – cresol, phenol, and/or zinc, following one year of samples (and a minimum of four (4) successive samples) which are non-detect (ND) in the discharge from Outfall 016.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1.a. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge treated effluent from **Outfall 016** (AVRRDD Wastewater Treatment Plant) to the Androscoggin River **in the event the discharge from Internal Outfall 002 (stormwater runoff and I/I from the former pulp mill site) has been eliminated**. This treated effluent consists of landfill leachate from the Mt. Carberry Landfill. This discharge shall be limited and monitored by the permittee as reported below.

Effluent Characteristic	Discharge Limitations				Monitoring Requirements [1]	
	Monthly Average (lbs/day) [4]	Daily Maximum (lbs/day) [4]	Average Monthly (mg/L)	Daily Maximum (mg/L)	Measurement Frequency [9]	Sample Type
Flow	----	----	Report (MGD)	Report (MGD)	Continuous	Recorder
pH [2]	----	----	----	6.5 - 9.0 (SU)	Continuous	Recorder
BOD	33	150	Report	Report	1/Week	Composite [3]
TSS	24	95	Report	Report	1/Week	Composite[3]
Total Phosphorus (June 1-Sept. 30)	Report	8.9	Report	Report	1/Week	Composite[3]
Ortho-Phosphorus (June 1-Sept. 30)	Report	Report	Report	Report	1/Week	Composite[3]

See pages 10-11 for explanation of footnotes.

Part I.A.1.a, Continued

Effluent Characteristic	Discharge Limitations				Monitoring Requirements [1]	
	Monthly Average (lbs/day) [4]	Daily Maximum (lbs/day) [4]	Average Monthly (mg/L)	Daily Maximum (mg/L)	Measurement Frequency [9]	Sample Type
Ammonia (as N)	4.4	11	Report	Report	1/Week	Composite[3]
α – Terpineol	0.014	0.036	Report	Report	1/Week	Composite[3]
Benzoic Acid	0.064	0.13	Report	Report	1/Week	Composite[3]
ρ – Cresol	0.013	0.027	Report	Report	1/Week	Composite[3]
Phenol	0.014	0.028	Report	Report	1/Week	Composite[3]
Zinc	0.099	0.22	Report	Report	1/Week	Composite[3]

See pages 10-11 for explanation of footnotes.

Part I.A.1.a, Continued

Effluent Characteristic	Discharge Limitations	Monitoring Requirements [1]	
	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity [5,6]			
Acute LC_{50} (%)[5,7]	Report	1/Quarter	Composite[3]
Hardness (mg/L)[8]	Report	1/Quarter	Composite[3]
Alkalinity (mg/L) [8]	Report	1/Quarter	Composite[3]
pH (SU) [8]	Report	1/Quarter	Composite[3]
Specific Conductance(µmhos/cm)[8]	Report	1/Quarter	Composite[3]
Total Solids (mg/L) [8]	Report	1/Quarter	Composite[3]
Total Ammonia Nitrogen, as N (mg/L) [8]	Report	1/Quarter	Composite[3]
Total Organic Carbon (mg/L) [8]	Report	1/Quarter	Composite[3]
Total Residual Chlorine (mg/L) [8]	Report	1/Quarter	Composite[3]
Dissolved Oxygen (mg/L)[8]	Report	1/Quarter	Composite[3]
Total Cadmium (mg/L)[8]	Report	1/Quarter	Composite[3]
Total Chromium (mg/L) [8]	Report	1/Quarter	Composite[3]
Total Lead (mg/L)[8]	Report	1/Quarter	Composite[3]
Total Copper (mg/L) [8]	Report	1/Quarter	Composite[3]
Total Zinc (mg/L)[8]	Report	1/Quarter	Composite[3]
Total Nickel (mg/L) [8]	Report	1/Quarter	Composite[3]
Total Aluminum (mg/L) [8]	Report	1/Quarter	Composite[3]
Total Magnesium (mg/L)[8]	Report	1/Quarter	Composite[3]
Total Calcium (mg/L) [8]	Report	1/Quarter	Composite[3]

See pages 10-11 for explanation of footnotes.

Footnotes:

1. Effluent samples for Outfall 016 (AVRRDD WWTP) shall be collected at a representative location after final treatment and prior to discharge to the Androscoggin River. Any change in sampling location must be reviewed and approved in writing by EPA and the New Hampshire Department of Environmental Services (NH-DES) prior to making such change. These effluent limitations apply in the event that Internal Outfall 002 (stormwater runoff and I/I from the former pulp mill site) input to the WWTP is eliminated. The effluent limitations for BOD, TSS, phosphorus, and ammonia are based on average monthly and maximum daily leachate flows of 0.108 MGD and 0.13 MGD, respectively.

2. See State Permit Conditions, Part I.C. The permittee may submit a written request to the EPA requesting a change in the permitted pH limit range as described in the Special Conditions section of this permit, Part I.D.2.

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 monthly average loading is calculated by dividing the sum of the daily discharge loadings for the month by the number of sample measurements taken during the month. The daily discharge loading is calculated by using the daily concentration measurement and the concurrent flow value. The maximum daily loading is the highest of these calculated daily loadings. See the NPDES Permit Program Instructions for the Discharge Monitoring Report Forms (DMRs) Report Year 2007, Chapter 3 (pages 2-3) and Attachment C-1, for a discussion of these loading calculations.

5. The permittee shall conduct acute whole effluent toxicity (WET) tests on effluent samples from Outfall 016 using two species, Daphnid (Ceriodaphnia dubia) and Fathead Minnow (Pimephales promelas) following the protocol in **Attachment 1** (Freshwater Acute Toxicity Test Procedure and Protocol) to this permit. The acute toxicity testing is to be completed using an alternate dilution water (previously approved for use in a letter dated December 12, 1995 from EPA to the Gorham mill). 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.

6. 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 the absence of 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 permit.

7. The LC_{50} is defined as the concentration of wastewater (effluent) causing mortality to 50 percent of the test organisms. 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.

8. For each WET test, the permittee shall report on the appropriate Discharge Monitoring Report (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, Total Aluminum, Cadmium, Chromium, Copper, Lead, Nickel, Zinc, Magnesium, and Calcium found in the 100 percent effluent sample. The permittee should note that all chemical parameter results must still be reported in the appropriate toxicity report.

9. The permittee may request a reduction of the monitoring frequency for BOD, TSS, total phosphorus, ortho-phosphorus, ammonia (as N), α – terpineol, benzoic acid, ρ – cresol, phenol, and/or zinc, following one year of samples (and a minimum of four (4) successive samples which are non-detect (ND) in the discharge from Outfall 016.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge effluent from **Outfall 001** (Internal Outfall of Landfill Leachate) to the AVRRDD WWTP prior to final discharge to the Androscoggin River, **during dry weather conditions.** This discharge shall be limited and monitored by the permittee as reported below.

Effluent Characteristic	Discharge Limitations		Monitoring Requirements [1]	
	Average Monthly (mg/L)	Daily Maximum (mg/L)	Measurement Frequency	Sample Type
Flow	Report (MGD)	Report (MGD)	1/Month	Estimate
pH	Report (SU)	Report (SU)	1/Month	Grab
BOD	Report	Report	1/Month	Composite[2]
TSS	Report	Report	1/Month	Composite[2]
Ammonia (as N)	Report	Report	1/Month	Composite[2]
α – Terpineol	Report	Report	1/Month	Composite[2]
Benzoic Acid	Report	Report	1/Month	Composite[2]
ρ – Cresol	Report	Report	1/Month	Composite[2]
Phenol	Report	Report	1/Month	Composite[2]
Zinc	Report	Report	1/Month	Composite[2]

See page 13 for explanation of footnotes.

Footnotes:

1. Effluent samples for Internal Outfall 001 (landfill leachate) shall be collected at a location representative of the discharge, prior to entering the AVRRDD WWTP. Any change in sampling location must be reviewed and approved in writing by EPA and the New Hampshire Department of Environmental Services (NHDES) prior to making such change. Dry weather condition sampling shall be conducted at any time when there is no precipitation and that is at least 48 hours after a storm event that was greater than 0.1 inches in magnitude.

2. 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.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2.a. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge effluent from **Outfall 001** (Internal Outfall of Landfill Leachate) to the AVRRDD WWTP prior to final discharge to the Androscoggin River, **during wet weather conditions**. This discharge shall be limited and monitored by the permittee as reported below.

Effluent Characteristic	Discharge Limitations		Monitoring Requirements [1]	
	Average Monthly (mg/L)	Daily Maximum (mg/L)	Measurement Frequency	Sample Type
Flow	Report (MGD)	Report (MGD)	1/Quarter[2]	Estimate
pH	Report (SU)	Report (SU)	1/Quarter[2]	Grab
BOD	Report	Report	1/Quarter[2]	Grab
TSS	Report	Report	1/Quarter[2]	Grab
Ammonia (as N)	Report	Report	1/Quarter[2]	Grab [2]

See page 15 for explanation of footnotes.

Footnotes:

1. Effluent samples for Internal Outfall 001 (landfill leachate) shall be collected at a location representative of the discharge, prior to entering the AVRRDD WWTP. Any change in sampling location must be reviewed and approved in writing by EPA and the New Hampshire Department of Environmental Services (NHDES) prior to making such change. Samples shall be collected during wet weather conditions. Wet weather conditions mean during a storm event greater than 0.1 inches in magnitude that occurs at least 48 hours from the previously measurable (greater than 0.1 inch rain fall) storm event. The 48-hour interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 48-hour interval is representative of local storm events during the sampling period. The first grab sample shall be taken during the first 30 minutes of discharge. If it is not practicable to take the sample during the first 30 minutes, sample as soon as practicable and describe why a grab sample during the first 30 minutes was impracticable. Submit this information on or with the DMR.

2. Sampling frequency of quarterly is defined as the sampling of one storm event (as defined above in footnote 1) in each quarter. Quarters are defined as the interval of time between the months of: January through March, inclusive; April through June, inclusive; July through September, inclusive, and October through December, inclusive.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

3. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from **Outfall 002** (Internal Outfall of stormwater runoff and infiltration/inflow (I/I) from the former pulp mill site) for treatment in the AVRRDD WWTP, prior to final discharge to the Androscoggin River, **during dry weather conditions.**. 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)	Average Monthly (mg/L)	Daily Maximum (mg/L)	Measurement Frequency	Sample Type
Flow	----	----	Report (MGD)	Report (MGD)	Continuous [4]	Recorder [4]
BOD [3]	Report	Report	Report	Report	Quarterly[2]	Grab
TSS [3]	Report	Report	Report	Report	Quarterly[2]	Grab
Total Phosphorus [3] (June 1-Sept. 30)	Report	Report	Report	Report	Quarterly[2]	Grab
Ortho-Phosphorus [3] (June 1-Sept. 30)	Report	Report	Report	Report	Quarterly[2]	Grab
Ammonia (as N) [3]	Report	Report	Report	Report	Quarterly[2]	Grab
Zinc [3]	Report	Report	Report	Report	Quarterly[2]	Grab

See pages 17 for explanation of footnotes.

Footnotes:

1. Effluent sampling for Internal Outfall 002 (stormwater runoff and I/I from the former pulp mill site) shall be sampled for all parameters prior to mixing with any other wastewater. Any change in sampling location must be reviewed and approved in writing by EPA and the New Hampshire Department of Environmental Services (NH-DES) prior to making such change. Dry weather condition sampling shall be conducted at any time when there is no precipitation and that is at least 48 hours after a storm event that was greater than 0.1 inches in magnitude.

2. Sampling frequency of quarterly is defined as the sampling in each quarter. Quarters are defined as the interval of time between the months of: January through March, inclusive; April through June, inclusive; July through September, inclusive, and October through December,

3. The flow reported for Outfall 002 shall be used to convert the concentration-based measurements to mass-based measurements, with the monthly average flow used to convert the monthly average measurements and the maximum daily flow used to convert the daily maximum measurements.

4. Flow measurements shall be reported continuously via the recorder, if practicable. If access to the flow meter measurements is impracticable, the permittee shall document why, and estimate the flow on a monthly basis.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

3.a. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from **Outfall 002** (Internal Outfall of stormwater runoff and infiltration/inflow (I/I) from the former pulp mill site) for treatment in the AVRRDD WWTP, prior to final discharge to the Androscoggin River, **during wet weather conditions**. 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)	Average Monthly (mg/L)	Daily Maximum (mg/L)	Measurement Frequency	Sample Type
Flow	----	----	Report (MGD)	Report (MGD)	Continuous [4]	Recorder [4]
BOD [3]	Report	Report	Report	Report	Quarterly[2]	Grab
TSS [3]	Report	Report	Report	Report	Quarterly[2]	Grab
Total Phosphorus [3] (June 1-Sept. 30)	Report	Report	Report	Report	Quarterly[2]	Grab
Ortho-Phosphorus [3] (June 1-Sept. 30)	Report	Report	Report	Report	Quarterly[2]	Grab
Ammonia (as N) [3]	Report	Report	Report	Report	Quarterly[2]	Grab
Zinc [3]	Report	Report	Report	Report	Quarterly[2]	Grab

See pages 19 for explanation of footnotes.

Footnotes:

1. Effluent sampling for Internal Outfall 002 (stormwater runoff and I/I from the former pulp mill site) shall be sampled for all parameters prior to mixing with any other wastewater. Any change in sampling location must be reviewed and approved in writing by EPA and the New Hampshire Department of Environmental Services (NH-DES) prior to making such change. Samples shall be collected during wet weather conditions. Wet weather conditions mean during a storm event greater than 0.1 inches in magnitude that occurs at least 48 hours from the previously measurable (greater than 0.1 inch rain fall) storm event. The 48-hour interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 48-hour interval is representative of local storm events during the sampling period. The first grab sample shall be taken during the first 30 minutes of discharge. If it is not practicable to take the sample during the first 30 minutes, sample as soon as practicable and describe why a grab sample during the first 30 minutes was impracticable. Submit this information on or with the DMR.

2. Sampling frequency of quarterly is defined as the sampling of one storm event (as defined above in footnote 1) in each quarter. Quarters are defined as the interval of time between the months of: January through March, inclusive; April through June, inclusive; July through September, inclusive, and October through December, inclusive.

3. The flow reported for Outfall 002 shall be used to convert the concentration-based measurements to mass-based measurements, with the monthly average flow used to convert the monthly average measurements and the maximum daily flow used to convert the daily maximum measurements.

4. Flow measurements shall be reported continuously via the recorder, if practicable. If access to the flow meter measurements is impracticable, the permittee shall document why, and estimate the flow on a monthly basis.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

4. 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 (C.F.R.) §122.62 (a)(2).

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

6. If prior to the expiration date of this permit, EPA receives written notice from the permittee that the Wastewater Treatment Plant will receive new sources of wastewater from new operations, the requirements for Outfall 016 must be revised in a permit modification. Such a permit modification will provide revised effluent limitations and monitoring requirements to reflect the process operations that contribute flow to the plant.

7. The effluent from the facility 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 remain free from pollutants which produce odor, color, taste or turbidity in the receiving water 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 is prohibited from using biocides, including but not limited to pentachlorophenol and trichlorophenol, at the WWTP.

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

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

13. 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 C.F.R.§122.21(g)(7); or

(4) Any other notification level established by the Director in accordance with 40 C.F.R.§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 C.F.R.§122.21(g)(7).

(4) Any other notification level established by the Director in accordance with 40 C.F.R.§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.

14. 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 C.F.R. Part 122.

B. 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

C. STATE PERMIT CONDITIONS

The permittee shall comply with the following conditions which are included as State Certification requirements.

The pH range of 6.5-9.0 S.U. must be achieved in the final effluent unless the permittee can demonstrate to NHDES-WD: (1) that the range should be widened due to naturally occurring conditions in the receiving water, or (2) that the naturally occurring source water pH is unaltered by the permittee's operations. The scope of any demonstration project must receive prior approval from NHDES-WD. In no case, shall the above procedure result in pH limits less restrictive than applicable federal effluent limitation guideline(s) published in the CFRs.

This NPDES Discharge Permit is issued by the EPA under Federal and State 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.

D. SPECIAL CONDITIONS

1. 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 (LC_{50} of 100%) and demonstrate the absence of whole effluent toxicity. Alternatively, if the results are not consistently negative, then the monitoring frequency and testing requirements may remain as is or be increased. 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.

2. 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 landfill leachate, in 40 C.F.R. §445.21 (e.g., 6 to 9 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 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.

E. 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.

Response to Comments on Draft National Pollutant Discharge Elimination System (NPDES) Permit No. NH0023523 – Androscoggin Valley Regional Refuse Disposal District (AVRRDD) – Berlin, NH.

Introduction:

In accordance with the provisions of 40 C.F.R. §124.17, this document presents EPA's responses to comments received on the draft NPDES permit for AVRRDD Wastewater Treatment Plant (NH0023523). The responses to comments explain and support the EPA determinations that form the basis of the final permit. The AVRRDD draft permit public comment period began July 30, 2008 and ended August 28, 2008. Comments were received on the draft permit from AVRRDD and New Hampshire Department of Environmental Services (NHDES). In addition, AVRRDD submitted additional information after the close of the comment period, which EPA has added to the administrative record. Finally, on November 7, 2008, EPA and NHDES personnel met with representatives of AVRRDD.

The final permit is substantially identical to the draft permit that was available for public comment. Although EPA's knowledge of the facility has benefited from the various comments and additional information submitted, the information and arguments presented did not raise any substantial new questions concerning the permit. EPA did, however, make certain clarifications in response to comments. These improvements and changes are detailed in this document and reflected in the final permit. A summary of the changes made in the final permit is listed below. The analyses underlying these changes are explained in the responses to individual comments that follow.

Changes in Final Permit:

1. Part I.A.3 and Part I.A.3.a have been added to the permit to require dry weather monitoring and wet weather monitoring, respectively, of the stormwater runoff and infiltration/inflow (I/I) flow from the former pulp mill site to the WWTP for flow, BOD, TSS, phosphorus, ammonia, and zinc.

2. The effluent limitations in Part I.A.1 have been increased to take into consideration the BOD, TSS, phosphorus, and ammonia contributions from the stormwater runoff and I/I from the former pulp mill site, as well as the revised average monthly and maximum daily leachate flows of 0.108 MGD and 0.13 MGD, as follows:

	Average Monthly (lbs/d)	Daily Maximum (lbs/d)
BOD	46	170
TSS	118	250
Phosphorus	Report	11
Ammonia	6.5	14.5
α-terpineol	0.014	0.036
Benzoic Acid	0.064	0.13
ρ-cresol	0.013	0.027
Phenol	0.014	0.028
Zinc	0.099	0.22

3. Table I.A.1.a has been added to the permit in the event that the discharge of stormwater runoff and I/I flow from the former pulp mill site to the WWTP is eliminated. The effluent limitations in Table I.A.1.a for BOD, TSS, phosphorus, and ammonia have been reduced (from the values in Table I.A.1) to allocations based solely on leachate discharge. Changes to Table I.A.1 noted in items 4,5,6,7,8, and 15 also have been made in Table I.A.1.a.

4. Part I.A.1, the measurement frequency for pH has been changed from "1/month" to "continuous."

5. Part I.A.1, the pH range has been changed to 6.5 – 9.0 SU as a result of the demonstration study approved by NHDES.

6. Part I.A.1, footnote 9, has been added to the permit as follows:
   The permittee may request a reduction of the monitoring frequency for BOD, TSS, total phosphorus, ortho-phosphorus, ammonia (as N), α – terpineol, benzoic acid, ρ – cresol, phenol, and/or zinc, following one year of samples (and a minimum of four (4) successive samples) which are non-detect (ND) in the discharge from Outfall 016.

7. Part I.A.1, footnote 6, has been replaced with the following language:
   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 the absence of 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.

8. Part I.A.1, footnote 4 of the permit has been revised as follows:
   The monthly average loading is calculated by dividing the sum of the daily discharge loadings for the month by the number of sample measurements taken during the month. The daily discharge loading is calculated by using the daily concentration measurement and the concurrent flow value. The maximum daily loading is the highest of these calculated daily loadings. See the NPDES Permit Program Instructions for the Discharge Monitoring Report Forms (DMRs) Report Year 2007, Chapter 3 (pages 2-3) and Attachment C-1, for a discussion of these loading calculations.

9. Part I.A.2 of the permit has been revised for clarification purposes as follows:
   During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge effluent from **Outfall 001** (Internal Outfall of Landfill Leachate) to the AVRRDD WWTP prior to final discharge to the Androscoggin River. This discharge shall be limited and monitored by the permittee as reported below.

10. The Table in Part I.A.2 of the permit has been changed to clarify that the flow shall be estimated on a monthly basis. The measurement frequency has been changed from "continuous" to "1/month."

11. Part I.A.2 of the permit, footnote 1, has been clarified to state:

> Effluent samples for Internal Outfall 001 (landfill leachate) shall be collected at a location representative of the discharge, prior to entering the AVRRDD WWTP. Any change in sampling location must be reviewed and approved in writing by EPA and the New Hampshire Department of Environmental Services (NHDES) prior to making such change.

12. Tables I.A.2.a and I.A.3.a have been added to require wet weather sampling of Outfall 001 and Outfall 002, respectively. The following condition has also been added to footnote 1 in Tables I.A.2.a and I.A.3.a:

> Samples shall be collected during wet weather conditions. Wet weather conditions mean during a storm event greater than 0.1 inches in magnitude that occurs at least 48 hours from the previously measurable (greater than 0.1 inch rain fall) storm event. The 48-hour interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 48-hour interval is representative of local storm events during the sampling period. The first grab sample shall be taken during the first 30 minutes of discharge. If it is not practicable to take the sample during the first 30 minutes, sample as soon as practicable and describe why a grab sample during the first 30 minutes was impracticable. Submit this information on or with the DMR.

13. All footnotes defining composite samples (Part I.A.1, footnote 3; Part I.A.1.a, footnote 3; Part I.A.2, footnote 2; and Part I.A.3, footnote 2 now state:

> 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.

14. The first sentence of footnote 1, Part I.A.1, has been revised from, "Effluent sampling for Outfall 016 (AVRRDD WWTP) shall be sampled for all parameters after final treatment and prior to mixing with the river or any other discharges from the former Burgess Pulp Mill on a year-round basis" to "Effluent samples for Outfall 016 (AVRRDD WWTP) shall be collected at a representative location after final treatment and prior to discharge to the Androscoggin River."

15. Part I.A.1 of the permit, footnote 5, has been changed to allow the permittee use of an alternate dilution water, previously approved for use in a letter dated December 12, 1995 from EPA to the Gorham mill.

16. The text in Part I.E, Reopener Clauses, has been revised as follows:

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.

SUMMARY OF COMMENTS:

1.0 STORMWATER

1.1 NHDES COMMENT:

Page 2, stormwater from pulp mill site as component of outfall 016. In the Fact Sheet (Section C on page 13) it is reported that the stormwater from the pulp mill site is not subject to effluent limitations or best management practices since it is not "associated with industrial activity." It is further reported that if further evidence becomes available that the stormwater is "associated with industrial activity," or EPA determines that it causes or contributes to a water quality violation, that the permit may be modified to regulate the discharge of stormwater. EPA should consider adding a permit condition to eliminate the stormwater from the treatment facility or to monitor the flow and quality of the stormwater so that the above questions can be answered. If the stormwater can't be eliminated EPA should also consider requiring the owner of the pulp mill site to be a co-permittee.

1.2 AVRRDD COMMENT:

Pages 2-6. Effluent Limitations and Monitoring Requirements. The proposed effluent limitations and monitoring are for treated effluent from the Mt. Carberry Landfill and stormwater flows from the former pulp mill site now owned and operated by NADC. As highlighted above, we have several concerns with the calculation of the monthly average and daily maximum discharge limitations proposed.

The discharge limits outlined in the draft Permit are inappropriately based solely on the flows and technology-based standards for the leachate, and water quality criteria for phosphorus. There is no allocation of pollutant loadings associated with the stormwater. We request that the effluent limitations be adjusted to reflect the additional loads associated with the stormwater. The stormwater, which is generated by and managed by NADC, not the District, should be monitored separately and subject to best management practices for stormwater.

Accordingly, the final Permit needs to include an allocation for pollutant loadings associated with the NADC stormwater in the calculation of Monthly Average and Daily Maximum values. For instance, the proposed BOD5 Daily Maximum is now calculated as: (0.05 MGD * 8.34 * 140 mg/L) + (max. stormwater Q * 8.34 * max. stormwater BOD5). This calculation is complicated by the uncertainty regarding the quantity of stormwater flows, and thus what design storm and what runoff concentration to assume. Such an analysis will require further characterization of the stormwater runoff by NADC to establish a reasonable maximum stormwater flow (assuming a 100-year design storm) and concentrations for BOD5, TSS and nutrients, at a minimum. We request that the stormwater runoff be monitored only until a better characterization of this waste stream can be attained.

1.3 AVRRDD COMMENT:

Page 13 of the Fact Sheet. Description of Discharge. The Fact Sheet states that the stormwater from the former pulp mill site is not the subject of effluent limits or best management practices (since the stormwater is not currently associated with industrial activities). As discussed above, we believe that the stormwater should be included as part of the effluent limitations for the WWTP.

1.4 AVRRDD COMMENT:

Assuming arguendo that U.S.EPA concludes that Part 445 does apply to the District, which we do not concede, we also provide the following technical comments regarding both the draft Permit and the associated Fact Sheet. In this section, we first provide several key, overarching comments, and then point-by-point comments with specific references to the draft Permit and Fact Sheet.

The draft Permit is for effluent consisting of (1) landfill leachate from Mt. Carberry landfill that is owned and operated by the District and (2) stormwater runoff and infiltration/inflow (I/I) from the former pulp mill site, which is now owned and operated by NADC. The discharge limits outlined in the draft Permit, however, are based solely on the flows and technology-based standards for the leachate, and water quality criteria for phosphorus. There is no allocation of pollutant loadings associated with the stormwater.

Although the former pulp mill site is not currently active, because of the lengthy history of prior industrial activities at the site, it is likely that the stormwater contains concentrations of BOD5, total suspended solids (TSS), and nutrients (nitrogen and phosphorus). Given the significantly higher stormwater flows, in comparison to the leachate flows (particularly for daily maximum conditions), the combined effluent pollutant loadings will undoubtedly exceed the proposed pollutant loadings listed in the draft Permit. As a result, the District, as the permit holder, is being held responsible for the flows and pollutant loadings that originate from the former pulp mill site, owned by NADC.

Accordingly, as is typical for stormwater, the flow from the NADC site should be monitored and fully characterized (based on a 100-year storm event) by NADC as a separate waste stream in accordance with best management practices, and the District

should receive credit in permitted effluent limitations for the pollutant loads in that stormwater.

1.1 – 1.4 RESPONSE:
EPA cannot confirm evidence at this time that indicates the current operations at the former pulp mill discharge storm water associated with industrial activities as defined in 40 CFR 122.26(b)(14)(i)-(xi). Therefore, storm water discharge from the former pulp mill site does not require a NPDES permit at this time and EPA has not included NADC as a co-permittee. If further evidence becomes available to form the basis of an EPA conclusion that the storm water discharge from the former pulp mill site is associated with industrial activity, or if the discharge causes or contributes to a water quality violation, a National Pollutant Discharge Elimination System (NPDES) permit will be required. Both NHDES and AVRRDD recommended monitoring the stormwater from the NADC site in order to characterize the stormwater discharge. EPA agrees and therefore has added a requirement to the permit to monitor the internal outfall discharging stormwater from the former pulp mill site (Outfall 002), prior to entering the AVRRDD WWTP. Therefore, Part I.A.3 of the final permit requires monitoring of flow, BOD, TSS, phosphorus, ammonia, and zinc at a frequency of 1/quarter. Additionally, wet weather monitoring shall be required in Part I.A.3.a. to characterize the variability in dry weather and wet weather flows. (See also Response to Comment 7.7.) These results may be used in the future to adjust the mass-based effluent limitations for the discharge from the WWTP, if necessary. The monitoring results also may be used to determine if the stormwater runoff and I/I is causing or contributing to a WQ violation in the event that the results show high levels of BOD, TSS, ammonia and/or phosphorus in the discharge.

EPA does not expect the levels of BOD, TSS, and nutrients in the stormwater from the former pulp mill site to contribute significantly to overall levels in the discharge from the WWTP. Concentrations of BOD, TSS, ammonia, and phosphorus in stormwater have been characterized in *The National Stormwater Quality Database (NSQD), Version 1.1*.[1] Table 3 of the NSQD summarizes stormwater pollutant loads as derived in this extensive compilation of stormwater monitoring data. The average concentrations of constituents in stormwater runoff from "mixed open spaces" is 0.31 mg/L phosphorus, 0.51 mg/L ammonia, 6.0 mg/L BOD, and 78.0 mg/L TSS.

However, the estimated stormwater contributions are for untreated stormwater. The stormwater from the former pulp mill which enters the AVRRDD WWTP undergoes beneficial treatment in a sedimentation basin, which is expected to sufficiently reduce the concentrations of BOD and TSS. Specifically, settling in the 3.6 million gallon south lagoon is expected to result in a BOD removal of 49% at peak flow and 50% at average flow (assuming a peak flow of 1.20 MGD and an average flow of 0.73 MGD into the WWTP, and calculating a peak detention time of 72 hours and an average detention time of 117.6 hours).[2] This calculates to a reduction in BOD concentration (for "mixed open spaces" due to treatment in a sedimentation basin) from 6.0 mg/L to a 2.9 mg/L

[1] Pitt, R., and A. Maestre and the Center for Watershed Protection. 2005. The National Stormwater Quality Database, Version 1.1: A Compilation and Analysis of NPDES Stormwater Monitoring Information. Prepared for the U.S. EPA Office of Water, September 4.
[2] Wastewater Engineering, Treatment and Reuse. Metcalf & Eddy, Inc. - 4th ed.

maximum concentration and a 3.0 mg/L average concentration. Settling in the south lagoon is expected to result in TSS removal of 71% at both peak and average flow rates (assuming a peak flow of 1.20 MGD and an average flow of 0.73 MGD into the WWTP, and calculating a peak detention time of 72 hours and an average detention time of 117.6 hours).[2] This calculates to a reduction in TSS concentration (for "mixed open spaces" due to treatment in a sedimentation basin) from 78.0 mg/L to 22.6 mg/L for both average and maximum TSS concentrations.

Since the flow from the former pulp mill site is not directly monitored at this time, an estimation of the flow was calculated as the difference between the flow from the WWTP (Outfall 016) minus the landfill leachate flow (Outfall 001). The permittee expects that the actual peak daily flows are about 10 – 20 percent higher than the calculated difference. Therefore, based on the data provided by the permittee and a 20% increase to estimate the peak stormwater flow, EPA estimates the maximum stormwater flow is 0.82 MGD and the average stormwater flow is 0.50 MGD. Using these flows and the concentrations of constituents expected in treated stormwater runoff from "mixed open space" in the NSQD (as discussed above), the BOD loading is approximately 20 lbs/day maximum and 13 lbs/day average. The TSS loading is approximately 155 lbs/day maximum and 94 lbs/day average. The concentrations of phosphorus and ammonia expected in stormwater runoff from "mixed open space" in the NSQD based on the estimated stormwater flows are 2.1 lbs/day maximum and 1.3 lbs/day average phosphorus concentration and 3.5 lbs/day maximum and 2.1 lbs/day average ammonia concentration.

EPA agrees with the commenter that the BOD, TSS, phosphorus, and ammonia effluent limitations in the final permit should take into consideration the estimated stormwater loadings. Therefore, the final permit requires mass-based effluent limitations for the discharge through Outfall 016 based on the ELGs for landfill leachate and the estimated stormwater contribution, as outlined below (See response to comments 6.1 – 6.3 for a detailed discussion concerning phosphorus):

	ELG based Monthly Ave Limit (lbs/day) [(1)]	Estimated SW Monthly Ave Contribution (lbs/day) [(3)]	Final Monthly Ave Limit (lbs/day) [(2)]	ELG based Max Daily Limit (lbs/day) [(1)]	Estimated SW Max Daily Contribution (lbs/day) [(3)]	Final Max Daily Limit (lbs/day) [(2)]
BOD	33	13	46	150	20	170
TSS	24	94	118	95	155	250
NH_3	4.4	2.1	6.5	11	3.5	14.5

1. Based on landfill leachate average monthly and maximum daily flows of 0.108 MGD and 0.13 MGD, respectively.
2. In the event that the stormwater input to the WWTP from the former pulp mill is discontinued, the effluent limitations shall be reduced to effluent limitations based on the ELGs for landfill leachate.
3. Based on estimated stormwater average monthly and maximum daily flows of 0.50 MGD and 0.82 MGD, respectively.

BOD, TSS, and phosphorus discharges must also satisfy New Hampshire and Maine water quality standards. In Maine, the discharge of all three pollutants is subject to an EPA-approved TMDL for the Androscoggin River and Gulf Island Pond (GIP), including an allocation assumed for the original combined Fraser Papers facility. Since Maine does not have the authority to impose an allocation on an out-of-state source, the waste load allocation assumed for Fraser Papers in Maine's Androscoggin River TMDL does not apply to New Hampshire facilities by virtue of the TMDL itself, but EPA finds that the waste load allocations assumed for the original combined Fraser Papers facility in the TMDL (as modified by the terms of EPA's approval) generally represent a reasonable analysis of the maximum BOD, TSS, and phosphorus that can be discharged by Fraser Papers and AVRRDD combined, consistent with the Maine WQS (and will attain NH WQS as well).

In the development of the draft permits for Fraser Papers (NPDES Permit No. NH0000655) and AVRRDD, EPA assumed that AVRRDD would discharge the full amount allowed by the landfill ELG, and derived technology-based BOD, TSS and phosphorus limits for AVRRDD based on the landfill ELGs. EPA then subtracted these technology-based effluent limits from the TMDL allocation for the original combined facility, then allotted 90% of the remaining TMDL allocation to Fraser Papers for the discharge from its facility.[3] Therefore, in order to ensure that the water quality standards are met in GIP, the combined total TMDL waste load allocation must be retained. Since 10% was withheld based on the principle that water quality requirements should be met by reducing effluent limits when possible, as opposed to the use of "non-treatment" techniques (40 C.F.R. §125.3(f)), this leaves an additional allocation of 14 lbs/day phosphorus, 1016 lbs/day monthly average BOD and 1144 lbs/day maximum daily BOD. To ensure the TMDL combined wasteload allocation monthly average TSS is not exceeded, this leaves 1339 lbs/day monthly average TSS. The effluent limitations outlined above for BOD and TSS are well below this potential additional allocation and thus ensure compliance with water quality standards in GIP as reflected in the TMDL. (See response to comments 6.1 – 6.3 for a detailed discussion concerning phosphorus and the TMDL.)

In the event that the stormwater input to the WWTP from the former pulp mill is discontinued, the adjusted effluent limitations for BOD, TSS, phosphorus, and ammonia shall be reduced to effluent limitations based on the contributions from landfill leachate, as noted in footnote 2 to the above table. This has also been added to the permit at Part I.A.1.a.

2.0 pH

2.1 NHDES COMMENT:

[3] EPA withheld 10% of the remaining TMDL allocation (i.e., only allotted 90% to Fraser Papers) consistent with the principle that the TMDL should be met by reducing effluent limits whenever possible, as opposed to the use of "non-treatment" techniques such as the Gulf Island Pond oxygenation system. *See* 40 C.F.R. § 125.3(f). Because AVRRDD has not proposed to meet effluent limits via non-treatment techniques, this principle does not require reducing AVRRDD's share of the allocation by 10%.

Page 2, pH monitoring requirements. The pH sample type should be grab. Or, if continuous recording is desired the measurement frequency should be "continuous."

2.1 RESPONSE:
Continuous recording of the pH is desired, therefore the measurement frequency in the permit has been changed from "1/month" to "continuous."

2.2 AVRRDD COMMENT:

The pH of the leachate flowing from the landfill is typically in the 7.0 to 7.5 range. As the leachate cascades down the pipeline from the landfill to the WWTP, nearly 2 miles, the leachate is aerated and the carbon dioxide gas that is entrained in the leachate is driven into the atmosphere. The release of the carbon dioxide (an acid) from the leachate has the net result of increasing the pH of the leachate which on occasion can exceed the proposed pH standard of 8.0.

The District requests a revision in the permitted pH limit range as part of the water quality certification from the New Hampshire Department of Environmental Services (NHDES) that would be consistent with the range contemplated in Part 445 (that is, 6.0-9.0 Standard Units) because a discharge with a dilution factor of more than 5,000 to 1 will have little or no impact in-stream. According to the publicly-available data recently filed with the U.S.EPA by Fraser Papers NH, additional alkalinity of the river will have no adverse impact to the water quality, as it buffers to some extent which is historically low pH in the receiving waters. See Exhibit F. It is important to recognize with regard to pH that there is rapid and complete mixing of the WWTP's effluent within less than 500 feet from the outfall, as the result of flowing through the turbines of the Cross Power hydro station.

If NHDES cannot issue the certification in a timely manner on this basis, we request either that the District be granted a monitoring-only requirement until such time as the NHDES acts upon the request or until the end of the 48-month compliance schedule.

2.3 AVRRDD COMMENT:

Page 12. Special Condition 2. As discussed above, we request a modification of the pH range for this permit to between 6 and 9 Standard Units, or, at the least, a monitoring-only requirement.

2.4 AVRRDD COMMENT:

Page 14 of the Fact Sheet. pH Range. As noted, the District requests a modification of pH to the federal standard of 6 to 9, or a monitoring-only requirement.

2.2 – 2.4 RESPONSE:
The pH range in the draft permit of 6.5- 8.0 SU is a State Water Quality Standard and was included in the draft permit as required for State Certification. The pH requirement is outlined in Part I.C of the permit, State Permit Conditions, as follows:

> The pH range of 6.5-8.0 S.U. must be achieved in the final effluent unless the permittee can demonstrate to NHDES-WD: (1) that the range should be widened

due to naturally occurring conditions in the receiving water, or (2) that the naturally occurring source water pH is unaltered by the permittee's operations. The scope of any demonstration project must receive prior approval from NHDES-WD. In no case, shall the above procedure result in pH limits less restrictive than applicable federal effluent limitation guideline(s) published in the CFRs.

However, the permit includes a Special Condition, in Part I.D.2 of the permit, to allow for pH limit adjustment, as follows:

> 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 landfill leachate, in 40 C.F.R. §445.21 (e.g., 6 to 9 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 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.

AVRRDD submitted a letter report dated October 30, 2008 to NHDES, which included a pH demonstration study completed on October 24, 2008. On November 4, 2008 AVRRDD submitted to EPA a determination letter from NHDES stating that based on the pH demonstration study, if the pH maximum limits for Outfall 018 are increased to 9.0 SU, NHDES believes that the ambient pH standard range of 6.5 to 8.0 SU in the Androscoggin River will be met. Therefore the pH range in the final permit for Outfall 016 has been changed to 6.5 – 9.0 SU as a result of the demonstration study approved by NHDES.

3.0 PART 445 DOES NOT APPLY

3.1 AVRRDD COMMENT:

AVRRDD believes that a discussion of the background regarding the District's acquisition and operation of the WWTP is critical to proper NPDES permitting for the facility.

The District is a municipal entity that was formed among ten member municipalities for the purpose of addressing solid waste disposal and recycling needs. *See* Exhibit A (Articles of Agreement); Exhibit B (Certification by Secretary of State of Incorporation). Pursuant to NHRSA 53-B, "Regional Refuse Disposal Districts," "municipalities may join together by formal agreement…to create a separate authority for the management of solid waste," known as a solid waste management district. *See* NHRSA 53-B:1-a. The term "management" of solid waste specifically includes

"treatment." *See* NHRSA 53-B:2, IX. A district incorporated under this statute is a "body politic and corporate and a political subdivision and public instrumentality of the state carrying out a public purpose and an essential governmental function." *See* NHRSA 53-B:7, I.

The District acquired the Mt. Carberry Landfill on December 30, 2002 from Fraser, NH LLC, which, at the time, operated pulp and paper mills in Berlin and Gorham, New Hampshire. The landfill was constructed in 1989 primarily to provide a proper disposal site for pulp and paper mill sludges, ash, lime, grit, and other pulp and paper mill solid wastes from the associated mills. From the date of initial startup through 2002, the waste accepted at the Mt. Carberry Landfill was predominantly pulp and paper mill wastes. For example, throughout the 1990's, the contribution of municipal solid wastes represented is in the range of only 5 percent of the total tons delivered to the landfill. *See* Exhibit C (Summary of Tons Delivered by Category).

As part of the District's purchase of the Landfill, Fraser agreed to accept the leachate from the Landfill free of charge at its wastewater treatment plant. On March 27, 2006, however, Fraser notified the District that it would not be able to treat the leachate because the pulp mill was being closed. Ultimately, the District purchased the WWTP on October 1, 2007.

After acquiring the Mt. Carberry Landfill in 2002, the District slowly began to accept more municipal and commercial solid waste at the facility, increasing steadily from 2002 until the pulp mill in Berlin shut down in 2006. The leachate generated by the Mt. Carberry landfill is therefore fundamentally different from a municipal solid waste landfill in that it is primarily from pulp and paper mill waste from an industrial facility. Currently, 79 percent of the waste at the Mt. Carberry Landfill is directly related to pulp and paper mill solid waste contributions. *See* Exhibit C.

The former pulp mill WWTP, an aerated lagoon facility, was originally designed for the treatment and removal of, among other things, heavy loads of biochemical oxygen demand (BOD5) and total suspended solids (TSS) from a pulp mill waste stream. During previous permitting actions, Part 445 was inapplicable to the WWTP because Fraser was instead subject to the effluent limitation guideline (ELG) for the pulp and paper subcategory (40 C.F.R. Part 430). *See* 40 C.F.R. §445.1(e) (Part 445 is not applicable to discharges from landfills operated in conjunction with other industrial operations).

Although the Fact Sheet now provides that the Landfill is subject to Part 445, the waste at Mt. Carberry Landfill is still of a nature similar to waste generated by industrial or commercial operations. The leachate charateristics are thus significantly different from leachate from the non-industrial, non-commercial operations that are intended to be regulated under Part 445. It is obvious when analyzing the leachate characteristics that the Mt. Carberry leachate has greater BOD5, chemical oxygen demand (COD), and ammonia than a typical non-hazardous, non-industrial/non-commercial landfill operation would have. For instance, the range of median concentrations for BOD5, COD and ammonia established by U.S.EPA for untreated

leachate from this category of landfills are 67 to 240 mg/L, 994 to 1,100 mg/L and 75 to 82 mg/L, respectively. See Development Document for Final Effluent Limitations Guidelines and Standards for the Landfills Point Source Category, U.S.EPA-821-R-99-019, at Table 5-2, January 2000. These values are much lower than the untreated Mt. Carberry leachate, which has BOD5 concentrations of 1,800 mg/L, COD values of 3,100 mg/L, and ammonia levels in excess of 200 mg/L. Because of the original use of the Mt. Carberry Landfill, its leachate is not representative of Part 445 landfills, and, as a result, the best practicable control technology currently available (BPT) limits and best available technology economically achievable (BAT) provided in Subpart B are not currently achievable.

Given this background, we do not believe that Part 445 applies to the former pulp mill WWTP at all, and submit that the draft Permit must be substantially revised to include the proper effluent limitations. In the alternative, given that this WWTP was never intended to meet the kinds of effluent limitations in Part 445, the District will require a compliance schedule to provide time to come into compliance. Each of these issues will be addressed in greater detail below.

3.2 AVRRDD COMMENT:

As an initial matter, the waste in the Mt. Carberry Landfill is fundamentally different that in landfills to which Part 445 applies. It is important to recognize that Part 445 specifically excludes discharges of landfill wastewater from landfills operating in conjunction with other industrial operations either directly or indirectly, provided the wastes received are of a similar nature to the waste generated by the industrial operation. *See* 40 C.F.R. §445.1(f). As discussed above, 79 percent of the waste in the landfill is attributable to a pulp and paper mill waste stream, and is industrial in nature. Thus, the landfill ELG does not apply to this facility.

Additionally, despite U.S. EPA's request that the District not submit Form 2A as part of its application materials, it is clear that the WWTP is now a publicly owned treatment works (POTW), and, as a result, even if Part 445 were applicable, the effluent limitations in Part 445.21 would not apply. Rather, the pretreatment standards of Part 403 are applicable, along with technology based standards developed through best professional judgment (BPJ). See 40 C.F.R. §445.3 (sources that discharge to a POTW must meet pretreatment standards in Part 403).

The definition of a POTW is a "treatment works as defined by section 212 of the Act, which is owned by a State or municipality (as defined by section 502(4) of the Act." 40 C.F.R. 122.2 (referring to §403.3). Taking each of these elements individually, Section 212 of the Clean Water Act first states that "treatment works" means "any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature." *See* 33 U.S.C. §1292(2)(A). Next, a "municipality" under section 502(4) of the Clean Water Act includes a "public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes." See 33 U.S.C. §1362(4). Accordingly, given that (1) the former pulp mill WWTP treats industrial wastes or a

liquid nature, and (2) that the District is a public body created under state law with jurisdiction over wastewater treatment, the WWTP here is a POTW.

As a result, we do not believe that the effluent limitations in Part 445.21 apply to the WWTP. The Mt. Carberry Landfill does not discharge directly to the Androscoggin River, or even to a treatment plant solely dedicated to treating its leachate, and therefore Part 445 does not apply. *See* 40 C.F.R. §445.3. The WWTP treats both landfill leachate from the Mt. Carberry Landfill and stormwater runoff from an industrial site owned and operated by a separate entity, the North American Dismantling Corporation (NADC).

Rather, the Mt. Carberry Landfill is a discharger to a POTW, and therefore the treatment-based standards to apply should reflect the characteristics of the effluent. For example, we believe that U.S.EPA has the authority to craft and apply appropriate BPJ limitations that account for the unusual nature of the waste stream, the cost to employ additional treatment, and the current state of the WWTP. We would also request, depending upon the final limitations, an appropriate time period to ensure that the WWTP will be in compliance with the new requirements.

3.3 AVRRDD COMMENT:

The draft Permit has averaged the landfill leachate flows provided in the District application and used the calculated number (0.043 MGD rounded to 0.05 MGD or 35 gpm) for determining the mass-based limitations. Over the past year, we have collected the daily leachate flow from the Mt. Carberry Landfill. A tabulation of the data, which is set fourth immediately below, shows that the leachate flows are at or below 35 gpm for only 67 percent of the time. The actual leachate flow is dependent upon a number of variables, including the operating practices that define open space areas and cover, depth of fill, compaction, types of wastes, age of landfill, and amount of precipitation and snowmelt. Our analysis indicates a higher leachate flow in the future in comparison to the average value of 75 gpm, which falls within 86 percent of the current daily flow values. As a result of the projected operations at the Landfill and the analyses noted above, we project that the average landfill leachate flow will be about 75 gpm (0.108 MGD) and a 20 percent maximum daily flow of 90 gpm or 0.13 MGD). Assuming that Part 445 even applies, we believe the appropriate flows that should be incorporated into the draft Permit are the average and maximum daily flows noted above, and the corresponding lbs/day values in Table 1 should be revised as follows:

BOD5	Monthly Avg.:	33.3 lbs/d	Daily Maximum:	152 lbs/d
TSS	Monthly Avg.:	24.3 lbs/d	Daily Maximum:	95 lbs/d

As previously noted the Mt. Carberry Landfill leachate is fundamentally different from the non-industrial, non-commercial leachate characterized by U.S.EPA as the basis of Part 445. As a result, the BOD5, TSS, COD, and ammonia levels in the leachate are much higher than those projected by U.S.EPA. These elevated concentrations have a matrix impact on the treatability of other priority and non-conventional pollutants, such as ammonia, α-terpineol, benzoic acid, cresol, ρ-phenol and zinc. For this reason, we request that the effluent limitations for these

compounds be based on the effluent limitations that are achievable by the existing treatment technologies at the former pulp mill WWTP rather than the effluent limits determined by U.S.EPA that are based on much lower (diluted) leachate.

To make the testing reflective of the minimal and consistent levels of total phosphorus, ortho-phosphorus, ammonia, α-terpineol, benzoic acid, ρ-cresol, phenol, and zinc in the waste stream, and the consistent treatment to be provided by the BPT technology, we request that the Permit provide that if there are no violations after the first quarter, then the measurement frequency for these effluent limitations automatically be revised to once per quarter, and if there are no violations after a full year of testing, that they automatically expire.

For the same reasons that we need a 48-month compliance schedule, as discussed above, we also request that the schedule for WET testing be revised to require annual testing during the first four years of the Permit and then quarterly testing for the final year of the Permit.

3.1 – 3.3 RESPONSE:
1. AVRRDD is subject to 40 C.F.R. Part 445

40 C.F.R. Part 445 is the Clean Water Act's effluent limitation guideline for landfills. As a general matter, Part 445 applies to "discharges of wastewater from landfill units," 40 C.F.R. § 445.1(a), and Part 445 Subpart B in particular applies to "discharges of wastewater from landfills subject to the provisions of 40 CFR part 258, Criteria for Municipal Solid Waste Landfills; and 40 CFR part 257, Criteria for Classification of Solid Waste Disposal Facilities and Practices," 40 C.F.R. § 445.20.

The previous permit was issued in 1992, eight years before Part 445 was promulgated and while the landfill was still part of a pulp and paper mill operation. As of 1992, the most municipal waste the landfill had ever accepted in one year was 1% municipal waste. Even since the last permit modification in 1997, the most municipal waste the landfill had accepted in one year was 6% municipal waste. However, as stated by the District, it began to accept more municipal and commercial solid waste at the landfill after it purchased it in 2002, increasing steadily until 2006. Although the District claims that 79% of the waste in the Mt. Carberry Landfill is directly related to pulp and paper mill solid waste contributions, more than half of the waste the landfill is currently accepting is municipal waste (53%), while the remaining portion is industrial waste (47%). AVRRDD has provided no indication that it plans on changing this allocation, which has been relatively stable since 2003.

The District argues that it is exempted from the requirements of Part 445 under the following provision:

> This part does not apply to discharges of landfill wastewater from landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes generated by the industrial or commercial operation directly associated with the landfill and also receives other wastes provided the other wastes received for disposal are generated by a facility that is subject to the

> same provisions in 40 CFR subchapter N as the industrial or commercial operation or the other wastes received are of similar nature to the wastes generated by the industrial or commercial operation.

40 C.F.R. § 445.1(f). However, this exception does not cover AVRRDD. The District now receives two types of waste: (1) industrial waste from Fraser Papers, an entirely separate entity, pursuant to a contractual agreement, and (2) municipal and commercial waste from other facilities. Even assuming *arguendo* that AVRRDD's landfill is "operated in conjunction with other industrial or commercial operations" and that Fraser Papers could be fairly described as "directly associated with the landfill," the proviso at the end of the sentence is not met. The record contains no evidence suggesting that the "other" (municipal and commercial) wastes that AVRRDD receives are "generated by a facility that is subject to the same provisions in 40 CFR subchapter N as the industrial or commercial operation" or that those "other" wastes "are of similar nature to the wastes generated by the industrial or commercial operation." Specifically, the record contains no evidence suggesting that the "other wastes" are generated by a pulp or paper mill subject to 40 C.F.R. Part 430, or that the municipal waste currently accepted at the landfill is of a "similar nature" to the pulp and paper mill solid waste. Therefore, section 445.1(f) does not apply to the landfill.

The fact that the landfill was *formerly* a captive industrial landfill and might have qualified under the exception of 40 C.F.R. § 445.1(e) is irrelevant. The exemptions in 40 CFR §§ 445.1(e)-(f) are written in the present tense; they turn on what type of waste the facility currently "receives," not what it "received" in years past.

Moreover, the rulemaking history of Part 445 does not support an expansive interpretation of these exceptions. The proposed rule exempted captive landfills operated in conjunction with other industrial or commercial operations which only receive waste from off-site facilities under the same corporate structure. 63 Fed. Reg. 6,426, 6,249 (Feb. 6, 1998). The rationales for this exemption were: (1) wastewater generated at captive landfill operations is subject to categorical effluent limitations; (2) wastewater generated at captive landfills represent a very small portion of the wastewater treated at their wastewater treatment facilities; (3) pollutants from captive landfills already receive treatment equivalent to that proposed by the rule; and (4) after reviewing individual NPDES permits for captive facilities, EPA determined these landfills can be excluded without jeopardizing the receiving waters. *Id.* at 6,429-6,430. In the final rule, EPA eliminated the requirement that the company and landfill fall under the same corporate ownership, but replaced it with the requirement any "other wastes" accepted by the landfill must be similar in nature to the wastes generated by the associated industrial operation. 65 Fed. Reg. 3,008, 3,012 (Jan. 19, 2000).[4] With respect to AVRRDD, this rulemaking history illustrates two points. First, the rationales for the captive landfill exception that EPA advanced in the preamble to the proposed rule do not apply to

[4] EPA added this latter requirement because "there are circumstances in which inter-company waste products deposited in the landfill may result in contaminants in the leachate that may not be compatible with the existing industrial wastewater treatment system or may not be covered adequately by the existing industrial effluent guideline." *Id.* at 3,013.

AVRRDD today. Second, the history illustrates that EPA intended to create a narrow exception, and it should not be interpreted more broadly than the language allows.

For the above reasons, 40 C.F.R. Part 445 applies to the discharge of the landfill leachate. Moreover, even if EPA were to determine that Part 445 did not apply, EPA likely would use Part 445 as a basis for BPJ based effluent limitations since EPA believes this is the most applicable guidance available to inform its professional judgment. AVRRDD's proposal to set effluent limitations based on what is achievable by the existing treatment technologies at the WWTP is inappropriate; EPA's task is to determine the appropriate technology-based standards and then convert them into effluent limits that the facility must achieve, not to begin with what the facility already achieves and proclaim that to constitute the appropriate technology-based standards. Moreover, EPA sees no way to collect representative samples on how the treatment system treats the landfill leachate alone.

2. AVRRDD's wastewater treatment plant is not a publicly owned treatment works

EPA disagrees that AVRRDD's wastewater treatment plant (WWTP) would be classified as a POTW and therefore subject to the requirements applicable to POTWs rather than the landfill ELG requirements at 40 C.F.R. Part 445. AVRRDD relies on the definition of POTW at 40 C.F.R. § 403.3(q), which has not undergone substantive change since 1981. According to AVRRDD's argument, that definition embraces any wastewater treatment system that treats industrial waste of a liquid nature and that happens to be owned by a State-created entity. Under this theory, the on-site wastewater treatment system at any publicly owned landfill (or, for that matter, publicly owned power plant, publicly owned airport, etc.) could be deemed a "publicly owned treatment works." However, this argument is unpersuasive.

Part 445 Subpart B's applicability criterion refers to "landfills subject to the provisions of 40 CFR part 258, Criteria for Municipal Solid Waste Landfills; and 40 CFR part 257, Criteria for Classification of Solid Waste Disposal Facilities and Practices." 40 C.F.R. § 445.20. Parts 257 and 258 explicitly include publicly owned landfills. *See* 40 C.F.R. §§ 257.2, 258.2 (both defining "Municipal solid waste landfill unit" and noting that "[s]uch a landfill may be publicly or privately owned"). Moreover, the regulatory history of Part 445 itself demonstrates that EPA was fully aware that at least some landfills were publicly owned:

> A significant number of landfills are owned by state, local, or federal governments, while many others are commercially or privately owned. Although there are distinct economic considerations to account for, there is no distinction in the wastewater characteristics and wastewater treatment employed at commercial or municipally owned landfills. EPA determined that the industry should not be subcategorized based on ownership.

63 Fed. Reg. 6,426, 6,436 (Feb. 6, 1998) (preamble to propose rule for Part 445); *see also id.* at 6,429 (referring to "independently, commercially *or municipally operated* Subtitle C and D landfills") (emphasis added); *id.* at 6433 (noting that data for development of

ELG was obtained, in part, from "[q]uestionnaires [that] were sent to all commercial, *municipal, or government facilities* identified from the screener that had wastewater treatment (for their landfill generated wastewaters) and were direct or indirect dischargers"); 65 Fed. Reg. 3,008, 3,008 (Jan. 19, 2000) (preamble to final rule for Part 445) (listing "State, municipal or tribal Government" as a category of potentially regulated entities).

In short, EPA promulgated an ELG that required solid waste landfills to install treatment systems, in full knowledge of the fact that at least some of them were publicly owned. If AVRRDD's theory were correct, a treatment system required by the landfill ELG would, by mere virtue of public ownership (after EPA explicitly declined to subcategorize landfills by public vs. private ownership) qualify as a POTW; the WWTP required by Part 445 would automatically transform into a POTW subject to part 133, and the landfill would be reclassified as an indirect discharger, thus exempt from the discharge limits of Part 445. This reading of Part 445 would essentially render the landfill ELG a nullity as applied to publicly owned landfills, is not supported by the regulatory history, and is not a reasonable interpretation of EPA's regulations. Moreover, the basic premise of AVRRDD's argument—that public ownership automatically transforms a WWTP into a POTW—is contrary to longstanding EPA interpretation. *See* Decision of the General Counsel No. 76 (*In re B.F. Goodrich Chem. Co.*) (Feb. 15, 1979) (opining that a treatment works owned and operated by a governmental agency but which was constructed and is operated only to treat industrial wastes is not, merely by virtue of public ownership, a publicly owned treatment works for purposes of the regulatory provisions of Title III and Title IV of the CWA). Even if an argument could be made that the WWTP at a landfill accepting 100% municipal waste is a POTW (and, as noted above, Part 445 does not support this interpretation), such an argument would not extend to a landfill that accepts approximately one-half industrial waste.

For all these reasons, and viewing the definition of POTW in Part 403 together with the more specific (and more recently promulgated) landfill requirements of Part 445, EPA does not interpret the regulations to classify the WWTP at AVRRDD's landfill as a POTW.

3. Other issues

To the extent, if any, that AVRRDD proposes to allow the effluent limitation to "expire" after a full year of no violations, EPA disagrees. Technology-based effluent limitations are required under section 301(b) of the Clean Water Act, and the fact that a facility is complying with the effluent limits in its NPDES permit does not mean that the limits can be removed. Moreover, such an approach would be inconsistent with EPA's anti-backsliding provisions. EPA's anti-backsliding provision prohibits the relaxation of permit limits, standards, and conditions unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued (See 40 CFR §122.44(l)). Anti-backsliding provisions apply to effluent limits based on technology, water quality, BPJ and State Certification requirements. Relief from anti-backsliding provisions can only be granted under one of the defined exceptions (See 40 CFR §122.44(l)(i)), of which, the situation identified by AVRRDD does not apply.

However, in regards to AVRRDD's request for reduction in monitoring frequency, the following condition has been added as footnote 9 to Part I.A.1 and Part I.A.1.a of the permit:

> The permittee may request a reduction of the monitoring frequency for BOD, TSS, total phosphorus, ammonia (as N), α – terpineol, benzoic acid, ρ – cresol, phenol, and/or zinc, following one year of samples which are non-detect (ND) in the discharge from Outfall 016.

Additionally, the following provision has been added as footnote 6 to Part I.A.1 and Part I.A.1.a of the permit to allow for a reduction in WET testing (this language replaces footnote 6 of the draft permit, which described the procedures for requesting alternate dilution water, which is no longer applicable to this permit):

> 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 the absence of 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.

4.0 COMPLIANCE SCHEDULE

4.1 AVRRDD COMMENT:

In the alternative, if U.S.EPA concludes that Part 445.21 does apply, which we do not concede, then it is clear that the District will require additional time to come into compliance with the standards. As discussed above, the WWTP was designed to treat primarily pulp and paper mill waste, with only a small fraction of the wastewater stream in the form of landfill leachate. The landfill leachate is fundamentally different from the landfill leachate used to develop the landfill leachate ELG in Part 445, and it makes no sense to think that the District could suddenly and fundamentally change the WWTP's nature to come into compliance with an entirely different set of effluent limitations.

To be sure, the Clean Water Act does provide in Section 301(n) for a so-called "fundamentally different factor" variance. See 33 U.S.C. §1311(n). On its face, this variance would seem to apply here because "the facility is fundamentally different with respect to the factors (other than cost)" that were considered in developing a particular ELG. See 33 U.S.C. §1311(n)(1)(A). On the contrary, however, the fundamentally different factor variance is available only within 180 days of promulgation of the standard in question. 33 U.S.C. §1311(n)(2). Given that Part 445 was promulgated in 2000 – approximately two years before the District acquired the Mt. Carberry Landfill and approximately six years before the Berlin pulp mill shut down – it would have been impossible for the District to have applied for the variance in a timely manner.

Given the inequity of the situation, if Part 445 applies, we request that U.S.EPA grant the District additionally time to come into compliance with the requirements of Part 445. We believe that U.S.EPA has the authority to grant this additional time in a compliance schedule as part of the permit, pursuant to 40 C.F.R. §122.47, for three reasons. First, this is the first NPDES permit that will be issued to the District, a new discharger. Second, given the history of this facility, a compliance schedule is necessary to allow a reasonable period of time for the District to implement the extensive changes that would be needed to comply with Part 445. Third, as required by the compliance section provisions of U.S.EPA's rules, Part 445 was promulgated in 2000 after commencement of construction of the WWTP, and yet less than three years prior to the District acquiring the landfill and beginning to discharge. *See* 40 C.F.R. §122.47(2). Even if a compliance schedule is not available in the permit itself, an alternative would be to negotiate a compliance schedule in an administrative order/consent agreement instead, although this would seem to punish the District unfairly for an historic situation that it did not create.

The District is currently considering several alternatives that would improve treatment for the landfill leachate, all of which would require approximately four years to implement. The District has three possible options for treatment that it is actively considering: (1) indirect discharge with pretreatment to the City of Berlin POTW; (2) modifying the existing WWTP; or (3) constructing a new wastewater treatment plant at the landfill and discharging directly to the Androscoggin River.

Each of these options would require both demonstration of the treatability of the proposed unit operations to effectively treat the leachate to the Permit standards, and preparation of a cost analysis for the District Board of Directors to select a preferred alternative. Once an alternative is selected, we would prepare a basis of design report (BDR) and obtain regulatory agency approvals, design the proposed WWTP infrastructure; prepare big documents and select a contractor to construct the WWTP infrastructure, and, ultimately, construct and implement the proposed solution. We estimate the time line for such a project, inclusive of review and approval by State and Federal agencies is approximately 48 months, as follows:

Characterize Waste Stream	6 months
Establish Flows and Loadings for Leachate	2 months
Demonstrate Treatability of WWTP options	6 months
Selection of Option by Board of Directors	2 months
Prepare BDR	3 months
Regulatory Review and Approval of BDR	2 months
Design Infrastructure	6 months
Regulatory Review and Approval of Design	3 months
Prepare Bid Documents and Select Contractor	3 months
Construct Infrastructure (assuming spring start)	12 months
Start-up and O&M Manual Preparation	3 months
Total Duration	48 months

In sum, because the Mt. Carberry Landfill has primarily been utilized for industrial wastes, particularly from pulp and paper mills, and the landfill leachate is indirectly discharged to a POTW, we submit that U.S.EPA should not apply Part 445 to the Mt. Carberry Landfill at all, but rather the pretreatment standards of Part 403 and BPJ for technology-based effluent limitations appropriate for this WWTP. In the alternative, if Part 445 does apply to this facility, we request a four-year compliance schedule in the Permit that will provide the District with a reasonable time period to come into compliance.

4.2 AVRRDD COMMENT:

Page 1. Effective Date of Effluent Limits. As discussed in detail above, the District will require additional time to comply with the effluent limits proposed in the draft Permit. Accordingly, the effective date of the effluent limits will have to be revised, whether through a compliance schedule in the permit itself of via an administrative consent agreement.

4.1 – 4.2 RESPONSE:

EPA cannot include a compliance schedule for these technology-based effluent limits in a NPDES permit. Pursuant to 40 CFR §122.47(a)(1), any schedules of compliance shall require compliance as soon as possible, but not later than the applicable statutory deadline under the CWA. All statutory deadlines for meeting various treatment technology-based effluent limitations established pursuant to the CWA have expired. When technology-based effluent limits are included in a permit, compliance with those limitations is from the date the issued permit becomes effective. See 40 C.F.R. § 125.3(a)(2). Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA cannot be authorized by an NPDES permit.

Therefore, the permit is written to require immediate compliance upon taking effect. However, AVRRDD is correct in acknowledging that EPA can provide a reasonable compliance schedule in an administrative compliance order issued pursuant to CWA § 309(a), and EPA expects to discuss such a compliance schedule with AVRRDD after issuance of the final permit.

5.0 LEACHATE FLOW

5.1 AVRRDD COMMENT:

The flow value used to convert the technology based ELGs for landfill leachate to mass based limits was calculated by averaging the daily leachate flow values from January 1, 2007 to December 31, 2007 (0.05 million gallons per day (MGD) or roughly 35 gallons per minute (gpm)). This flow rate is not representative of the variety of conditions that will occur at the landfill during its operation. Based on our experience with landfill operations at this site and more detailed data collected to date, an average flow of 0.108 MGD (75 gpm) and a peak flow of 0.13 MGD (90 gpm) is more realistic for the permit. See Exhibit D. These flow values, which the District would use for planning purposed regardless of which option it chooses in the future, should therefore be used to calculate the monthly average and daily maximum

loadings, respectively. A further discussion of leachate flows is presented below in the Fact Sheet discussion.

5.2 AVRRDD COMMENT:

The flows used to convert the concentration-based measurements to the mass-based measurements should use the average flow for the Monthly Average values and maximum daily flow for Daily Maximum values (see Footnote 4, page 5). As presented, the calculation for both Monthly Average and Daily Maximum values for BOD5, TSS, ammonia, α-terpineol, benzoic acid, ρ-cresol, phenol, and zinc are based on average flow only, and assume an average flow of 0.05 MGD. Furthermore, the average flow and maximum flow values that are representative of the treated leachate are 0.108 MGD (75 gpm) and 0.13 MGD (90 gpm), respectively. A more detailed discussion on leachate flows is presented in our review of the Fact Sheet.

5.3 AVRRDD COMMENT

Page 3 of Fact Sheet. Summary of Monitoring Data. The Fact Sheet provides: "The data collected since June 2006 is expected to be representative of the current discharge." While this data is a characterization of the conditions over the approximately 12-month period beginning in June 2006, there are two reasons we do not agree that the data is, in fact, representative of the leachate from the Mt. Carberry Landfill and the stormwater from the NADC site.

First, the leachate flow varies significantly depending upon several factors including: (1) the quantity of precipitation; (2) the time of year; and (3) the sequence in landfilling a stage. Unlike a manufacturing facility that can control water usage, the landfill operations generate leachate based on the quantity of precipitation in a given year, down to storm events on a given day. The quantity of precipitation on an annual basis varies greatly, with, for example, 38 inches in 2004 and 55 inches in 2005. The leachate flow is also a function of the time of year, such as during the late spring when rainfall is combined with snow melt, producing higher leachate flows. Finally, the landfill operations play a role based on the state of development of a given landfill cell. When a cell is first opened, the rainfall is not buffered by waste from entering the leachate collection system, thereby producing higher flows. As the landfilling progresses in a cell, the waste acts as a sponge and slows the rate of infiltration and runoff, and thus the leachate flows are typically lower.

Second, from a stormwater perspective, it is not clear if the June 2006 to January 2008 period is representative of dry, wet, or normal rainfall conditions. If the average daily and maximum flow values are necessary in calculating the associated stormwater pollutant loadings, we believe a more rigorous flow analysis will be required, particularly in determining the maximum daily flow value. We request that U.S.EPA issue an order requiring NADC to conduct a more rigorous, 24-month flow analysis to determine its stormwater runoff flow for an accepted design storm condition (100-year design storm) based on open area and runoff coefficients for the open areas.

5.4 AVRRDD COMMENT

Page 11 and Table 1 of the Fact Sheet. Flow Data. The draft Permit has averaged the landfill leachate flows provided in the District application and used the calculated number (0.043 MGD rounded to 0.05 MGD or 35 gpm) for determining the mass-based limitations. Over the past year, we have collected the daily leachate flow from the Mt. Carberry Landfill. As set forth above, the data shows that the leachate flows are at or below 35 gpm for only 67 percent of the time. We request instead a flow value of 75 gpm, which falls within 86 percent of the daily flow values. As a result of the projected operations at the landfill and the analyses noted above, we project that the average landfill leachate flow will be about 75 gpm (0.108 MGD) and a 20 percent peaking factor in the maximum daily to average flow (i.e., maximum daily flow of 90 gpm or 0.13 MGD). We believe the appropriate flows that should be incorporated into the draft Permit are the average and maximum daily flows noted above, and the corresponding lbs/day values in Table 1 should be revised as follows:

BOD5	Monthly Avg.:	33.3 lbs/d	Daily Maximum:	152 lbs/d
TSS	Monthly Avg.:	24.3 lbs/d	Daily Maximum:	95 lbs/d

5.5 AVRRDD COMMENT:

Pages 13 and 14 of the Fact Sheet. Flow. As previously discussed, we request that the average leachate and daily maximum leachate flows of 0.108 MGD and 0.13 MGD be used for this Permit, respectively.

5.6 AVRRDD COMMENT:

Pages 15-21 of the Fact Sheet. Mass-based values. Assuming the average and maximum flow values of 0.108 MGD and 0.13 MGD, respectively, the effluent limitations should be revised as follows.

	Avg. Monthly (lbs/d)	Daily Max. (lbs/d)
BOD5	33.3	152
TSS	24.3	95.4
Ammonia	4.4	10.8
α-terpineol	0.014	0.036
Benzoic Acid	0.064	0.13
ρ-cresol	0.0126	0.027
Phenol	0.014	0.028
Zinc	0.099	0.216

5.1 – 5.6 RESPONSE:

Since new information has been provided by AVRRDD since issuance of the draft permit (landfill leachate average monthly and maximum daily flows of 0.108 MGD and 0.13 MGD, respectively), the final permit has been revised. Using the applicable ELGs and the correct landfill leachate flows, the ELG based limits have been revised as follows (the effluent limitations for BOD and TSS have been further revised due to the contribution of BOD and TSS loading from the stormwater, as discussed in response to comment 1.1 – 1.4, above):

	Average Monthly (lbs/d)	Daily Maximum (lbs/d)
BOD	33	150
TSS	24	95
Ammonia	4.4	11
α-terpineol	0.014	0.036
Benzoic Acid	0.064	0.13
ρ-cresol	0.013	0.027
Phenol	0.014	0.028
Zinc	0.099	0.22

6.0 PHOSPHORUS:

6.1 AVRRDD COMMENT:

The daily maximum water quality standard proposed for phosphorus is based on the average combined leachate and stormwater flow of 0.33 MGD and a single sample analyzed for phosphorus. While we do not expect phosphorus to be a concern relative to the leachate, establishing a daily maximum loading based on an average flow (maximum daily flow for the period beginning June 2006 was 2.9 MGD) and a single sample seems inappropriate. As will be discussed in detail below, we request a monitoring-only requirement while this issue is studied.

6.2 AVRRDD COMMENT:

Page 12, Table 1, Footnote 3, of the Fact Sheet. Phosphorus. The mass-based phosphorus limit (which is a Daily Maximum lbs/day value) has been calculated assuming the average flow from June 2006 to January 2008 of 0.33 MGD and a phosphorus concentration of 0.73 mg/L. The phosphorus concentration was determined by collecting and analyzing a single sample.

While we do not expect phosphorus to be a concern in the treated leachate effluent, we do have concerns about the mass-loading calculation.

The first concern is whether the NADC stormwater will be a component of the waste being regulated for phosphorus. If the stormwater is included, a more thorough characterization of the phosphorus concentration in the stormwater is warranted. We suggest that U.S.EPA issue an order to NADC requiring NADC to conduct a 24-month study to further characterize the phosphorus concentration associated with the stormwater runoff.

If the stormwater is included, the second concern is that the maximum daily flow value needs to be used in the calculation, not the average flow. As noted above, determining the maximum flow value will require a more thorough analysis of rainfall and the associated flow. Likewise, an agreement on what design storm will need to be addressed. We suggest the 100-year design storm.

If the stormwater is not included, we would then request that the phosphorus limitations be removed and replaced by monitoring and reporting requirements,

because the leachate is phosphorus deficient and any residual phosphorus associated with the small leachate flow would be inconsequential to the Androscoggin River.

6.3 AVRRDD COMMENT:

Page 16 of the Fact Sheet. Total Phosphorus Limitations. The current Maximum Daily phosphorus limit is calculated using the average combined leachate and stormwater flow. The maximum daily flow for the period analyzed was 2.9 MGD. If a factor of 2.5 is applied to this calculation to account for the use of only a single sample to determine the phosphorus concentration, the revised phosphorus limit would be 44.1 lbs/d rather than the 5 lbs/d value. We are concerned with this calculation because it is based on a single combined effluent samples and the maximum daily flow is for a very limited time period that may not be representative of rainfall patterns in the Berlin area. We believe that a more rigorous analysis is necessary to determine both the phosphorus concentration and the maximum combined flow if it is determined that a combined leachate and stormwater phosphorus limit needs to be determined, and thus we would request a monitoring-only requirement for phosphorus.

6.1 -6.3 RESPONSE:

Review of the data collected by AVRRDD from October 2007 – September 2008 reveals the highest monthly average flow as 0.73 MGD. Using this average flow rate and the 0.73 mg/L total phosphorus concentration for the discharge from Outfall 016, the expected average phosphorus loading in the discharge from Outfall 016 is approximately 4.4 lbs/day. Applying a 2.5 adjustment factor (as discussed in the fact sheet), since this estimated loading is an average as it was based on only one sample and an average flow rate, the phosphorus loading calculates to 11 lbs/day.

However, after derivation of the 5 lbs/day phosphorus loading in the draft permit, the remaining TMDL phosphorus allocation was allotted to Fraser for the discharge from their facility (see NPDES Permit No. NH0000655), with the exception of 10%, so as to meet the water quality-based requirements in the Gulf Island Pond (GIP). Therefore, in order to ensure that water quality standards in GIP are met, the combined total wasteload allocation must be retained. Based on the 10% withheld from Fraser Papers based on the principle that water quality requirements should be met by reducing effluent limits when possible, as opposed to the use of "non-treatment" techniques (40 C.F.R. §125.3(f)), this leaves an additional allocation of 14 lbs/day phosphorus. The effluent limitation outlined above for phosphorus is below this potential additional allocation and thus ensures compliance with the TMDL.

Therefore, the final permit shall contain a phosphorus limit for Outfall 016 of 11 lbs/day, since it will not cause an exceedence in the water quality standards of GIP, and it will still take into account possible variations in the amount of phosphorus in the discharge. Therefore, the maximum daily phosphorus loading in the final permit has been changed from 5 lbs/day to 11 lbs/day, to account for the additional information of Outfall 016 flows supplied by AVRRDD during the comment period.

EPA does not expect the phosphorus levels in the stormwater from the former pulp mill site to contribute significantly to the total phosphorus in the discharge from the WWTP. Phosphorus concentrations in stormwater have been characterized in The National Stormwater Quality Database (NSQD), Version 1.1.[5] Table 3 of the NSQD summarizes stormwater pollutant loads as derived in this extensive compilation of stormwater monitoring data. The average total phosphorous values ranges from 0.31 mg/L for open spaces, 0.25 mg/L for mixed open spaces, 0.25 mg/L for industrial space, and 0.27 mg/L as an overall summary of the different types of stormwater runoff.

Based on a maximum stormwater flow of 0.82 MGD, an average stormwater flow of 0.50 MGD, and a phosphorus concentration of 0.31 mg/L in stormwater runoff from "mixed open spaces", a maximum of 2.1 lbs/day and an average of 1.3 lbs/day phosphorus is expected from the stormwater runoff from the former pulp mill site. Therefore, in the event that the stormwater input to the WWTP from the former pulp mill is discontinued, the effluent limitation shall be reduced to an effluent limitation based on the ELGs for landfill leachate. This calculates to a maximum daily effluent limitation of 8.9 lbs/day phosphorus (11 lbs/day – 2.1 lbs/day).

7.0 OTHER ISSUES

7.1 NHDES COMMENT:

Page 5, footnote 4. The procedure described is inconsistent with the EPA DMR guidelines. This footnote should be eliminated or be revised so that it is clear that the flow on the day of sampling must be used to calculate the mass (lbs/day) loading discharged for that particular day. The daily maximum mass reported in the monthly DMR would be the highest of the four calculated daily mass values. The monthly average mass reported in the DMR would be the average of the four calculated daily mass values.

7.1 RESPONSE:

The footnote has been revised to clarify the correct procedure for calculating the BOD and TSS loadings, as described in the Discharge Monitoring Report Forms (DMRs) Report Year 2007, Chapter 3 (pages 2-3) and Attachment C-1. Part I.A.1, footnote 4 of the final permit states:

> The monthly average loading is calculated by dividing the sum of the daily discharge loadings for the month by the number of sample measurements taken during the month. The daily discharge loading is calculated by using the maximum daily concentration measurement and the concurrent maximum daily flow value. The maximum daily loading is the highest of these calculated daily loadings. See the NPDES Permit Program Instructions for the Discharge Monitoring Report Forms (DMRs) Report Year 2007, Chapter 3 (pages 2-3) and Attachment C-1, for a discussion of these loading calculations.

[5] Pitt, R., and A. Maestre and the Center for Watershed Protection. 2005. The National Stormwater Quality Database, Version 1.1: A Compilation and Analysis of NPDES Stormwater Monitoring Information. Prepared for the U.S. EPA Office of Water, September 4.

7.2 NHDES COMMENT:

Page 7, top paragraph (Part I.A.2.). This paragraph should be changed so that it is clear that this internal outfall discharges to the AVRRDD wastewater treatment facility and not directly to the Androscoggin River. Also, unless there is leachate treatment at the landfill, the phrase "treated effluent" should be deleted from the first sentence.

7.2 RESPONSE:

Part I.A.2 of the permit has been revised for clarification purposes as follows:

> During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge effluent from **Outfall 001** (Internal Outfall of Landfill Leachate) to the AVRRDD WWTP prior to final discharge to the Androscoggin River. This discharge shall be limited and monitored by the permittee as reported below.

7.3 NHDES COMMENT:

Page 7, at the top of the table, the measurement frequency and sample type for flow should either be "continuous and recorder," or "1/month and Estimate."

7.3 RESPONSE:

The Tables in Part I.A.2 and Part I.A.2.a of the permit has been changed to clarify that the flow shall be estimated on a monthly basis. The measurement frequency has been changed from "continuous" to "1/month."

7.4 NHDES COMMENT:

Page 8, footnote 1. The first sentence should be revised to say "Effluent samples for Internal Outfall 001 (landfill leachate) shall be collected at a representative location prior to where the leachate enters the AVRRDD wastewater treatment facility." This is recommended since "flow" is not sampled and there should be no other "wastewater" other than stormwater and leachate previously discharged into the wastewater treatment facility.

7.4 RESPONSE:

Part I.A.2 and Part I.A.2.a of the permit, footnote 1, have been clarified to state:

> Effluent samples for Internal Outfall 001 (landfill leachate) shall be collected at a location representative of the discharge, prior to entering the AVRRDD WWTP. Any change in sampling location must be reviewed and approved in writing by EPA and the New Hampshire Department of Environmental Services (NHDES) prior to making such change.

7.5 NHDES COMMENT:

Page 8, footnote 2. The variability of the leachate quality prior to where it enters the AVRRDD wastewater treatment facility (Internal Outfall 001) under dry and wet weather conditions is unknown. The recommendations in comment 7.7 below on evaluating effluent variability also apply for this outfall unless data is available under both dry and wet weather conditions demonstrating that the effluent is not highly

variable. Again, if the effluent is not highly variable single monthly grab samples should be allowed for all parameters for the permit term.

7.5 RESPONSE:
EPA agrees that the variability of the leachate under dry and wet weather conditions is unknown. Therefore, EPA has added a quarterly wet weather sampling requirement for the discharge of landfill leachate (Outfall 001) as Table I.A.2.a and has clarified that the monthly sampling at Outfall 001 shall be dry weather sampling.

The following has been included in footnote 1 of Table I.A.2.a:

> Samples shall be collected during wet weather conditions. Wet weather conditions mean during a storm event greater than 0.1 inches in magnitude that occurs at least 48 hours from the previously measurable (greater than 0.1 inch rain fall) storm event. The 48-hour interval is waived when the preceding measurable storm did not yield a measurable discharge, or if the permittee is able to document that less than a 48-hour interval is representative of local storm events during the sampling period. The first grab sample shall be taken during the first 30 minutes of discharge. If it is not practicable to take the sample during the first 30 minutes, sample as soon as practicable and describe why a grab sample during the first 30 minutes was impracticable. Submit this information on or with the DMR.

The requirement to sample and report wet weather sampling separately should provide data on the variability of leachate contamination that NHDES suggests collecting.

7.6 NHDES COMMENT:
Page 5, footnote 1. The first sentence should be revised to say "Effluent samples for Outfall 016 (AVRRDD WWTP) shall be collected at a representative location after final treatment and prior to discharge to the Androscoggin River." As written, this footnote implies that there may be discharges besides stormwater from the pulp mill site which is confusing since the pulp mill is gone. The only authorized discharges from the pulp mill site should be stormwater.

7.6 RESPONSE:
EPA agrees with NHDES that the only authorized discharge from the former pulp mill site is stormwater runoff and infiltration/inflow (I/I). The discharge from Outfall 016 consists of a combined waste stream of stormwater runoff and I/I from the former pulp mill site and landfill leachate from the Mt. Carberry landfill, after treatment at the AVRRDD WWTP. The first sentence of footnote 1, Part I.A.1, has been revised from, "Effluent sampling for Outfall 016 (AVRRDD WWTP) shall be sampled for all parameters after final treatment and prior to mixing with the river or any other discharges from the former Burgess Pulp Mill on a year-round basis" to "Effluent samples for Outfall 016 (AVRRDD WWTP) shall be collected at a representative location after final treatment and prior to discharge to the Androscoggin River."

7.7 NHDES COMMENT:
Page 5, footnote 3. The phrase "normal discharge" is confusing for this discharge. The quantity and quality of outfall 016 should only be a function of the amount of

precipitation on the landfill, on the surface of the lagoons and on the areas of the former pulp mill site that drain to the AVRRDD wastewater treatment facility. A minimum of two grab samples collected at hourly intervals and once per week will not ensure sampling under both dry and wet weather conditions. This language is also unclear as to whether samples should be flow proportioned or not.

Accordingly, we recommend that EPA: 1) delete the phrase "normal discharge," and 2) include a special condition to evaluate the effluent variability. The special condition could require, for both dry and wet weather conditions, discrete (grab) sampling (a minimum of 8 grab samples collected over 24 hours) for a few surrogate parameters (e.g. pH, specific conductivity, TSS). If the results of the special condition show that the effluent is not highly variable under both dry and wet weather conditions, AVRRDD should be allowed to use single weekly grab samples for all of the parameters in outfall 016 for the remainder of the permit term. Until the special condition is completed, or if the special condition determines that the effluent is highly variable, flow proportioned composite sampling should be required. Alternatively, if AVRRDD can demonstrate with dye testing or other calculations prior to permit issuance that the detention time in the lagoons, during both dry and peak wet weather conditions, is greater than 24 hours, and that there is no short circuiting of stormwater or leachate occurring, then single weekly grab sampling should be allowed for all parameters in outfall 016 for the permit term. This latter option would be consistent with the joint EPA and NHDES Minimum Monitoring Frequency Guidance.

7.7 RESPONSE:
EPA agrees that the internal outfalls contributing to Outfall 016 should be sampled under both dry and wet weather conditions to characterize effluent variability. Therefore, EPA has added a wet weather sampling requirement for the discharge of landfill leachate through Outfall 001 as Table I.A.2.a, as discussed in response to comment 7.5, above. EPA has also added a wet weather sampling requirement for the discharge of stormwater runoff and infiltration/inflow (I/I) through Outfall 002 as Table I.A.3.a to characterize the contaminant variable in dry weather and wet weather flows and the composition of the I/I component of the discharge.

Additionally, EPA has revised all footnotes defining composite samples as a result of the above comment from NHDES. Part I.A.1, footnote 3; Part I.A.1.a, footnote 3; Part I.A.2, footnote 2; Part I.A.2.a, footnote 2; Part I.A.3, footnote 2; and Part I.A.3.a, footnote 2 now state:

> 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.

These revisions should provide data similar to that the special condition suggested by NHDES would provide.

7.8 AVRRDD COMMENT:

Although the draft Permit would allow the District to show that the Androscoggin River water is toxic or unreliable for use as a diluent in WET testing, we do not believe that the District should be required to go through the process of making that demonstration, given that the Gorham mill has already done so in the recent past. See Exhibit E (U.S.EPA correspondence allowing use of a synthetic diluent for WET testing at the nearby pulp and paper mills).

7.8 RESPONSE:

The permit has been changed to allow the permittee use of an alternate dilution water, previously approved for use in a letter dated December 12, 1995 from EPA to the Gorham mill. Additionally, footnote 6, Part I.A.1, which described the procedure for requesting an alternate dilution water, has been removed from the permit.

7.9 AVRRDD COMMENT:

Page 8 of the Fact Sheet. 7Q10. Page 8 of the Fact Sheet states that the 7Q10 just upstream of the District's WWTP was estimated to be 1,331 cubic feet per second (cfs). The District believes that the use of this 7Q10 is not appropriate. The correct 7Q10 is 1,550 cfs, because this minimum flow must be maintained in the Androscoggin River at Berlin, New Hampshire, as a result of a flow maintenance agreement among paper, power, and water companies in the upper Androscoggin River. The State of Maine utilizes a 7Q10 flow of 1,550 for its facilities on the upper Androscoggin River based on these agreements. *See* Email from D. Murch, Maine DEP, to William Taylor, Aug. 1, 2005 (included in Exhibit G). There should be no disagreement between New Hampshire and Maine on this important 7Q10 flow determination.

7.9 RESPONSE:

The 7Q10 was recently revised since changes have occurred in flow from facilities along the Androscoggin River, including the change in flow associated with the closure of the former pulp mill. As of June 2008, NHDES defined the 7Q10 just upstream of the AVRRDD WWTP as 1,331 cfs. See Attachment I to the Fact Sheet and refer to the following excerpt from the Fact Sheet (p. 8):

The NHDES recently re-estimated local 7Q10 for the Androscoggin River from Berlin to Gorham using the 1963 to 2006 post log drive period of record at the USGS gage in Gorham. The 7Q10 just upstream of the AVRRDD WWTP was estimated to be 1,331 cfs (See Attachment D). These river flows form the basis for calculating the water quality-based criteria limits for the Androscoggin River in New Hampshire.

The 7Q10 (i.e., the lowest stream flow for seven consecutive days that would be expected to occur once in ten years) is a technical engineering calculation. NHDES, which is the New Hampshire agency responsible for implementing the NH WQS, has estimated 7Q10 in a manner that EPA finds reasonable. Therefore, EPA adopts NHDES's 7Q10 value.

7.10 AVRRDD COMMENT:

Page 14 of the Fact Sheet. Dilution Factor. If stormwater flow is not included within the dilution factor calculation, the revised acute and chronic dilution factors for the

treated leachate – assuming an average flow of 0.108 MGD and a maximum daily flow of 0.13 MGD – should be 7,170 to 1 and 5,957 to 1, respectively.

7.10 RESPONSE:
The dilution factors for Outfall 016 include stormwater flow, since the stormwater is a component of the discharge. However, the acute and chronic dilution factor calculations for the discharge through Outfall 016 have been revised based on the recently provided data from AVRRDD. Review of the data collected by AVRRDD from October 2007 – September 2008 reveals the highest maximum daily flow for Outfall 016 as 1.20 MGD and the highest monthly average flow as 0.73 MGD. Therefore, the dilution factors have been revised as follows:

$$\text{Dilution Factor} = \frac{\text{River Flow (cfs)(Conv. Factor)} + \text{Plant Flow (MGD)}}{\text{Plant Flow (MGD)}} \times 0.9$$

$$\text{Acute Dilution Factor} = \frac{[(1{,}331 \text{ cfs})(0.6464) + 1.20 \text{ MGD}]}{1.20 \text{ MGD}} \times 0.9 = 646 : 1$$

$$\text{Chronic Dilution Factor} = \frac{[(1{,}331 \text{ cfs})(0.6464) + 0.73 \text{ MGD}]}{0.73 \text{ MGD}} \times 0.9 = 1062 : 1$$

7.11 AVRRDD COMMENT:
AVRRDD requests a meeting to meet with EPA due to the important technical and legal issues raised in these comments. Please let us know at your earliest convenience when you can meet.

7.11 RESPONSE:
EPA met with AVRRDD staff and NHDES on November 7th 2008. Attendees at the meeting included David Webster (EPA), Ron Fein (EPA), Damien Houlihan (EPA - via telephone), Nicole Kowalski (EPA), Stergios Spanos (NHDES), Jeff Andrews (NHDES), Lynda Cushman (AVRRDD), Sharon Gauthier (AVRRDD), Bill Taylor (Pierce Atwood), Brian Rayback (Pierce Atwood), Mike Crawford (Sevee & Maher Engineers (SME)), Tammie Lavoie (SME), and Guy Cote (SME). EPA has entered materials pertaining to that meeting (including a meeting agenda from AVRRDD, an attendance list, and documents and maps given to EPA by AVRRDD and its consultants) into the administrative record.

Topics discussed included application of Part 445, AVRRDD's status as a municipal entity, the need for a compliance schedule, stormwater runoff and I/I from the former pulp mill site, leachate flows, and phosphorus limitations.

As a follow-up to the meeting, SME submitted a memo to EPA on behalf of AVRRDD, dated November 13, 2008, containing supplementation information pertaining to the stormwater flow and loading from the former pulp mill site and the proposed leachate average monthly and maximum daily flow values. Although this material was submitted after the close of the public comment period and EPA was therefore not obligated to

consider it, EPA has exercised its discretion and considered this submission in developing the final permit limits.

8.0 ADDITIONAL CLARIFICATIONS

8.1 Additional Clarification

The wording in Part I.E of the permit, Reopener Clauses, has been revised to be consistent with the similar wording in the Fraser Papers permit (NH0000655).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
1 CONGRESS STREET - SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

FACT SHEET

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

NPDES PERMIT NUMBER: **NH0023523**

NAME AND ADDRESS OF APPLICANT:

Androscoggin Valley Regional Refuse Disposal District (AVRRDD)
PO Box 336
Berlin, N.H. 03570

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

AVRRDD Wastewater Treatment Plant
Shelby Street
Berlin, N.H. 03570

RECEIVING WATER AND CLASSIFICATION: **Androscoggin River/ Class B**

SIC CODE: **4953 (Refuse Systems)**

TABLE OF CONTENTS

I. PROPOSED ACTION

The Androscoggin Valley Regional Refuse Disposal District (AVRRDD) operates a wastewater treatment plan (WWTP) in the town of Berlin, NH. The WWTP was formerly owned by Fraser Papers N.H. LLC (Fraser Papers) and discharges from the WWTP were authorized by NPDES Permit NH0000655. The discharges consisted of landfill leachate, pulp mill process water, and pulp mill storm water. The pulp mill has since been demolished. AVRRDD bought the WWTP from Fraser Papers on October 16, 2007, which continues to treat landfill leachate from the Mt. Carberry landfill (owned by AVRRDD) and storm water runoff from the former pulp mill site. The WWTP is located adjacent to the Androscoggin River, as shown in Attachment A.

AVRRDD has applied to the U.S. Environmental Protection Agency (EPA) for the issuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge wastewater from the WWTP to the Androscoggin River. Therefore, the current re-issuance of Fraser Papers' NPDES permit (NH0000655) will no longer cover any discharge from the WWTP. Fraser and AVRRDD have an agreement in place that Fraser shall operate the plant until the earlier of either October 31, 2008, or until this NPDES permit has been issued to AVRRDD. Therefore, AVRRDD shall be both the owner and operator of the WWTP after the issuance of this new permit.

II. TYPE OF FACILITY

The AVRRDD WWTP currently receives discharges from the AVRRDD Mt. Carberry landfill, as well as stormwater collected from the former pulp mill site (currently owned by the North American Dismantling Company (NADC)).

The WWTP consists of a headworks building (where storm water from the former pulp mill site enters the treatment system), two lagoons (the north and south lagoon), and two clarifiers (the primary and secondary clarifier). The north lagoon and primary clarifier are currently out of service. See Part IV.B for a more detailed description of the facility.

III. SUMMARY OF MONITORING DATA

A quantitative description of the discharge in terms of significant effluent parameters based on the discharge monitoring reports (DMRs) submitted by Fraser Papers during the time period of 1999 through 2007, is included in Attachment B. The data that has been collected since June 2006, when operations at the pulp mill ceased, is expected to be representative of the current discharge.

IV. PERMIT BASIS AND EXPLANATION OF EFFLUENT LIMIT DERIVATIONS

The effluent limitations, monitoring requirements, and any implementation schedule, if required, may be found in Part 1 (Effluent Limitations and Monitoring Requirements) of the draft permit.

A. General Requirements

The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States without a NPDES permit unless such a discharge is otherwise authorized by the CWA. The NPDES permit is the mechanism used to implement technology and water quality-based effluent limitations and other requirements including monitoring and reporting. The draft permit was developed in accordance with various statutory and regulatory requirements established pursuant to the CWA and applicable State regulations. During development, EPA considered the most recent technology-based treatment requirements, water quality-based requirements, and all limitations and requirements in the current/existing permit. The regulations governing the EPA NPDES permit program are generally found at 40 C.F.R. Parts 122, 124, 125, and 136. The general conditions of the draft permit are based on 40 C.F.R. §122.41 and consist primarily of management requirements common to all permits. The effluent monitoring requirements have been established to yield data representative of the discharge under authority of Section 308(a) of the CWA in accordance with 40 C.F.R. §122.41(j), §122.44(i), and §122.48.

1. <u>Technology-Based Requirements</u>

Subpart A of 40 C.F.R. §125 establishes criteria and standards for the imposition of technology-based treatment requirements in permits under Section 301(b) of the CWA, including the application of EPA promulgated effluent limitations and case-by-case determinations of effluent limitations under Section 402(a)(1) of the CWA.

Technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (see 40 C.F.R. §125 Subpart A) to meet best practicable control technology currently available (BPT) for conventional pollutants and some metals, best conventional control technology (BCT) for conventional pollutants, and best available technology economically achievable (BAT) for toxic and non-conventional pollutants. In general, technology-based effluent guidelines for non-publicly owned treatment works (non-POTW) facilities must be complied with as expeditiously as practicable but in no case later than three years after the date such limitations are established and in no case later than March 31, 1989 [See 40 C.F.R. §125.3(a)(2)]. Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA cannot be authorized by a NPDES permit.

EPA has promulgated technology-based National Effluent Limitation Guidelines (ELGs) for landfill leachate, which contain the following effluent limitation guidelines (40 C.F.R. §445.21 – Landfills Point Source Category, Subpart B – RCRA Subtitle D Non-Hazardous Waste Landfill):

Regulated Parameter	**Maximum Daily (mg/L)**	**Monthly Avg (mg/L)**
BOD	140	37
TSS	88	27
Ammonia (as N)	10	4.9
α - Terpineol	0.033	0.016
Benzoic acid	0.12	0.071
ρ - Cresol	0.025	0.014
Phenol	0.026	0.015
Zinc	0.20	0.11
pH	6 – 9 SU	

2. Water Quality-Based Requirements

Water quality-based criteria are required in NPDES permits when EPA and the State determine that effluent limits more stringent than technology-based limits are necessary to maintain or achieve State or Federal Water Quality Standards (See Section 301(b) (1)(C) of the CWA). Water quality-based criteria consist of three parts: 1) beneficial designated uses for a water body or a segment of a water body; 2) numeric and/or narrative water quality criteria sufficient to protect the assigned designated use(s) of the water body; and 3) anti-degradation requirements to ensure that once a use is attained it will not be degraded.

The Androscoggin River flows from New Hampshire to Maine. However, the discharge from AVRRDD occurs entirely in New Hampshire. The New Hampshire Surface Water Quality Regulations, found in Chapter 1700 of the New Hampshire Code of Administrative Rules, includes the three water quality based elements discussed above. The State Surface Water Quality Regulations limit or prohibit discharges of pollutants to surface waters and thereby assure that the surface water quality standards of the receiving water are protected, maintained, and/or attained. EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 C.F.R. §122.44(d).

EPA must also ensure that AVRRDD's discharge satisfy Maine Water Quality Standards. *See* CWA § 301(b)(1)(C); 40 C.F.R. §§ 122.4(d), 122.44(d)(1)(i). Furthermore, section 401(a)(2) of the CWA and 40 C.F.R. § 122.44(d)(4) require EPA to condition NPDES permits in a manner that will ensure compliance with the applicable water quality standards of a downstream affected state, in this case Maine. The statute directs EPA to consider the views of the downstream state concerning whether a discharge would result in violations of the State's Water Quality Standards. If EPA agrees that a discharge would cause or contribute to such violations, EPA must condition the permit to ensure compliance with the water quality standards. If the downstream affected state believes that the permit fails to include such requirements, then it may appeal the permit (like any other interested person with proper standing).

The Maine Department of Environmental Protection (ME DEP) has prepared a Total Maximum Daily Load (TMDL) for the Androscoggin River which was approved by the EPA on July 18, 2005. This TMDL contains water quality-based waste load and load allocations, applicable during the time period of June 1st through September 30th. In preparing this TMDL, Maine assumed a waste load allocation for Fraser Papers, for the combined discharge from the paper mill and the then-operating pulp mill (the pulp mill WWTP is now owned by AVRRDD and the former pulp mill site is owned by NADC). Details of the TMDL are discussed in further detail in Part IV.A.2 .c, below.

Since the river flows from New Hampshire to Maine the water classifications of both states are pertinent and are discussed further below. New Hampshire has classified the main stem of the river above and below the AVRRDD WWTP as a Class B water body. Maine has classified the river from the Maine-New Hampshire border to its confluence with the Ellis River in Maine as a Class B water body. Beyond the Ellis River to its confluence with Merrymeeting Bay in Brunswick, Maine, the Androscoggin River is classified as a Class C water body.

<u>New Hampshire law states;</u>

"485-A:8,II - *Class B waters shall be of the second highest quality and shall have no objectionable physical characteristics, shall contain a dissolved oxygen content of at least 75 percent of saturation, and shall contain not more than either a geometric mean based on at least 3 samples obtained over a 60-day period of 126 Escherichia coli per 100 milliliters, or greater*

than 406 Escherichia coli per 100 milliliters in any one sample; and for designated beach areas shall contain not more than a geometric mean based on at least 3 samples obtained over a 60-day period of 47 Escherichia coli per 100 milliliters, or 88 Escherichia coli per 100 milliliters in any one sample; unless naturally occurring. There shall be no disposal of sewage or waste into said waters except those which have received adequate treatment to prevent the lowering of the biological, physical, chemical or bacteriological characteristics below those given above, nor shall such disposal of sewage or waste be inimical to aquatic life or to the maintenance of aquatic life in said receiving waters. The pH range for said waters shall be 6.5 to 8.0 except when due to natural causes. Any stream temperature increase associated with the discharge of treated sewage, waste or cooling water, water diversions, or releases shall not be such as to appreciably interfere with the uses assigned to this class. The waters of this classification shall be considered as being acceptable for fishing, swimming and other recreational purposes and, after adequate treatment, for use as water supplies."

*"**Env-Wq 1703.07(b)** - Except as naturally occurs, or in waters identified in RSA 485-A:8,III, or subject to (c) below, class B waters shall have a dissolved oxygen content of at least 75% of saturation, based on a daily average, and an instantaneous minimum dissolved oxygen concentrations of at least 5 mg/L."*

*"**Env-Wq 1703.07(c)** - For the period from October 1st to May 14th, in areas identified by the fish and game department as cold water fish spawning areas of species whose early life stages are not directly exposed to the water, the 7 day mean dissolved oxygen concentration shall be at least 9.5 mg/L and the instantaneous minimum dissolved oxygen concentration shall be at least 8 mg/L. This period shall be extended to June 30 for a particular waterbody if the fish and game department determines it is necessary to protect spring spawners and late hatches of fall spawners, or both."*

Maine law states;

Maine law, 38 M.R.S.A. Section 414-A, requires that the effluent limitations prescribed for discharges require application of best practicable treatment, be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State Water Quality Standards as described in Maine's Surface Water Classification System. In addition, Maine law, 38 M.R.S.A., Section 420 and Department Regulation Chapter 530.5, *Surface Water Toxics Control Program*, requires the regulation of toxic substances at the levels set forth for Federal Water Quality Criteria as published by the U.S. Environmental Protection Agency pursuant to the Clean Water Act.

Class B – *Class B waters shall be of such quality that they are suitable for the designated uses of drinking water supply after treatment; fishing; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation, except as prohibited under Title 12,*

section 403; and navigation; and as habitat for fish and other aquatic life. The habitat shall be characterized as unimpaired.

The dissolved oxygen content of Class B waters shall be not less than 7 parts per million or 75% of saturation, whichever is higher, except that for the period from October 1st to May 14th, in order to ensure spawning and egg incubation of indigenous fish species, the 7-day mean dissolved oxygen concentration shall not be less than 9.5 parts per million and the 1-day minimum dissolved oxygen concentration shall not be less than 8.0 parts per million in identified fish spawning areas. Between May 15th and September 30th, the number of Escherichia coli bacteria of human origin in these waters may not exceed a geometric mean of 64 per 100 milliliters or an instantaneous level of 427 per 100 milliliters.

Discharges to Class B waters shall not cause adverse impact to aquatic life in that the receiving waters shall be of sufficient quality to support all aquatic species indigenous to the receiving water without detrimental changes in the resident biological community.

Class C – Maine law states; Class C waters shall be of such quality that they are suitable for the designated uses of drinking water supply after treatment; fishing; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation, except as prohibited under Title 12, section 403; and navigation; and as a habitat for fish and other aquatic life.

The dissolved oxygen content of Class C water may be not less than 5 parts per million or 60% of saturation, whichever is higher, except that in identified salmonid spawning areas where water quality is sufficient to ensure spawning, egg incubation and survival of early life stages, that water quality sufficient for these purposes must be maintained. In addition, in order to provide additional protection for growth of indigenous fish, dischargers that were issued final discharge licenses or water quality certificates prior to March 16, 2004 that are based on a 6.5 parts per million dissolved oxygen criterion must continue to be licensed using a temperature of 24 degrees centigrade or the ambient temperature of the water body, whichever is lower. Final discharge licenses and water quality certificates not based on a 6.5 parts per million dissolved oxygen criterion prior to March 16, 2004 must be based on a 6.5 parts per million dissolved oxygen criterion at a temperature of 22 degrees centigrade or the ambient temperature of the water body, whichever is lower. Between May 15th and September 30th, the number of Escherichia coli bacteria of human origin in these waters may not exceed a geometric mean of 142 per 100 milliliters or an instantaneous level of 949 per 100 milliliters. The board shall adopt rules governing the procedure for designation of spawning areas. Those rules must include provision for periodic review of designated spawning areas and consultation with affected persons prior to designation of a stretch of water as a spawning area.

Discharges to Class C waters may cause some changes to aquatic life, provided that the receiving waters shall be of sufficient quality to support all species of fish indigenous to the receiving waters and maintain the structure and function of the resident biological community.

Additionally, portions of the Androscoggin River in the vicinity of the discharge from the AVRRDD WWTP are on the New Hampshire 303(d) list. These portions of the Androscoggin are listed as impaired for fish consumption by dioxin and mercury, impaired for primary contact recreation by E-coli, impaired for aquatic life by aluminum, lead, and pH, and potential non-support of aquatic life by copper. NH DES is scheduled to perform a TMDL for these impairments in the NH portion of the river beginning in 2017.

a. Androscoggin River Flow Regime

The Androscoggin River originates at the outlet of Umbagog Lake in Errol, New Hampshire, and empties into the Atlantic Ocean at Merrymeeting Bay in Brunswick, Maine. The River is one of the major New England river basins, extending from the Canadian border to the Atlantic Ocean and covering a 3,450 square mile section of eastern New Hampshire and southwestern Maine. The river flow is regulated from a series of dams in the upper watershed that store a significant amount of water. As a result, a minimum flow of water can be maintained throughout the river system.

In 1983, the critical low flow event was based on a flow of 1,550 cubic feet per second (cfs) at Berlin, New Hampshire. This flow rate was based upon a minimum flow maintenance agreement amongst the James River Paper Company, Rumford Falls Power Company, International Paper Company and the Union Water Company, which formed the Androscoggin Reservoir Company. That agreement called for a minimum flow of 1,550 cfs to be maintained in the Androscoggin River at Berlin, New Hampshire. Stored water was to be released so that one third (1/3) originates from Aziscohos Lake storage and the remaining two thirds (2/3) from the waters impounded by the Errol Middle, Upper and Rangeley Dams.

A U.S.Geological Survey (USGS) stream flow gauging station (#01054000) is maintained on the Androscoggin River near Gorham, New Hampshire (drainage area of 1,361 mi^2). The gauging station is located approximately 1,600 feet downstream of the outfall from the Cascade Paper Mill WWTP (Outfall 018). This station has been recording river flows since 1929. As a result of the termination of log drives along the river in 1962, only the post-1962 period of record was used for the purposes of establishing a 7Q10 low river flow for the water quality-based criteria calculations for the previous permit. The NHDES recently re-estimated local 7Q10 for the Androscoggin River from Berlin to Gorham using the1963 to 2006 post log drive period of record at the USGS gage in Gorham. The 7Q10 just upstream of the AVRRDD WWTP was estimated to be 1,331 cfs (See Attachment D). These river flows form the basis for calculating the water quality-based criteria limits for the Androscoggin River in New Hampshire.

b. Androscoggin River Impoundments

The flow of the Androscoggin River is extensively regulated by numerous dams, both on the river itself and on its tributaries. The existing dams essentially control all but peak flows in the basin. Over 90 percent of the present storage capacity is in the headwaters of the basin above the outlet of Umbagog Lake at Errol, New Hampshire. The only other major storage impoundment on the river itself is the Gulf Island Pond (GIP) formed by Gulf Island Dam. The dam, which was built in 1928, is located near Lewiston, Maine. The GIP is used primarily for hydropower generation by Florida Power and Light (FPL). The pond has about 10 feet of usable head, but is usually operated in a manner such that weekly inflow equals outflow. FPL generally releases flow from the dam during the week while on weekends the flows are restricted to help rebuild storage capacity. During low flow periods, the discharge is also restricted at night. The pond backs up water for some 14 miles with a mean width of about one-third of a mile and a mean depth of 20 feet. However, depths in excess of 70 feet are found in the first several miles of the pond upstream of the Gulf Island Dam. GIP is located entirely within the portion of the Androscoggin River which is classified by the State of Maine as a Class C water body.

c. Current Water Quality Assessment/Modeling

Under Section 303(d) of the Clean Water Act (CWA), states are required to develop information on the quality of their water resources and report this information to the EPA, the U. S. Congress, and the public. Two segments of the Androscoggin River have been identified by the State of Maine as being impaired (i.e., these sections do not attain Class C water quality standards). These two segments, which include the lower four miles of the GIP impoundment and the Livermore Falls impoundment are on Maine's 303(d) list for respectively not attaining the Class C standard for dissolved oxygen (DO) and the Class C standard for aquatic life criteria. Under the CWA, each state is required to develop a Total Maximum Daily Load (TMDL) for a water body once it is identified as impaired. A TMDL is essentially a pollution budget designed to restore the health of a water body. A TMDL typically identifies the source(s) of the pollutant from direct and indirect discharges, determines the maximum amount of pollutant, including a margin of safety, that can be discharged to a specific water body while maintaining water quality standards for designated uses, and outlines a plan to meet the goal. A TMDL was prepared by the ME DEP for the Androscoggin River in May of 2005 and this TMDL was approved by the EPA on July 18, 2005.

According to the TMDL, GIP does not attain Class C minimum and monthly average dissolved oxygen criteria in a four-mile segment directly above the GIP dam. The TMDL identified these areas of non-compliance as primarily being in the deeper areas of the water column (i.e., at depths of 30 to 80 feet). The TMDL also identified that algae blooms, which occur in the vicinity of the GIP as a result of excessive amounts of phosphorus discharged to the river, prevent the use of the water for primary contact recreation, one of the designated uses of the river. In addition, the TMDL identified that the Livermore Falls impoundment, which is located upstream of GIP

just below the Verso Paper Mill in Jay, Maine, does not attain the aquatic life criteria for a Class C water body. Further information concerning the impacts of the TMDL are summarized below. However, individuals are encouraged to read the Androscoggin River TMDL (May 2005) prepared by the ME DEP for additional details.[1]

The pollutants of concern as identified in the TMDL are carbonaceous biochemical oxygen demand, ortho-phosphorus (ortho-P), total phosphorus (total-P), and total suspended solids (TSS). It should be noted that carbonaceous biochemical oxygen demand (CBOD) and biochemical oxygen demand (BOD) are used interchangeably in this fact sheet and the draft permit to represent the same effluent characteristic.[2] The 2002 Modeling Report prepared by ME DEP has indicated that the paper mills account for a majority of phosphorus and biochemical oxygen demand inputs into GIP. The TMDL identifies that a reduction of phosphorus is needed to eliminate algae blooms in GIP. A reduction of CBOD, TSS, and phosphorus, is needed to help attain the Class C criteria for DO in GIP. In addition, the TMDL identifies that an instream oxygen injection system currently located five miles above GIP dam needs to be re-designed to inject an additional quantity of oxygen into the pond to help attain the Class C criteria for DO in the lower depths of the pond.

The 2002 Modeling Report identified sediment oxygen demand (SOD) as the largest source of dissolved oxygen depletion in the deeper areas of Gulf Island Pond, primarily from the settling and decay of algae, and to a lesser extent, the continuing discharge of TSS. Current point source discharges and the existence of the large GIP impoundment downstream of the discharges are the primary cause of the algal blooms. The modeling confirmed the importance of reducing pollutants that contribute to SOD (algae, TSS) and the need to continue with the injection of oxygen to help with the attainment of the Class C aquatic life criteria.

The TMDL also identified the paper mills located in Berlin, New Hampshire; Rumford, Maine; and Jay, Maine as the largest point source discharge of phosphorus to the Androscoggin River. These facilities account for about 70% of the total-P and 80% of the ortho-P entering the GIP. Verso Paper is the largest single source of phosphorus, accounting for 45% of the total-P and 57% of the ortho-P entering the pond. The Rumford Paper Company Mill is the second largest single source of phosphorus, accounting for about 14% of the total-P and 21% of the ortho-P. Of the paper mills, Fraser Papers (including the discharge from the AVRRDD WWTP) accounts for the smallest amount of phosphorus entering the pond with about 11% of the total-P and 2% of

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1 *See* http://mainegov-images.informe.org/dep/blwq/docmonitoring/impairedwaters/gipfinaltmdl.pdf

2 Conservatively, the permit requires monitoring for BOD, which includes any CBOD which may be present in the discharge, since CBOD is a subpart of BOD.

the ortho-P. There are also several municipal point sources which are located along the Androscoggin River whose discharges contribute to the phosphorus loading of the river. These POTWs are located in Berlin and Gorham, New Hampshire; Bethel, Rumford, and Livermore Falls, Maine. Of these municipal discharges, only the Livermore Falls POTW is considered a significant source of ortho-P and it is estimated that this facility accounts for approximately 13% of the ortho-P load entering the pond.

Maine's Water Quality Standards do not include numeric criteria for nutrients such as phosphorus. ME DEP has chosen chlorophyll-a as a surrogate for eutrophic conditions, because algal blooms are a direct result of eutrophic conditions, and chlorophyll-a is a measure of algal productivity. ME DEP has set the threshold for the phosphorus in the TMDL at a level designed to maintain the pond averaged chlorophyll-a concentration under 10 ppb.

The TMDL allocation was originally written for the entire discharge from Fraser Papers, including both the discharge from the Fraser paper mill and from the AVRRDD WWTP. However, since demolition of the pulp mill and sale of the pulp mill WWTP to AVRRDD, the TMDL can no longer be applied as a combination of the discharges within the same permit as a single "administrative" outfall. Therefore, EPA has determined that the TMDL shall be divided between AVRRDD and Fraser based, in part, on the concentration-based effluent limitations applicable to landfill leachate, along with the flow of landfill leachate. EPA used the relevant landfill ELGs and the discharge flow provided in AVRRDD's permit application to calculate mass-based limitations for the discharge from the AVRRDD WWTP, and set these as effluent limits for Outfall 016. The remaining allocation was divided as described in the fact sheet for NPDES Permit No. NH0000655. This method should ensure compliance with NH and ME Water Quality Standards without the need for water quality based effluent limits for AVRRDD which are more stringent than AVRRDD's technology-based limits. See Table 1, below, for a summary of the TMDL allocations, ELG limits, and calculated effluent limits for Outfall 016.

Table 1. Summary of ELGs and Calculated Effluent Limitations for Outfall 016

Limits	Total Phosphorus (lbs/day)	BOD		TSS	
	Monthly Average	Monthly Average	Daily Max	Monthly Average	Daily Max
ELGs for Internal Outfall of Landfill Leachate[2]	---	37 mg/L	140 mg/L	27 mg/L	88 mg/L
Calculated Effluent Limitations for Outfall 016	5 lbs/day[3] (June 1- Sept 30)	15 lbs/day[1]	58 lbs/day[1]	11 lbs/day[1]	37 lbs/day[1]

1 EPA used the flow information from the landfill leachate (average flow of 0.043 MGD rounded to 0.05 MGD to account for flow variation) to convert the ELG concentration limits for Outfall 016 to mass-based limits.

2 Additional ELGs for the internal outfall consisting of landfill leachate at the AVRRDD WWTP can be found at 40 C.F.R. § 445.21 and include effluent limitations for pH, Ammonia (as N), α – Terpineol, Benzoic Acid, ρ – Cresol, Phenol, Zinc. These limits, along with the listed limits for BOD and TSS, will be required in the draft permit for the internal outfall consisting of landfill leachate at the AVRRDD WWTP.

3 The mass-based phosphorus limit for Outfall 016 was calculated using AVRRDD's permit re-application value for total phosphorus in the WWTP effluent (0.73 mg/L) and the average discharge from the WWTP (0.33 MGD). This calculated to about 2.01 lbs/day. Since this allocation is based on only one sample, the permit allocates 5 lbs/day phosphorus to AVRRDD for Outfall 016 to allow for variations in the amount of phosphorus in the discharge and to assure that the total TMDL allocation is met as described in the fact sheet for the Fraser Papers draft permit (NH0000655).

3. Anti-Backsliding

EPA's anti-backsliding provision as identified in Section 402(o) of the Clean Water Act and at 40 C.F.R. §122.44(l) prohibits the relaxation of permit limits, standards, and conditions unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued. Anti-backsliding provisions apply to effluent limits based on technology, water quality, BPJ and State Certification requirements. Relief from anti-backsliding provisions can only be granted under one of the defined exceptions [See 40 C.F.R. §122.44(l)(i)].

4. Anti-Degradation

The State of New Hampshire's Anti-Degradation Policy is found at Env-Ws 1708. All existing instream uses and the level of water quality necessary to protect the existing uses of the Androscoggin River shall be maintained and protected. Class B water bodies in the State of New Hampshire are considered as being acceptable for fishing, swimming, and other recreational purposes and, after adequate treatment, for use as water supplies.

B. Description of the Facility

The AVRRDD WWTP treats landfill leachate from the Mt. Carberry landfill and storm water runoff from the former pulp mill site. Storm water collected at the former pulp mill site flows by gravity about 1 mile to the WWTP, where the flow enters the headworks building and then discharges into the south end of the South lagoon. The Mt. Carberry landfill leachate flows by gravity about 2 miles from the landfill and enters into the south end of the south lagoon. The south lagoon is approximately 3.6 million gallons in volume. Aerators are used in the south lagoon during the warmer months to provide aeration and mixing. The south lagoon historically flowed to the north lagoon (which is about 3.0 million gallons in volume) however, the north lagoon has been off-line since May 2002. Water exits the north end of the south lagoon through

a channel that feeds an underground pipe to the center well of the secondary clarifier (the primary clarifer has been off-line since August 2006). Final settling occurs in the secondary clarifier and the effluent subsequently discharges to the Androscoggin. No chemicals or flocculants are used at the WWTP. All flows through the WWTP (headworks, lagoons, clarifiers, and final effluent to the river) are by gravity. Refer to Attachment C for a flow diagram of the WWTP.

C. Description of Discharge

The flow from the WWTP consists of landfill leachate and storm water from the former pulp mill site and averages 0.33 MGD. The average flow of landfill leachate from the Mt. Carberry landfill is approximately 0.043 MGD.

All operations at the pulp mill have ceased and most of the buildings have been demolished. Based on the description of site activities at the former pulp plant provided by representatives of Fraser (the former owner) and North American Dismantling Corporation (NADC) (the present owner), the facility currently does not discharge storm water associated with industrial activities as defined in 40 C.F.R. §122.26(b)(14)(i)-(xi). Therefore the storm water from the former pulp mill site is not the subject of effluent limits or best management practices in the draft permit. However, if further evidence becomes available that the storm water discharge is associated with industrial activity, or if EPA determines that the discharge causes or contributes to a water quality violation, this permit shall be modified to regulate the discharge of storm water.

D. Discharge Location

The effluent discharges from the secondary clarifier to Outfall 016 by gravity. Outfall 016 discharges to the Androscoggin River, upstream of the discharge from the Fraser Papers' Outfall 018 (authorized by NPDES Permit No. NH0000655). Refer to Attachment A for the location of the discharge.

E. Proposed Permit Effluent Limitations and Conditions

The effluent limitations and monitoring requirements may be found in Part I (Effluent Limitations and Monitoring Requirements) of the draft permit.

1. Outfall 016 – AVRRDD WWTP effluent

a. Flow

Fraser Papers previously reported that the monthly average design flow rate of the WWTP was approximately 25 MGD. A review of the AVRRDD permit application indicates that the long-term average flow from the WWTP is 0.33 MGD, the maximum 30-day flow is 0.65 MGD, and

the maximum daily value is 2.9 MGD. Landfill leachate accounts for approximately 0.043 MGD of this flow. The permittee is operating well below the design flow rate of the treatment system, even when the WWTP was operated by Fraser to treat process waste from the pulp mill. Therefore, with this excess capacity, the permit requires the permittee to monitor and report, without limits, the monthly average and daily maximum flow rates for Outfall 016. The reported flow shall be used to convert the concentration-based measurements for Outfall 016 to mass-based measurements, with the monthly average flow used to convert the monthly average measurements and the maximum daily flow used to convert the daily maximum measurements.

b. Dilution Factor

EPA calculated the dilution factor for the discharge from Outfall 016 to use in calculating the threshold for the whole effluent toxicity (See Part IV.E.1.f of this fact sheet). The acute and chronic dilution factor calculations for the discharge through Outfall 018 based on the maximum daily flow (2.9 MGD) and the average flow (0.33 MGD), respectively, and a 7Q10 value of 1,331 cfs, are as follows:

$$\text{Dilution Factor} = \frac{\text{River Flow (cfs)(Conv. Factor)} + \text{Plant Flow (MGD)}}{\text{Plant Flow (MGD)}} \times 0.9$$

$$\text{Acute Dilution Factor} = \frac{[(1{,}331 \text{ cfs})(0.6464) + 2.9 \text{ MGD}]}{2.9 \text{ MGD}} \times 0.9 = 268 : 1$$

$$\text{Chronic Dilution Factor} = \frac{[(1{,}331 \text{ cfs})(0.6464) + 0.33 \text{ MGD}]}{0.33 \text{ MGD}} \times 0.9 = 2347 : 1$$

The State of New Hampshire reserves 10 percent of a receiving water's assimilative capacity (See RSA 485-A:13,I,a. and NHDES rule Env-Ws 1705.01) to ensure that there is sufficient assimilative capacity for all dischargers into a water body. Accordingly, the dilution factor calculation above incorporates a factor of 0.9 to reserve the 10 percent capacity in the receiving water. Further details regarding the derivation of the 7Q10 flow utilized in the calculation above can be found in Section IV.A.2.a of this fact sheet.

c. pH Range

The New Hampshire Water Quality Standards require effluent pH limits of 6.5 to 8.0 standard units (SU). *See* N.H. Rev. Stat. Ann. 485-A:8,II. Consequently, the draft permit requires pH limits of 6.5 to 8.0 SU.

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 landfill leachate, in 40 C.F.R. §445.21 (e.g., 6 to 9

Standard Units), as described in the draft permit in the Special Conditions Section (see Part I.D.2).

d. BOD and TSS

This permit requires effluent limitations for BOD and TSS, in order to meet the required ELGs for Landfills. The ELGs require effluent limitations of 140 mg/L maximum daily and 27 mg/L monthly average for BOD and 88 mg/L maximum daily and 27 mg/L monthly average for TSS. Based on the average discharge of landfill leachate of 0.043 MGD, the concentration-based limits can be converted to mass-based limits. Multiplying the concentration-based limits by 0.050 MGD (instead of 0.043 MGD, to account for possible flow variation) and multiplying by a conversion factor of 8.344 calculates the following mass-based limits for BOD and TSS in lbs/day:

Regulated Parameter	**Maximum Daily (lbs/day)**	**Monthly Avg (lbs/day)**
BOD	58	15
TSS	37	11

Since the daily maximum flow is unknown, use of the daily maximum flow in the calculation of the mass-based limits is an acceptable, and more conservative, approach. Part I.A.2 of the draft permit requires the permittee to monitor both the average monthly and maximum daily landfill leachate flow in order to collect more information about the discharge.

The total mass (lbs/day) of BOD and TSS discharged from both the WWTP and Fraser Papers (NPDES Permit No. NH0000655) must not exceed the allocation assigned in the TMDL for the discharges from both Outfall 016 and Outfall 018, as discussed above in Part IV.A.2.c of this fact sheet.

The total TMDL requires a weekly average mass-based limit, but no ELG effluent limitation for weekly average BOD exists. However, the conditions of EPA's approval of the TMDL identified a necessary change in the waste load allocations (WLAs) for BOD:

> The WLAs for BOD_5 are established as a 7 day average. It is EPA's understanding that the 7 day average represents a loading that is intended to meet a daily minimum instream DO of 5.0 ppm on average over seven days (see discussion on page 30 of the final TMDL report). The loadings were adjusted to assure attainment of the instantaneous DO criteria by applying a daily and diurnal adjustment factor to the model output as explained on page 30, footnote 9, of the TMDL report. However, since Maine's DO criterion of 5.0 ppm is expressed as a minimum value, not a seven day average, *the 7 day average loadings should be implemented in licensing as daily maximum loadings/daily maximum permit limits.* In addition, the alternative of increasing the 7 day average loadings by multiples greater than one to obtain

> daily maximum loadings, as presented under "Licensing Recommendations" in Table 8 [page 32], is therefore not appropriate and should not be used.[3]

Therefore, this permit requires the above daily maximum and monthly average mass-based effluent limitations for the discharge through Outfall 016, in order to meet the ELGs for Landfills and the TMDL allocation. These BOD and TSS allocations for the discharge through Outfall 016 shall be subtracted from the total TMDL allocation for Fraser Papers, as described in NPDES Permit No. NH0000655.

The reported flow measurements for Outfall 016 shall be used to convert the concentration-based measurements to mass-based measurements. Monitoring requirements for both BOD and TSS are at a frequency of once per week (1/week).

e. Total Phosphorus and Ortho-Phosphorus

As discussed in Part IV.A.2 of this fact sheet, a TMDL allocation exists for the combined total mass (lbs/day) of total phosphorus and ortho-phosphorus discharged from both the AVRRDD WWTP and Fraser Papers (NPDES Permit No. NH0000655). Therefore, the AVRRDD WWTP effluent limitation shall be based on the average flow from the WWTP (0.33 MGD) and the reported concentration of phosphorus in the discharge from the AVRRDD permit application (0.73 mg/L).

Therefore, EPA expects approximately 2.01 lbs/day (0.33 MGD*0.73 mg/L*8.344 CF) total phosphorus in the discharge from Outfall 016. To ensure that the facility does not violate this permit limit, since this calculation was based on only one sample, this allocation was multiplied by a factor of 2.5, strictly for allocation purposes. Therefore, the draft permit requires that the discharge from Outfall 016 shall not exceed 5 lbs/day total phosphorus. This allocation shall be subtracted from the total TMDL allocation for Fraser Papers, as described in NPDES Permit No. NH0000655. This allocation is well within the range of what a well operated treatment plant should be able to meet and should ensure that the TMDL is not exceeded due to the discharge from Outfall 016.

In addition to the 5 lbs/day maximum mass effluent limit for total phosphorus, the permittee is required to report mass and concentration-based monthly average and daily maximum measurements for ortho-phosphorus and the mass-based monthly average and concentration-based monthly average and daily maximum measurements for phosphorus. Monitoring for both of these parameters shall occur at a frequency of once per week (1/week), during the period of June 1st through September 30th, to be consistent with the seasonal requirements of the TMDL as discussed above in Part IV.A.2 of this fact sheet. The reported flow measurements for Outfall

3 EPA New England's TMDL Review (Androscoggin River), p.15 (emphasis in original).

016 shall be used to convert the concentration-based measurements to mass-based measurements.

f. Whole Effluent Toxicity Testing

New Hampshire's State law N.H. RSA 485-A:8, VI and the N.H. Code of Administrative Rules, Part Env-Wq 1703.21(a)(1) states that, "all classes of waters shall be free from toxic pollutants or chemical constituents in concentrations or combination that injure or are inimical to plants, animals, humans, or aquatic life." Whole effluent toxicity (WET) testing is conducted to assess whether or not certain discharges produce a toxic effect in the receiving water. If there is evidence that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative criterion within an applicable State water quality standard, then the permit must contain effluent limits for whole effluent toxicity [See 40 C.F.R. §122.44(d)(1)(v)]. WET testing can be performed on invertebrate and/or vertebrate species and the results are typically used in conjunction with pollutant specific controls to limit the discharge of toxic pollutants.

When EPA believes that toxicity testing and limits are appropriate and necessary as described in the previous paragraph, EPA can specify the appropriate testing conditions (e.g., acute and/or chronic WET testing) and effluent limitations (e.g., LC_{50} and/or C-NOEC). Acute toxicity results are typically reported in terms of the LC_{50}. The LC_{50} is defined as the concentration of toxicant, or in the case of this permit the percentage of effluent, that is lethal to 50 percent of the test organisms during a specific time period. Accordingly, an acute toxicity or LC_{50} limit of 100 percent would mean that at least 50 percent of the test organisms survive when exposed to a sample comprised of 100 percent effluent over a time period of typically forty-eight hours.

In contrast, chronic toxicity is measured in terms of the No Observed Effect Concentration (NOEC). The chronic NOEC or C-NOEC is a measure of the highest concentration or percentage of a toxicant or effluent which causes no adverse effects on growth, survival or reproduction to a test organism when they are exposed to the toxicant/effluent over a life cycle or partial life cycle test. The approach typically used for identifying a C-NOEC limit for a discharge is to set a limit based on the receiving water concentration after accounting for the dilution factor. In the case of the discharge from Outfall 016, if a C-NOEC limit were to be required, the receiving water concentration and therefore the C-NOEC limit would be 0.08 percent (i.e., the reciprocal of the chronic dilution factor). A C-NOEC limit of 0.08 percent would mean that any adverse effects on growth, survival or reproduction detected in the test organisms when exposed to a sample containing 0.08 percent effluent or less (the remainder of the sample being dilution water) would be a permit violation. Based on the large amount of dilution available, the discharge through Outfall 016 is not expected to violate this C-NOEC. Therefore, the draft permit does not require chronic WET testing at this time.

However, the draft permit contains quarterly (1/Quarter) acute WET testing and reporting without limits for Outfall 016 to help determine whether there is toxicity associated with this

discharge. The testing is to be performed using the species Daphnid (*Ceriodaphnia dubia*) and Fathead Minnow (*Pimpephales promelas*) in accordance with the test procedure and protocol (Freshwater Acute Toxicity Test Procedure and Protocol) which is provided as Attachment 1 to the draft permit. This Test Procedure and Protocol contains the appropriate acute toxicity test protocols.

If the results of these tests are consistently negative (i.e., LC_{50} of 100%) during the first year of testing (i.e., during all four consecutive quarters of testing after the issuance of the permit) then the monitoring frequency and testing requirements may be reduced as discussed below. Alternatively, if the results are not consistently negative, then the monitoring frequency and testing requirements may remain as is or be increased.

A Special Condition has been included in the draft permit (See Part 1.H.1) which describes the conditions and requirements under which EPA would consider modifying the WET testing monitoring requirements. In addition, the Special Condition allows EPA to modify the testing requirements via a certified letter to be sent to the permittee. This permit provision anticipates that the permittee may wish to request a reduction in WET testing for the discharge from the WWTP if the WET results indicate an absence of toxicity. The permittee may, after completing four consecutive quarters of WET tests all of which must be valid tests and demonstrate negative results (i.e., LC_{50} of 100%), submit a written request to EPA seeking a review of the toxicity test results. EPA will review the test results and consider any other pertinent information to make a determination. Based upon the results of the determination, the frequency of acute WET testing may be reduced to as little as once per year. The permittee is required to continue testing at the frequency specified in the permit until the permit is either formally modified or until the permittee receives a certified letter from EPA indicating a change in the permit conditions. This special condition does not negate the permittee's option to request a permit modification at any time prior to permit expiration.

g. Ammonia (as N)

The ELGs for the Landfills Point Source Category (40 C.F.R. §445.21 – Subpart B) require maximum daily and average monthly Ammonia (as N) effluent limitations of 10 mg/L and 4.9 mg/L, respectively.

In order to ensure that the discharge from the internal outfall of landfill leachate does not exceed these effluent limitations, the permit requires mass-based limits at the outfall of the WWTP. The mass-based limits were calculating by multiply by the average flow from the landfill leachate (approximately 0.050 mgd) and a conversion factor of 8.344. Since the daily maximum flow is unknown, use of the daily maximum flow in the calculation of the mass-based limits is an acceptable, and more conservative, approach.

Therefore, the permit requires a maximum daily limit of 4.2 lbs/day and an average monthly limit of 2.0 lbs/day at Outfall 016, at a frequency of 1/week. The permit also requires the

permittee to report the monthly average and daily maximum concentrations. The reported flow measurements for Outfall 016 shall be used to convert the concentration-based measurements to mass-based measurements.

h. Alpha (α) - Terpineol

The ELGs for the Landfills Point Source Category (40 C.F.R. §445.21 – Subpart B) require maximum daily and average monthly α - Terpineol effluent limitations of 0.033 mg/L and 0.016 mg/L, respectively.

In order to ensure that the discharge from the internal outfall of landfill leachate does not exceed these effluent limitations, the permit requires mass-based limits at the outfall of the WWTP. The mass-based limits were calculating by multiply by the average flow from the landfill leachate (approximately 0.050 mgd) and a conversion factor of 8.344. Since the daily maximum flow is unknown, use of the daily maximum flow in the calculation of the mass-based limits is an acceptable, and more conservative, approach.

Therefore, the permit requires a maximum daily limit of 0.014 lbs/day and an average monthly limit of 0.0067 lbs/day at Outfall 016, at a frequency of 1/week. The permit also requires the permittee to report the monthly average and daily maximum concentrations. The reported flow measurements for Outfall 016 shall be used to convert the concentration-based measurements to mass-based measurements.

i. Benzoic acid

The ELGs for the Landfills Point Source Category (40 C.F.R. §445.21 – Subpart B) require maximum daily and average monthly benzoic acid effluent limitations of 0.12 mg/L and 0.071 mg/L, respectively.

In order to ensure that the discharge from the internal outfall of landfill leachate does not exceed these effluent limitations, the permit requires mass-based limits at the outfall of the WWTP. The mass-based limits were calculating by multiply by the average flow from the landfill leachate (approximately 0.050 mgd) and a conversion factor of 8.344. Since the daily maximum flow is unknown, use of the daily maximum flow in the calculation of the mass-based limits is an acceptable, and more conservative, approach.

Therefore, the permit requires a maximum daily limit of 0.050 lbs/day and an average monthly limit of 0.030 lbs/day at Outfall 016, at a frequency of 1/week. The permit also requires the permittee to report the monthly average and daily maximum concentrations. The reported flow measurements for Outfall 016 shall be used to convert the concentration-based measurements to mass-based measurements.

j. ρ – Cresol

The ELGs for the Landfills Point Source Category (40 C.F.R. §445.21 – Subpart B) require maximum daily and average monthly ρ – cresol effluent limitations of 0.025 mg/L and 0.014 mg/L, respectively.

In order to ensure that the discharge from the internal outfall of landfill leachate does not exceed these effluent limitations, the permit requires mass-based limits at the outfall of the WWTP. The mass-based limits were calculating by multiply by the average flow from the landfill leachate (approximately 0.050 mgd) and a conversion factor of 8.344. Since the daily maximum flow is unknown, use of the daily maximum flow in the calculation of the mass-based limits is an acceptable, and more conservative, approach.

Therefore, the permit requires a maximum daily limit of 0.010 lbs/day and an average monthly limit of 0.0058 lbs/day at Outfall 016, at a frequency of 1/week. The permit also requires the permittee to report the monthly average and daily maximum concentrations. The reported flow measurements for Outfall 016 shall be used to convert the concentration-based measurements to mass-based measurements.

k. Phenol

The ELGs for the Landfills Point Source Category (40 C.F.R. §445.21 – Subpart B) require maximum daily and average monthly phenol effluent limitations of 0.026 mg/L and 0.015 mg/L, respectively.

In order to ensure that the discharge from the internal outfall of landfill leachate does not exceed these effluent limitations, the permit requires mass-based limits at the outfall of the WWTP. The mass-based limits were calculating by multiply by the average flow from the landfill leachate (approximately 0.050 mgd) and a conversion factor of 8.344. Since the daily maximum flow is unknown, use of the daily maximum flow in the calculation of the mass-based limits is an acceptable, and more conservative, approach.

Therefore, the permit requires a maximum daily limit of 0.011 lbs/day and an average monthly limit of 0.0063 lbs/day at Outfall 016, at a frequency of 1/week. The permit also requires the permittee to report the monthly average and daily maximum concentrations. The reported flow measurements for Outfall 016 shall be used to convert the concentration-based measurements to mass-based measurements.

l. Zinc

The ELGs for the Landfills Point Source Category (40 C.F.R. §445.21 – Subpart B) require maximum daily and average monthly zinc effluent limitations of 0.20 mg/L and 0.11 mg/L, respectively.

In order to ensure that the discharge from the internal outfall of landfill leachate does not exceed these effluent limitations, the permit requires mass-based limits at the outfall of the WWTP. The mass-based limits were calculating by multiply by the average flow from the landfill leachate (approximately 0.050 mgd) and a conversion factor of 8.344. Since the daily maximum flow is unknown, use of the daily maximum flow in the calculation of the mass-based limits is an acceptable, and more conservative, approach.

Therefore, the permit requires a maximum daily limit of 0.083 lbs/day and an average monthly limit of 0.046 lbs/day at Outfall 016, at a frequency of 1/week. The permit also requires the permittee to report the monthly average and daily maximum concentrations. The reported flow measurements for Outfall 016 shall be used to convert the concentration-based measurements to mass-based measurements.

2. Outfall 001 – Internal Outfall of Landfill Leachate

The Effluent Limitation Guidelines (ELGs) for landfill leachate (40 C.F.R. §445.21) require concentration-based limits for the internal outfall of landfill leachate, applied after treatment. However, since the landfill leachate flow commingles with the storm water flow prior to treatment, it is not possible to sample the treated leachate flow prior to commingling with the storm water. Therefore, the draft permit requires mass-based limits for Outfall 016, as described above, in order to meet the ELGs for landfill leachate. The following monitoring requirements apply to Outfall 001, in order to provide EPA with a characterization of the landfill leachate flow and to ensure that treatment of the leachate is necessary in order to meet the ELGs.

a. Flow

The permit requires the permittee to report the monthly average and daily maximum flow of the internal outfall of landfill leachate.

b. pH

The permit requires the permittee to report the monthly average and daily maximum pH of the internal outfall of landfill leachate. The reported range shall be compared to the ELG for landfill leachate of 6 – 9 SU.

c. BOD and TSS

This permit requires the permittee to report the monthly average and daily maximum BOD and TSS concentration-based measurements for the internal outfall of landfill leachate. The reported measurements shall be compared to the ELGs of 140 mg/L maximum daily and 27 mg/L monthly average for BOD and 88 mg/L maximum daily and 27 mg/L monthly average for TSS.

d. Ammonia (as N)

This permit requires the permittee to report the monthly average and daily maximum Ammonia (as N) concentration-based measurements for the internal outfall of landfill leachate. The reported measurements shall be compared to the maximum daily and average monthly Ammonia (as N) ELGs of 10 mg/L and 4.9 mg/L, respectively.

e. Alpha (α) - Terpineol

This permit requires the permittee to report the monthly average and daily maximum Alpha (α) - Terpineol concentration-based measurements for the internal outfall of landfill leachate. The reported measurements shall be compared to the maximum daily and average monthly α - Terpineol ELGs of 0.033 mg/L and 0.016 mg/L, respectively.

f. Benzoic Acid

This permit requires the permittee to report the monthly average and daily maximum benzoic acid concentration-based measurements for the internal outfall of landfill leachate. The reported measurements shall be compared to the maximum daily and average monthly benzoic acid ELGs of 0.12 mg/L and 0.071 mg/L, respectively.

g. ρ – cresol

This permit requires the permittee to report the monthly average and daily maximum ρ – cresol concentration-based measurements for the internal outfall of landfill leachate. The reported measurements shall be compared to the maximum daily and average monthly ρ – cresol ELGs of 0.025 mg/L and 0.014 mg/L, respectively.

h. Phenol

This permit requires the permittee to report the monthly average and daily maximum phenol concentration-based measurements for the internal outfall of landfill leachate. The reported measurements shall be compared to the maximum daily and average monthly phenol effluent limitations of 0.026 mg/L and 0.015 mg/L, respectively.

i. Zinc

This permit requires the permittee to report the monthly average and daily maximum zinc concentration-based measurements for the internal outfall of landfill leachate. The reported measurements shall be compared to the maximum daily and average monthly zinc effluent limitations of 0.20 mg/L and 0.11 mg/L, respectively.

V. ENDANGERED SPECIES ACT (ESA)

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA) grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants ("listed species") and habitat of such species that has been designated as critical (a "critical habitat"). The ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to insure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) typically administer Section 7 consultations for bird, terrestrial, and freshwater aquatic species.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, or plants to see if any such listed species might potentially be impacted by the issuance of this NPDES permit. Due to the absence of effective fish passage at the dams downstream of the facility, it is highly unlikely that protected anadromous fish species would be present in the vicinity of the facility. Based on this assessment, consultation under Section 7 of the ESA with NMFS is not required.

The review focused primarily on freshwater aquatic species, since the intake and discharge are on the Androscoggin River. Based on the normal distribution of listed freshwater species, it is highly unlikely that any species of concern would be present in the vicinity of the facility. Therefore, consultation under Section 7 of the ESA with USFWS is not required.

VI. ESSENTIAL FISH HABITAT (EFH)

Under the 1996 Amendments (PL 104-297) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) if EPA's actions, or proposed actions that EPA funds, permits, or undertakes, "may adversely impact any essential fish habitat." 16 U.S.C. §1855(b). The Amendments broadly define essential fish habitat as, "... those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." 16 U.S.C. §1802(10). Adverse effect means any impact which reduces the quality and/or quantity of EFH. 50 C.F.R. §600.910(a). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

EFH is only designated for species for which Federal Fisheries Management Plans exist (16 U.S.C. § 1855(b)(1)(A)). EFH designations were approved for New England by the U.S. Department of Commerce on March 3, 1999.

The Androscoggin River is designated EFH for Atlantic salmon (*Salmo salar)*. According to New Hampshire Fish and Game Department (NHFGD), there is presently no Atlantic salmon stocking effort in the New Hampshire waters of the Androscoggin River, and there are no plans

for stocking in the near future. The river is heavily managed for hydroelectric power. There are six dams located downstream of and within one mile of the facility. No provisions have been made for upstream or downstream fish passage at any of these dams. There has been no salmon habitat evaluation conducted to date by the NHFGD in the vicinity of the facility.

The presence of the numerous impoundments in the vicinity of the mill provides for limited spawning habitat for any landlocked salmon found in the vicinity of the facility. The nearest area of suitable spawning habitat (i.e., areas of cobble and gravel) is in the vicinity of Shelburne, New Hampshire, approximately 10 miles downstream of the facility. Surplus salmon fry are stocked in upstream sections of the Androscoggin River and connected lakes in order to provide a landlocked salmon sport fishery. It is unlikely that many of the landlocked salmon will succeed in migrating to the sea and it is even less of a possibility that such fish could migrate back to spawn given the lack of viable upstream fish passage.

EPA believes the draft permit adequately protects Androscoggin River EFH, and therefore additional mitigation is not warranted. A formal EFH consultation with NMFS is not required. If adverse effects to EFH do occur as a result of this permitting action, or if new information becomes available that changes the basis for this determination, then NMFS will be notified and a consultation will be promptly initiated. EPA will provide this fact sheet and the draft permit to the NMFS habitat division.

VII. STATE CERTIFICATION REQUIREMENTS

EPA may not issue a permit unless the State Water Pollution Control Agency with jurisdiction over the receiving water(s) either certifies that the effluent limitations and/or conditions contained in the permit are stringent enough to assure, among other things, that the discharge will not cause the receiving water to violate State Water Quality Standards or the Agency waives its right to certify as set forth in 40 C.F.R. § 124.53. The NHDES is the certifying authority within the State of New Hampshire. EPA has discussed this draft permit with staff at the NHDES and anticipates that the draft permit will be certified by the State.

Upon public noticing of this draft permit, EPA is formally requesting that the NHDES make a written determination concerning certification. The State will be deemed to have waived its right to certify unless certification is received within 60 days of receipt of this request.

VIII. GENERAL CONDITIONS AND DEFINITIONS

The remaining general and special conditions of the draft permit are based on the NPDES regulations, 40 C.F.R. Parts 122 through 125, and consist primarily of management requirements common to all permits.

IX. COMMENT PERIOD, HEARING REQUESTS, AND PROCEDURES FOR FINAL DECISIONS

All persons, including applicants, who believe any condition of this draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to **Nicole Kowalski, EPA New England - Region I, 1 Congress Street - Suite 1100 (CIP), Boston, Massachusetts 02114.** Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held if the criteria stated in 40 C.F.R. §124.12 are satisfied. In reaching a final decision on the draft permit, the EPA will respond to all significant comments and make these responses available to the public at EPA's Boston office.

Following the close of the comment period, and after any public hearings, if such hearings are held, the EPA will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within 30 days following the notice of the final permit decision, any interested person may submit a petition for review of the permit to EPA's Environmental Appeals Board consistent with 40 C.F.R. §124.19.

X. EPA CONTACT

Documents used in the preparation of this draft permit and fact sheet will be included in an administrative record available for review at EPA's office during the public comment period. Arrangements for review of the administrative record may be made, and additional information concerning the draft permit may be obtained, between the hours of 9:00 A.M. and 5:00 P.M., Monday through Friday, excluding holidays, by contacting:

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_____
Date

Stephen S Perkins, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency

XI. ATTACHMENTS

A. Site Map
B. Summary of DMR Data
C. Flow Diagram – AVRRDD Treatment Plant
D. 7Q10 Estimate Summary