STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION
AUGUSTA, ME 04333

DEPARTMENT ORDER

IN THE MATTER OF

RUMFORD PAPER COMPANY	)	MAINE POLLUTANT DISCHARGE
RUMFORD, OXFORD COUNTY, MAINE	)	ELIMINATION SYSTEM PERMIT
PULP & PAPER MANUFACTURING FACILITY	)	AND
ME0002054	)	WASTE DISCHARGE LICENSE
W000955-5N-G-R **APPROVAL**	)	**RENEWAL**

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, Section 1251, et. seq., and Maine Law 38 M.R.S.A., Section 414-A et. seq., and all applicable regulations, the Department of Environmental Protection (Department hereinafter) has considered the application of the RUMFORD PAPER COMPANY (RPC/permittee hereinafter) a wholly owned subsidiary of NewPage Corporation, with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

RPC has filed a timely and complete application with the Department to renew combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0002054/MaineWaste Discharge License (WDL) #W000955-5N-G-R (permit hereinafter) that was issued by the Department on September 21, 2005. It is noted the September 21, 2005, permit was subsequently modified on April 10, 2006, August 7, 2006, February 7, 2008, June 30, 2008, June 8, 2010, and February 7, 2012. All permitting actions expired on September 21, 2010.

The RPC mill in Rumford, Maine manufactures bleached kraft market pulp and fine coated paper. The 9/21/05 permit authorized the discharge up to a monthly average flow of 34 million gallons per day (MGD) of treated process waste waters, treated spills of sanitary waste waters, treated landfill leachate, treated stormwater runoff, filter backwash and general housekeeping waste waters associated with a kraft pulp and papermaking facility and energy generating equipment from a single outfall to the Androscoggin River in Rumford, Maine. In addition to the aforementioned waste waters discharged, this permit authorizes treated discharges associated with or resulting from essential maintenance, regularly scheduled maintenance during start-up and shutdown, treated spills and releases (whether anticipated or unanticipated) from anywhere in the permitted facilities. RPC's waste water collection and treatment systems are also used for elementary neutralization pursuant to Maine law, 38 M.R.S.A., 1319.1. The permit also authorized RPC to discharge up to 47 MGD of cooling waters via five additional outfalls. RPC also maintains coverage under a MEPDES Multi-Sector General Permit for Stormwater Discharges Associated With Industrial Activity issued by the Department on April 26, 2011, for eight storm water outfalls.

APPLICATION SUMMARY

The mill produces an average of 1,721 tons per day (TPD) of fine coated paper and 313 tons/day of bleached market pulp from 1,503 air-dried tons per day of unbleached kraft pulp and 250 tons per day of ground wood pulp. Pulp production is allocated at approximately 35% softwood and 65% hardwood although the ratio will vary depending on market conditions. Though pulp and paper production is up and down based on market conditions, these values are representative of normal production and are therefore being used to derive applicable production based technology limitations in this permitting action. The RPC mill has been elemental chlorine free (ECF) since February 1997 and uses chlorine dioxide as the primary bleaching agent.

MODIFICATIONS REQUESTED

1. Eliminate Special Condition M, *Biological Monitoring Plan*, of the 9/21/05 permit that required the permittee to develop and implement an annual biological monitoring plan to monitor bald eagles and other fish eating bird species as the bald eagle populations have recovered and the eagle is no longer listed as an endangered species.

2. Modify the language in Special Condition I, *Thermal Load*, of the 9/21/05 permit to specify an alternate location for obtaining upstream river temperature.

3. Reduce the monitoring frequency of AOX from 1/Week to 1/Month based on statistical evaluation of 526 data points collected as of July 2010.

4. Reduce the monitoring frequency for the 12-chlorinated phenolic compounds from 2/Year to 1/Year given test results for the five-year term of the previous permit indicate all results were less than the minimum level (ML) of detection established by federal regulations.

5. Reduce the monitoring frequency for chloroform from 1/Quarter to 1/Year given a statistical evaluation of 150 data points indicates the discharge levels are approximately ten times lower than the limits established in the 9/21/05 permit.

PERMIT SUMMARY

This permitting action is carrying forward the terms and conditions of the previous permitting actions (9/21/05, 4/10/06, 8/7/06, 2/7/08, 6/30/08, 6/8/10 and 2/7/12) except that this permitting action;

1. Eliminates Special Condition M, *Biological Monitoring Plan*, of the September 21, 2005, permit that required the permittee to develop and implement an annual biological monitoring plan to monitor bald eagles and other fish eating bird species. The permittee is being relieved of this obligation based on the Maine Department of Inland Fisheries and Wildlife and the U.S. Fish and Wildlife Services determination that continuation of the monitoring program is not warranted by the findings of the past monitoring.

PERMIT SUMMARY (cont'd)

2. Establishes new water quality based limitations for total aluminum, total cadmium, total copper and total zinc as test results submitted to the Department indicate the discharge from mill either exceeds or has a reasonable potential to exceed applicable ambient water quality criteria (AWQC) for each of the metals cited. A schedule of compliance has been established for the new water quality based limits for total aluminum, total cadmium and total copper.

3. Incorporating the interim mercury limitations established in a March 2001 permit modification into this permit.

4. Establishes an annual certification requirement pursuant to Department rule 06-096 CMR, Chapter 530, *Surface Water Toxics Control Program.*

5. Reduces the summertime (June – September) BOD monitoring frequency from 1/Day to 3/Week and reduces the non-summer (October – May) BOD monitoring frequency from 5/Week to 1/Week based on a statistical evaluation of the most recent 43 months of data submitted to the Department.

6. Reduces the summertime (June – September) TSS monitoring frequency from 5/Week to 2/Week and reduces the non-summer (October – May) TSS monitoring frequency from 5/Week to 1/Week based on a statistical evaluation of the most recent 43 months of data submitted to the Department.

7. Reduces the monitoring frequency for AOX from 1/Week to 2/Month based on a statistical evaluation of the most recent 43 months of data submitted to the Department.

8. Reduces the monitoring frequency for the 12 phenolics compounds from 2/Year to 1/Year based on a statistical evaluation of the most recent 43 months of data submitted to the Department.

9. Reduces the monitoring frequency for chloroform from 1/Quarter to 1/Year based on a statistical evaluation of the most recent 43 months of data submitted to the Department.

10. Reduces the monitoring frequency for color from 3/Week to 1Week based on a statistical evaluation of the most recent 43 months of data submitted to the Department.

11. Reduces the monitoring frequencies for total phosphorus and ortho-phosphorus from 3/Week to 2/Week based on a statistical evaluation of the most recent 43 months of data submitted to the Department.

12. Reduces the monitoring frequencies for mercury from 4/Year to 1/Year based on a statistical evaluation of the most recent 60 months of data submitted to the Department.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated September 27, 2012, the 2005 EPA approved Total Maximum Daily Load (TMDL) for Gulf Island Pond and ambient water quality monitoring results since issuance of the September 2005 permit, and subject to the terms and conditions contained herein, the Department makes the following CONCLUSIONS:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.

2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.

3. The provisions of the State's antidegradation policy, 38 M.R.S.A., Section 464(4)(F), will be met, in that:

   (a) Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;

   (b) Where high quality waters of the State constitute an outstanding natural resource, that water quality will be maintained and protected;

   (c) The standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;

   (d) Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification, that higher water quality will be maintained and protected; and

   (e) Where a discharge will result in lowering the existing quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.

4. The discharge will be subject to effluent limitations that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the above noted application of the RUMFORD PAPER COMPANY, to discharge up to a monthly average of 34 million gallons per day (MGD) of treated process waste waters, treated spills of sanitary waste waters, treated landfill leachate, treated stormwater runoff, filter backwash and general housekeeping waste waters associated with a kraft pulp and papermaking facility from a single outfall to the Androscoggin River in Rumford, Maine. In addition to the aforementioned waste waters discharged, this permit authorizes treated discharges associated with or resulting from essential maintenance, regularly scheduled maintenance during start-up and shutdown, treated spills and releases (whether anticipated or unanticipated) from anywhere in the permitted facilities and discharge up to 47 MGD of cooling waters and cooling tower blowdown from four outfalls to the Androscoggin River in Rumford, Maine, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations including;

1. "*Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits*," revised July 1, 2002, copy attached.

2. The attached Special Conditions, including effluent limitations and monitoring requirements.

3. This permit becomes effective upon the date of signature below and expires at midnight five (5) years thereafter. If a renewal application is timely submitted and accepted as complete for processing prior to the expiration of this permit, the terms and conditions of this permit and all subsequent modifications and minor revisions thereto remain in effect until a final Department decision on the renewal application becomes effective. [*Maine Administrative Procedure Act*, 5 M.R.S.A. § 10002 and *Rules Concerning the Processing of Applications and Other Administrative Matters*, 06-096 CMR 2(21)(A) (effective April 1, 2003)]

PLEASE NOTE ATTACHED FACT SHEET FOR GUIDANCE ON APPEAL PROCEDURES

DONE AND DATED AT AUGUSTA, MAINE, THIS 20th DAY OF December, 2012.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Michael Kuhns
For Patricia W. Aho, Commissioner

Date of initial receipt of application July 1, 2010.
Date of application acceptance July 8, 2010.

Filed
DEC 20 2012
State of Maine
Board of Environmental Protection

Date filed with Board of Environmental Protection _____
This order prepared by Gregg Wood, BUREAU OF LAND AND WATER QUALITY
ME000254 2012 12/19/12

SPECIAL CONDITIONS
A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Beginning with the effective date of this permit, the permittee is authorized to discharge treated waste waters as described on page one of this permit and storm water from **Outfall #001 (001A & 001B)** [(1)], cooling water and/or cooling tower blowdown from **Outfalls #002, #003, and #004, and #005** and bleach plant effluent (internal waste stream) from **Outfall #100**, to the Androscoggin River. Such discharges shall be limited and monitored by the permittee as specified below. The italicized numeric values in brackets in the table below and the tables that follow are not limitations but are code numbers used by Department personnel to code Discharge Monitoring Reports (DMR's).

OUTFALL #001 – Secondary treated waste waters

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow *[50050]*	34 MGD *[03]*	—	Report MGD*[03]*	—	—	—	Continuous *[99/99]*	Recorder*[RC]*
BOD_5 *[00310]*								
(June 1 – Sept. 30)	8,330 #/day	12,500 lbs/day	18,750 #/day	—	—	—	3/Week *[03/07]*	Composite
(Oct 1 – May 31)	14,400 #/day *[26]*	—	32,300 #/day *[26]*	—	—	—	1/Week *[01/07]*	Composite *[24]*
TSS *[00530]*								
(June 1 – Sept 30)	15,500 #/day	—	40,000 #/day	—	—	—	2/Week *[02/07]*	Composite *[24]*
	11,000 #/day[(2)]	—	—	—	—	—	1/Day *[01/01]*	Calculate *[CA]*
(Oct 1 – May 31)	32,900 #/day	—	50,000 #/day	—	—	—	1/Week *[03/07]*	Composite
	15,952 #/day[(3)] *[26]*	—	—	—	—	—	1/Year *[01/YR]*	Calculate

Footnotes:

See pages 10 -14 of this permit.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001 – Secondary treated waste waters

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Total Phosphorus *[00665]* (June 1 – September 30)	152 #/day*[26]*	—	Report #/day*[26]*	Report mg/L[(4)] *[19]*	—	Report mg/L[(4)] *[19]*	2/Week *[02/07]*	Composite*[24]*
Ortho-phosphorus *[70507]* (June 1 – September 30)	97 #/day*[26]*	—	Report #/day*[26]*	Report mg/L[(4)] *[19]*	—	Report mg/L[(4)] *[19]*	2/Week *[02/07]*	Composite*[24]*
Oxygen Injection *[34048]* (June 1 – Sept. 30)	—	—	24,279 lbs/day[(5a)] 34,490 lbs/day[(5b)]	—	—	—	1/Day*[01/01]*	Record *[RC]*
Temperature *[00011]* (June 1 – Sept. 300 (Oct. 1 – May 31)	— —	— —	— —	— —	— —	110°F *[15]* 110 °F *[15]*	1/Day *[01/01]* 1/Week *[01/07]*	Measure *[MS]* Measure *[MS]*
Adsorbable Organic Halogen[(6)] (AOX) *[03594]*	1,873 #/day *[26]*	—	2,859 #/day *[26]*	—	—	—	2/Month *[02/30]*	Composite *[24]*
Color[(7)] *[00084]*	150#/ ADTUBP*[42]*	—	—	—	—	—	1/Week *[01/07]*	Calculate *[CA]*
pH (Std. Unit) *[00400]*	—	—	—	—	—	5.0 – 9.0 SU *[12]*	1/Day *[01/01]*	Grab[(8)] *[GR]*

Footnotes:

See pages 10 -14 of this permit.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001 – Secondary treated waste waters

Effluent Characteristic	Discharge Limitations						Minimum Monitoring Requirements	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
Aluminum (Total) *[01105]*	Report lbs/day *[26]*	---	---	Report ug/L *[28]*	---	---	2/Year *[02/YR]*	Composite *[24]*
Aluminum (Total) *[01105]* *(Beginning December 19, 2017)*	96 lbs./day *[26]*	---	---	Report ug/L *[28]*	---	---	2/Year *[02/YR]*	Composite *[24]*
Cadmium (Total) *[01027]*	Report lbs/day *[26]*	---	Report lbs/day *[26]*	Report ug/L *[28]*	---	Report ug/L *[28]*	2/Year *[02/YR]*	Composite *[24]*
Cadmium (Total) *[01027]* *(Beginning December 19, 2015)*	0.24 lbs./day *[26]*	---	0.72 lbs./day *[26]*	Report ug/L *[28]*	---	Report ug/L *[28]*	2/Year *[02/YR]*	Composite *[24]*
Copper (Total) *[01042]*	Report lbs/day *[26]*	---	Report lbs/day *[26]*	Report ug/L *[28]*	---	Report ug/L *[28]*	2/Year *[02/YR]*	Composite *[24]*
Copper (Total) *[01042]* *(Beginning December 19, 2017)*	5.7 lbs./day *[26]*	---	3.7 lbs./day *[26]*	Report ug/L *[28]*	---	Report ug/L *[28]*	2/Year *[02/YR]*	Composite *[24]*
Mercury (Total) [9] *[50286]*	---	---	---	35.8 ng/L *[3M]*	---	53.7 ng/L *[3M]*	1/Year *[01/YR]*	Grab *[R]*
Zinc (Total) *[01092]*	---	---	18 lbs./day *[26]*	---	---	Report ug/L *[28]*	2/Year *[02/YR]*	Composite *[24]*

Footnotes:

See pages 10 -14 of this permit.

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

SURVEILLANCE LEVEL - Beginning upon permit issuance and lasting through 24 months prior to permit expiration (Years 1, 2 & 3 of the term of the permit) and commencing again 12 months prior to permit expiration (Year 5 of the term of the permit).

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity(10)						
Acute – NOEL						
Ceriodaphnia dubia (Water flea) *[TDA3B]*	---	---	---	Report % *[23]*	1/2 Years *[01/2Y]*	Grab *[GR]*
Salvelinus fontinalis (Brook trout) *[TDA6F]*	---	---	---	Report % *[23]*	1/2 Years *[01/2Y]*	Grab *[GR]*
Chronic – NOEL						
Ceriodaphnia dubia (Water flea) *[TBP3B]*	---	---	---	Report % *[23]*	1/2 Years *[01/2Y]*	Grab *[GR]*
Salvelinus fontinalis (Brook trout) *[TBQ6F]*	---	---	---	Report % *[23]*	1/2 Years *[01/2Y]*	Grab *[GR]*
Analytical chemistry(11,13) *[51168]*	---	---	---	Report ug/L *[28]*	1/2Years *[01/2Y]*	Composite/Grab *[24]*

SCREENING LEVEL - Beginning 24 months prior to permit expiration and lasting through 12 months prior to permit expiration (Year 4 of the term of the permit) and every five years thereafter if a timely request for renewal has been made and the permit continues in force, or is replaced by a permit renewal containing this requirement.

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity(10)						
Acute – NOEL						
Ceriodaphnia dubia (Water flea) *[TDA3B]*	---	---	---	Report % *[23]*	2/Year *[02/YR]*	Grab *[GR]*
Salvelinus fontinalis (Brook trout) *[TDA6F]*	---	---	---	Report % *[23]*	2/Year *[02/YR]*	Grab *[GR]*
Chronic – NOEL						
Ceriodaphnia dubia (Water flea) *[TBP3B]*	---	---	---	Report % *[23]*	2/Year *[02/YR]*	Grab *[GR]*
Salvelinus fontinalis (Brook trout) *[TBQ6F]*	---	---	---	Report % *[23]*	2/Year *[02/YR]*	Grab *[GR]*
Analytical chemistry(11,12) *[51168]*	---	---	---	Report ug/L *[28]*	1/Quarter *[01/90]*	Composite/Grab *[24]*
Priority Pollutant (12,13) *[50008]*	---	---	---	Report ug/L *[28]*	1/Year *[01/YR]*	Composite/Grab *[24]*

SPECIAL CONDITIONS

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

Outfalls #001 – Process Waste Waters

Footnotes:

Effluent sampling for Outfall #001 shall be sampled for all parameters at a location just prior to the parshall flume on a year-round basis. Any change in sampling location(s) must be reviewed and approved by the Department in writing.

Sampling – Sampling and analysis must be conducted in accordance with; a) methods approved in 40 Code of Federal Regulations (CFR) Part 136, b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, or c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services. Samples that are sent to another POTW licensed pursuant to *Waste discharge licenses*, 38 M.R.S.A. § 413 or laboratory facilities that analyze compliance samples in-house are subject to the provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules*, 10-144 CMR 263 (last amended February 13, 2000).

All analytical test results shall be reported to the Department including results which are detected below the respective reporting limits (RLs) specified by the Department or as specified by other approved test methods. See **Attachment A** of this permit for a list of the Department's RLs. If a non-detect analytical test result is below the respective RL, the concentration result shall be reported as <Y where Y is the RL achieved by the laboratory for each respective parameter. Reporting a value of <Y that is greater than an established RL or reporting an estimated value ("J" flagged) is not acceptable and will be rejected by the Department. Reporting analytical data and its use in calculations must follow established Department guidelines specified in this permit or in available Department guidance documents.

(1) **Outfall #001** - Outfall 001A is a 36" diameter pipe which is normally utilized to convey the treated process wastewaters from the wastewater treatment plant from the mill to the Androscoggin River. During periods of high flow in the river, most common in the spring and fall, discharges from Outfall 001A are hydraulically limited. As a result, the wastewater treatment facility experiences hydraulic limitations and best practicable treatment of the wastewater is jeopardized. This license authorizes the facility to discharge from Outfall 001B, a 36" diameter pipe located approximately 300 feet upstream of Outfall 001A. The discharges from Outfall 001B will receive the same degree of treatment as discharges from Outfall 001A and all flows discharged through Outfall 001B are measured and included in the analysis for compliance purposes.

(2) **TSS** - 60–day rolling average defined as the average of sixty consecutive daily TSS discharges between June 1st and September 30th to be reported in the July, August, and September DMRs. Report the highest 60-day average for each month.

(3) **TSS** - Annual average defined as the average of all valid results between January 1st – December 31st of each year.

SPECIAL CONDITIONS

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

Outfalls #001 – Process Waste Waters

Footnotes:

(4) **Total phosphorus and Ortho-phosphorus** - Report to the nearest pound. See **Attachment B** of this permit for Department protocols.

(5) **Oxygen Injection** – RPC shall, in partnership with FPL Maine Hydro LLC, Verso Paper LLC and Gorham Paper and Tissue LLC, or their successors in interest;

(a) Inject up to 24,279 lbs (assumes 54% efficiency) at Upper Narrows or an equivalent amount given an alternate efficiency.

(b) Inject up to 34,490 lbs (assumes 75% efficiency) at Lower Narrows or an equivalent amount given an alternate efficiency.

(6) **AOX** - The analytical method to be used to determine adsorbable organic halogens shall be EPA Method 1650 for which a ML (Minimum Level) of 20 ug/l shall be attained. The ML is defined as the level at which the analytical system gives recognizable signals and an acceptable calibration point. At least two samples must be taken within at least seven (7) days between sampling events.

(7) **Color** – The limitation is a calendar quarterly average limitation. A color pollution unit is equivalent to a platinum cobalt color unit as described in NCASI Technical Document #253. A pound of color is defined as the number of color pollution units multiplied by the volume of effluent discharged in million gallons per day multiplied by 8.34. Quarterly results shall be reported in the monthly DMR's for the months of March, June, September and December of each calendar year. The permittee shall monitor the true color (at a pH of 7.6 S.U) in the effluent from Outfall #001 at a minimum of one (1) time per week. The calculated mass discharged, shall be expressed as pounds per air dried ton of unbleached pulp (ADTUBP) produced entering the bleach plant. Where discharge monitoring is required when production is less than 50%, the resulting data shall be reported as a daily measurement but not included in computation of averages, unless specifically authorized by the Department.

(8) **pH** - For Outfall #001, criteria found at Department rule Chapter 525 (4)(VIII)(A) (1&2) regarding pH limitations under continuous monitoring is applicable to these discharges when continuous monitoring is utilized.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)
Outfalls #001 – Process Waste Waters

Footnotes:

(9) **Mercury** - All mercury sampling (1/Year) required to determine compliance with interim limitations established pursuant to Department rule Chapter 519, shall be conducted in accordance with EPA's "clean sampling techniques" found in EPA Method 1669, Sampling Ambient Water For Trace Metals At EPA Water Quality Criteria Levels. All mercury analysis shall be conducted in accordance with EPA Method 1631E, Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry. See **Attachment C**, *Effluent Mercury Test Report*, of this permit for the Department's form for reporting mercury test results. The limitation in the monthly average column in Special Condition A (1) of this permit was determined in accordance with 06-096 CMR Chapter 519 §4.

(10) **Whole Effluent Toxicity (WET)** - Definitive WET testing is a multi-concentration testing event (a minimum of five dilutions set at levels to bracket the acute and chronic critical water quality thresholds of 3.2%), which provides an estimate of toxicity in terms of No Observed Effect Level, commonly referred to as NOEL or NOEC. A-NOEL is defined as the acute no observed effect level with survival as the end point. C-NOEL is defined as the chronic no observed effect level with survival, reproduction and growth as the end points.

a. **Surveillance level testing** - Beginning upon issuance of this permit and lasting through 24 months prior to permit expiration (Years 1, 2 & 3 of the term of the permit) and commencing again 12 months prior to permit expiration (Year 5 of the term of the permit), the permittee shall conduct surveillance level WET testing at a minimum frequency of once every other year (1/2 Years) for both the water flea (*Ceriodaphnia dubia*) and the brook trout (*Salvelinus fontinalis*). Testing shall be conducted in a different calendar quarter each sampling event.

b. **Screening level testing** - Beginning 24 months prior to permit expiration and lasting through 12 months prior to permit expiration (Year 4 of the permit) and every five years thereafter if a timely request for renewal has been made and the permit continues in force, or is replaced by a permit renewal containing this requirement, the permittee shall conduct screening level WET testing at a minimum frequency of twice per year (2/Year) for both species. Acute and chronic tests shall be conducted on both the water flea (*Ceriodaphnia dubia*) and the brook trout (*Salvelinus fontinalis)*. Testing shall be conducted in a different calendar quarter each sampling event.

SPECIAL CONDITIONS

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

Outfalls #001A & #001B

Footnotes:

Toxicity tests must be conducted by an experienced laboratory approved by the Department. The laboratory must follow procedures as described in the following U.S.E.P.A. methods manuals.

Short Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Water to Freshwater Organisms, Fourth Edition, October 2002, EPA-821-R-02-013.

Methods for Measuring the Acute Toxicity of Effluent and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October 2002, EPA-821-R-02-012.

WET test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the toxicity reports for up to 10 business days after their availability from the laboratory prior to submitting them. The permittee shall evaluate test results being submitted and identify to the Department possible exceedences of the critical acute and chronic water quality thresholds of 3.2% respectively. See **Attachment D** of this permit for a copy of the Department's WET report form.

Each time a WET test is performed, the permittee shall sample and analyze for the parameters in the WET Chemistry and the Analytical Chemistry sections in **Attachment A** of this permit. Analytical chemistry is not required for WET tests conducted for a toxicity identification evaluation (TIE), toxicity reduction evaluation (TRE) or for other investigative purposes.

(11) **Analytical chemistry** – Refers to a suite of chemicals in **Attachment A** of this permit.

a. **Surveillance level testing** – Beginning upon issuance of this permit and lasting through 24 months prior to permit expiration (Years 1, 2 & 3 of the term of the permit) and commencing again 12 months prior to permit expiration (Year 5 of the term of the permit), the permittee shall conduct analytical chemistry testing at a minimum frequency of once every other year (1/2 Years). As with WET testing, testing shall be conducted in a different calendar quarter of each year.

b. **Screening level testing** – Beginning 24 months prior to permit expiration and lasting through 12 months prior to permit expiration and every five years thereafter if a timely request for renewal has been made and the permit continues in force, or is replaced by a permit renewal containing this requirement, the permittee shall conduct analytical chemistry testing at a minimum frequency of once per calendar quarter (1/Quarter) for four consecutive calendar quarters.

SPECIAL CONDITIONS

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

Outfalls #001A & #001B

Footnotes:

(12) **Priority pollutant testing** – Refers to a suite of chemicals in **Attachment A** of this permit.

a. **Surveillance level testing** – 06-096 CMR Chapter 530, *Surface Water Toxics Control Program*, does not establish routine surveillance level priority pollutant testing.

b. **Screening level testing** - Beginning 24 months prior to permit expiration and lasting through 12 months prior to permit expiration (Year 4 of the permit) and every five years thereafter if a timely request for renewal has been made and the permit continues in force, or is replaced by a permit renewal containing this requirement, the permittee shall conduct screening level priority pollutant testing at a minimum frequency of once per year (1/Year). Priority pollutants are those listed by the USEPA pursuant to Section 307(a) of the Clean Water Act and published at40 CFR Part 122, Appendix D, Tables II and III.

(13) **Priority pollutant and analytical chemistry testing** – Testing shall be conducted on samples collected at the same time as those collected for whole effluent toxicity tests when applicable. Priority pollutant and analytical chemistry testing shall be conducted using methods that permit detection of a pollutant at existing levels in the effluent or that achieve minimum reporting levels of detection as specified by the Department. See **Attachment A** of this permit for a list of the Department's reporting levels (RLs) of detection. All test results, even those detected below the Department's reporting limit shall be reported to the Department. Test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, that the permittee may review the toxicity reports for up to 10 business days after their availability prior to submitting them. The permittee shall evaluate test results being submitted and identify to the Department, possible exceedences of the acute, chronic or human health AWQC as established in Department rule Chapter 584 *Surface Water Quality Criteria for Toxic Pollutants.* For the purposes of DMR reporting, enter a "1" for yes, testing done this monitoring period or "NODI-9" monitoring not required this period.

SPECIAL CONDITIONS

OUTFALL #002 – Non-contact cooling waters

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average as specified	Daily Maximum as specified	Monthly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow *[50050]*	—	—	17.0 MGD(1) *[03]*	Report MGD *[03]*	1/Week *[01/07]*	Measure *[MS]*
Temperature *[00011]*	—	—	—	105°F *[15]*	1/Week *[01/07]*	Measure *[MS]*
pH (Effluent) *[00400]*	—	—	—	5.0 – 9.0 SU(2) *[12]*	1/Week *[01/07]*	Grab *[GR]*
pH (Ambient) *[00400]*	—	—	—	Report SU(2) *[12]*	When applicable *[02/99]*	Grab *[GR]*

OUTFALL #003 – Non-contact cooling waters

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average as specified	Daily Maximum as specified	Monthly Average as specified	Daily Maximum As specified	Measurement Frequency as specified	Sample Type as specified
Flow *[50050]*	—	—	17.0 MGD(1) *[03]*	Report MGD *[03]*	1/Week *[01/07]*	Measure *[MS]*
Temperature *[00011]*	—	—	—	105°F *[15]*	1/Week *[01/07]*	Measure *[MS]*
pH (Effluent) *[00400]*	—	—	—	5.0 – 9.0 SU(2) *[12]*	1/Week *[01/07]*	Grab *[GR]*
pH (Ambient) *[00400]*	—	—	—	Report SU(2) *[12]*	When applicable *[02/99]*	Grab *[GR]*

Footnotes:

See page 16 of this permit.

SPECIAL CONDITIONS

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

OUTFALL #004 – Non-contact cooling waters

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average as specified	Daily Maximum as specified	Monthly Average as specified	Daily Maximum As specified	Measurement Frequency as specified	Sample Type as specified
Flow *[50050]*	—	—	17.0 MGD(1) *[03]*	Report MGD *[03]*	1/Week *[01/07]*	Measure *[MS]*
Temperature *[00011]*	—	—	—	105°F *[15]*	1/Week *[01/07]*	Measure *[MS]*
pH (Effluent) *[00400]*	—	—	—	5.0 -9.0 SU(2) *[12]*	1/Week *[01/07]*	Grab *[GR]*
pH (Ambient) *[00400]*	—	—	—	Report SU(2) *[12]*	When applicable *[02/99]*	Grab *[GR]*

Footnotes:

Outfalls #002, #003 and #004

(1) The discharge flow from Outfalls #002, #003 and #004 collectively or individually may not exceed a monthly average flow of 17.0 MGD.

(2) The pH of the discharge shall be in the range of 5.0 – 9.0 standard units unless exceedences of this pH range are due to ambient pH levels in the Androscoggin River outside of this range. In such an event, the pH of the discharge may not be more than 0.5 standard units higher or lower than the ambient pH of the river as measured upstream of all the outfalls. In such an event, the permittee shall report the pH of both the discharge and the river.

SPECIAL CONDITIONS

OUTFALL #005 – Co-generation (Non-contact cooling waters and cooling tower blowdown)

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average as specified	Daily Maximum as specified	Monthly Average as specified	Daily Maximum As specified	Measurement Frequency as specified	Sample Type as specified
Flow *[50050]*	—	—	Report MGD *[03]*	30 MGD *[03]*	Continuous *[99/99]*	Record *[RC]*
Temperature *[00011]*	—	—	—	105°F *[15]*	Continuous *[99/99]*	Record *[RC]*
pH (Effluent) *[00400]*	—	—	—	5.0 – 9.0 SU(1) *[12]*	1/Month *[01/30]*	Grab *[GR]*
pH (Ambient) *[00400]*	—	—	—	Report SU(1) *[12]*	When applicable *[02/99]*	Grab *[GR]*

Footnotes:

(1) The pH of the discharge shall be in the range of 5.0 – 9.0 standard units unless exceedences of this pH range are due to ambient pH levels in the Androscoggin River outside of this range. In such an event, the pH of the discharge may not be more than 0.5 standard units higher or lower than the ambient pH of the river as measured upstream of all the outfalls. In such an event, the permittee shall report the pH of both the discharge and the river.

Operation of the cooling tower is required between June 1 and September 30 each year.

During the time of operation of the cooling tower, down-time of the cooling tower for the purposes of maintenance shall be kept to a minimum and scheduled during times when the thermal discharge will have minimal impact on the receiving waters. **The permittee is required to verbally contact the Department within 24 hours and in writing within 5 days should the cooling tower be off-line for more than a 12-hour period of time during the period of required operation.**

SPECIAL CONDITIONS

OUTFALL #006 – Kinney Strainer – (Filter backwash)

No limitations or monitoring requirements are being established for this outfall due to the nature of the discharge.

The discharge shall be uncontaminated except for backwashed solids and debris removed from the river.

OUTFALL #00TA – Total thermal load from Outfalls #001, #002, #003 and #004

Effluent Characteristic	Discharge Limitations					Minimum Monitoring Requirements	
	Monthly Average as specified	Daily Maximum as specified	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Thermal Discharge *June 1 – Sept. 30* *[00017]*	—	—	—	—	1.21 EE10[(1)] BTU's/Day *[34]*	1/Day *[01/01]*	Calculate *[CA]*

OUTFALL #00TB – Should the cooling towers from the Cogeneration facility be off-line and a discharge from Outfall #005 become necessary the total thermal load from Outfalls #001, #002, #003, #004 & #005

Effluent Characteristic	Discharge Limitations					Minimum Monitoring Requirements	
	Monthly Average as specified	Daily Maximum as specified	Monthly Average as specified	Weekly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Thermal Discharge *June 1 – Sept. 30* *[00017]*	—	—	—	—	2.05 EE10[(1)] BTU's/Day *[34]*	1/Day *[01/01]*	Calculate *[CA]*

Footnotes:

The daily maximum thermal limitations are in effect between June 1 and September 30 when the daily average Androscoggin River temperature is ≥66° F. The permittee shall monitor the river temperature at the #1 water treatment plant. At its discretion, the permittee may alternatively monitor the temperature of the river at the Upper Hydro Station or at another alternative site approved by the Department.

(1) 1.21 EE10 and 2.05 EE10 represent 1.21×10^{10} and 2.05×10^{10}. See Special Condition I, *Thermal Load*, of this permit for the equation to calculate the thermal loading.

SPECIAL CONDITIONS

OUTFALL #100 *(Combined Bleach Plant)*

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average as specified	Daily Maximum as specified	Monthly Average as specified	Daily Maximum as specified	Measurement Frequency as specified	Sample Type as specified
Flow [50050]	Report MGD [03]	Report MGD [03]	—	—	1/Day(1) [01/01]	Recorder [RC]
2,3,7,8 TCDD (Dioxin) (2) [34675]	—	—	—	<10 pg/L(3) [3L]	1/Year [01/YR]	Composite [24]
2,3,7,8 TCDF (Furan) (2) [38691]	—	—	—	<10 pg/L(3) [3L]	1/Year [01/YR]	Composite [24]
Trichlorosyringol(3) [73054]	—	—	—	<2.5 ug/L(3) [28]	1/Year [01/30]	Composite [24]
3,4,5-Trichlorocatechol(4) [73037]	—	—	—	<5.0 ug/L(3) [28]	1/Year [01/YR]	Composite [24]
3,4,,6- Trichlorocatechol(4) [51024]	—	—	—	<5.0 ug/L(3) [28]	1/Year [01/30]	Composite [24]
3,4,5-Trichloroguaiacol(4) [61024]	—	—	—	<2.5 ug/L(3) [28]	1/Year [01/YR]	Composite [24]
3,4,6-Trichloroguaiacol(4) [51022]	—	—	—	<2.5 ug/L(3) [28]	1/Year [01/30]	Composite [24]
4,5,6-Trichloroguaiacol(4) [73088]	—	—	—	<2.5 ug/L(3) [28]	1/Year [01/YR]	Composite [24]
2,4,5-Trichlorophenol(4) [61023]	—	—	—	<2.5 ug/L(3) [28]	1/Year [01/YR]	Composite [24]
2,4,6-Trichlorophenol(4) [34621]	—	—	—	<2.5 ug/L(3) [28]	1/Year [01/30]	Composite [24]
Tetrachlorocatechol(4) [79850]	—	—	—	<5.0 ug/L(3) [28]	1/Year [01/YR]	Composite [24]
Tetrachloroguaiacol(4) [73047]	—	—	—	<5.0 ug/L(3) [28]	1/Year [01/30]	Composite [24]
2,3,4,6-Tetrachlorophenol(4) [77770]	—	—	—	<2.5 ug/L(3) [28]	1/Year [01/YR]	Composite [24]
Pentachlorophenol(4) [39032]	—	—	—	<5.0 ug/L(3) [28]	1/Year [01/YR]	Composite [24]
Chloroform(5) [32106]	12.4 #/day [26]	20.8 #/day [26]	—	—	1/Year [01/YR]	Grab [24]

SPECIAL CONDITIONS

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

Outfall #100 (Combined Bleach Plant)

Footnotes:

(1) **1/Day Sampling** – The permittee is only required to calculate and report flows on days when sampling is being conducted.

(2) **2,3,7,8 TCDD (Dioxin) & 2,3,7,8 TCDF (Furan)** – The analytical method to be used to determine the concentrations of dioxin and furan shall be EPA Method 1613B. See Special Condition H, *Dioxin/Furan Certification*, of this permit for annual certification requirements.

(3) **Minimum Levels (ML's)** - The limitations established in this permitting action for dioxin, furan and the 12 chlorinated phenolic compounds are equivalent to the ML's established for EPA Methods 1613 and 1653 respectively. Compliance will be based on the ML's. For the purposes of reporting test results for on the monthly DMR, the following format shall be adhered to:

Detectable results - All detectable analytical test results shall be reported to the Department including results which are detected below the respective ML.

Non-detectable results - If the analytical test result is below the respective ML, the concentration result shall be reported as <X where X is the detection level achieved by the laboratory for each respective parameter.

(4) **12 Chlorinated phenolic compounds** - The analytical method to be used to determine the concentrations of these compounds shall be EPA Method 1653.

(5) **Chloroform** - The preferred analytical method to be used for chloroform is EPA Method 1624B for which a ML of 20 ug/l shall be attained. Other approved EPA methods are 601 and 624, and Standard Method 6210B and 6230B. The permittee must collect separate grab samples from the acid and alkaline bleach plant filtrates for chloroform analysis. Samples to be analyzed for chloroform may be taken over a period not to exceed 32 hours where a minimum of 12 grab samples (6 samples from the acid sewer and 6 samples from the alkaline sewer) are collected, each grab sample being at least three (3) hours apart but no more than 16 hours apart.

SPECIAL CONDITIONS

B. NARRATIVE EFFLUENT LIMITATIONS FOR ALL OUTFALLS

1. The effluent shall not contain a visible oil sheen, foam, or floating solids which would impair the usages designated for the classification of the receiving waters. The Veterans Memorial Bridge will serve as an initial observation point for the detection of abnormal levels of foam and floating solids in the river. Should abnormal levels of foam or floating solids be detected at said bridge, the permittee is required to take necessary steps to mitigate or eliminate the source(s) of foam or floating solids. The permittee is required to notify the Department of such events in accordance with Standard Condition D, *Reporting Requirements*, of this permit.

2. The effluent shall not contain materials in concentrations or combinations which are hazardous or toxic to aquatic life; or which would impair the usages designated for the classification of the receiving waters.

3. The discharge shall not impart color, taste, turbidity, toxicity, radioactivity or other properties which cause those waters to be unsuitable for the designated uses and characteristics ascribed to their class.

4. Notwithstanding specific conditions of this permit, the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

C. TREATMENT PLANT OPERATOR

The person who has the management responsibility over the treatment facility must hold a **Grade V** certificate (or higher) or must be a Maine Registered Professional Engineer pursuant to *Sewerage Treatment Operators*, Title 32 M.R.S.A., Sections 4171-4182 and *Regulations for Wastewater Operator Certification*, 06-096 CMR 531 (effective May 8, 2006). All proposed contracts for facility operation by any person must be approved by the Department before the permittee may engage the services of the contract operator.

D. AUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with: 1) the permittee's General Application for Waste Discharge Permit, accepted for processing on July 8, 2010; 2) the terms and conditions of this permit; and 3) only from the outfalls acknowledged by this permit. Discharges of waste water to a surface waterbody from any other point source are not authorized under this permit, and shall be reported in accordance with Standard Condition B(5)(*Bypass*) of this permit.

SPECIAL CONDITIONS

E. NOTIFICATION REQUIREMENT

In accordance with Standard Condition D, the permittee shall notify the Department of the following:

1. Any substantial change (realized or anticipated) in the volume or character of pollutants being introduced into the waste water collection and treatment system.

2. For the purposes of this section, adequate notice shall include information on:

   a. The quality and quantity of waste water introduced to the waste water collection and treatment system; and

   b. Any anticipated change in the quality and quantity of the waste water to be discharged from the treatment system.

F. OPERATION & MAINTENANCE (O&M) PLAN

This facility shall maintain a current written comprehensive Operation & Maintenance (O&M) Plan. The plan shall provide a systematic approach by which the permittee shall at all times, properly operate and maintain all facilities and systems of transport, treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit.

By December 31 of each year, or within 90 days of any significant process changes, the permittee shall evaluate and modify the O&M Plan including site plan(s) and schematic(s) for the waste water treatment facility to ensure that it is up-to-date. The O&M Plan shall be kept on-site at all times and made available to Department and EPA personnel upon request.

Within 90 days of completion of new and or substantial upgrades of the waste water treatment facility, the permittee shall submit the updated pertinent sections of the O&M Plan to their Department inspector for review and comment.

SPECIAL CONDITIONS

G. ANNUAL 06-096 CMR 530(2)(D)(4) STATEMENT FOR REDUCED/WAIVED TOXICS TESTING

By December 31 of each calendar year, the permittee shall provide the Department with a certification describing any of the following that have occurred since the effective date of this permit *[PCS Code 95799]*: See **Attachment F** of the Fact Sheet for an acceptable certification form to satisfy this Special Condition.

(a) Changes in the number or types of non-domestic wastes contributed directly or indirectly to the wastewater treatment works that may increase the toxicity of the discharge;

(b) Changes in the operation of the treatment works that may increase the toxicity of the discharge; and

(c) Changes in industrial manufacturing processes contributing wastewater to the treatment works that may increase the toxicity of the discharge.

In addition, in the comments section of the certification form, the permittee shall provide the Department with statements describing;

(d) Changes in storm water collection or inflow/infiltration affecting the facility that may increase the toxicity of the discharge.

(e) Increases in the type or volume of off-site process waste waters accepted by the facility.

The Department reserves the right to modify toxicity testing if new information becomes available that indicates the discharge may cause or have a reasonable potential to cause exceedences of ambient water quality criteria/thresholds or if it determines that there have been changes in the character of the discharge or if annual certifications described above are not submitted.

H. DIOXIN/FURAN CERTIFICATION

In lieu of 1/Month monitoring of the bleach plant waste stream for 2,3,7,8 TCDD (dioxin) and 2,3,7,8 TCDF (furan) (40 CFR Part 430), **by December 31 of each calendar year** *(PCS Code 95799)*, the permittee shall sample at a minimum of 1/Year and report the results for said parameters and provide the Department with a certification stating:

a. Elemental chlorine gas or hypochlorite was not used in the bleaching of pulp.

b. The chlorine dioxide (ClO2) generating plant has been operated in a manner which minimizes or eliminates byproduct elemental chlorine generation per the manufacturers/suppliers recommendations.

SPECIAL CONDITIONS

H. DIOXIN/FURAN CERTIFICATION (cont'd)

c. Documented and verifiable purchasing procedures are in place for the procurement of defoamers or other additives without elevated levels of known dioxin precursors.

d. Fundamental design changes that affect the ClO2 plant and/or bleach plant operation have been reported to the Department prior to their implementation and said reports explained the reason(s) for the change and any possible adverse consequences if any.

I. GULF ISLAND POND OXYGEN INJECTION OPERATION

1. The permittee shall, in partnership with FPL Maine Hydro LLC, Verso Paper LLC and Gorham Paper and Tissue LLC or their successors in interes, operate and maintain a system to inject oxygen into Gulf Island Pond at Upper Narrows and Lower Narrows in such quantities and in such manner as described in this condition.

2. The permittee shall, in partnership with FPL Maine Hydro LLC, Verso Paper LLC and Gorham Paper and Tissue LLC, or their successors-in-interest, inject oxygen at Upper Narrows at a rate of up to24,279 lbs/day at an oxygen transfer efficiency of 54%, and at Lower Narrows at a rate of up to 34,490 lbs/day, at an oxygen transfer efficiency of 75%, or at equivalent rates and efficiencies:

   The Gulf Island Pond Oxygenation Project (GIPOP) shall be available for operation beginning June 1 annually, or as soon thereafter as river flows recede to 5,000 cfs or less (to allow for safe inspection and maintenance of the oxygen injection system), and ending September 30 annually.

   GIPOP operation shall begin when the 3-day average temperature at Turner Bridge is greater than 18°C in June and shall cease when the 3-day average temperature at Turner Bridge is less than 21°C in September.

   During the operational period defined above, GIPOP shall be operated in accordance with the following oxygen injection rates (expressed as pounds per day) for the stated 3-day average river temperature and flow conditions.

Oxygen Injection Thresholds	Oxygen Injection At Upper Narrows	Oxygen Injection At Lower Narrows	Oxygen Injection Total
$Q > 3{,}500$	0	0	0
$T < 24$ & $3{,}000 < Q \leq 3{,}500$	1,355	34,073	35,428
$T < 24$ & $2{,}500 < Q \leq 3{,}000$	5,210	31,989	37,199
$T < 24$ & $Q \leq 2{,}500$	19,069	32,198	51,266
$T \geq 24$ & $Q \leq 3{,}500$	24,279	34,490	58,769

SPECIAL CONDITIONS

I. GULF ISLAND POND OXYGEN INJECTION OPERATION (cont'd)

All temperature measurements, in degrees Celsius, shall be obtained from the continuous temperature monitor at Turner Bridge and shall be expressed as a 3-day rolling average. The monitor records maximum and minimum temperatures for a given day. The daily average temperature is defined as the arithmetic mean of the maximum and minimum temperatures for a given day. The 3-day rolling average temperature (T) is defined as the arithmetic mean of three consecutive daily average temperature values.

All flow measurements, in cubic feet per second, shall be obtained from the USGS gage at Rumford and shall be expressed as a 3-day rolling average. The gage records hourly flows. The daily average flow is defined as the arithmetic average mean of the hourly flows for a given day. The 3-day rolling average flow (Q) is defined as the arithmetic mean of three consecutive daily average flow values.

3. The permittee shall, in partnership with FPL Maine Hydro LLC, Verso Paper LLC and Gorham Paper and Tissue LLC, or their successors-in-interest, conduct and submit the results of annual ambient water quality monitoring (see Special J of this permit) to determine compliance with Class C dissolved oxygen standards in Gulf Island Pond, in accordance with a plan approved by the Department, and any subsequent amendments or modifications thereto.

4. Based on any future revisions to the Department's water quality model for the Androscoggin River and Gulf Island Pond and/or any future modifications to the Department's May 2005 Androscoggin River Total Maximum Daily Load (TMDL) Report, and after notice to the permittee and opportunity for hearing, the Department reserves the right to re-open and modify the terms of this permit to change the rates of oxygen injection specified herein.

5. The permittee shall, in partnership with FPL Maine Hydro LLC, Verso Paper LLC and Gorham Paper and Tissue LLC, or their successors-in-interest, be responsible for taking such actions as are needed to meet Class C dissolved oxygen standards in Gulf Island Pond, insofar as Gulf Island Dam and wastewater discharges from the upstream paper mills cause or contribute to a violation of these standards. After reviewing the results of monitoring following the installation and operation of the oxygen injection system as required above and the implementation of all upstream point source final effluent limits, and after notice to FPL Maine Hydro LLC, Verso Paper LLC and Gorham Paper and Tissue LLC, or their successors-in-interest, and opportunity for hearing, the Department reserves the right to reopen and modify the terms of the relevant permits and certification to require reduced effluent limitations and/or changes in oxygen injection system(s) and/or oxygen injection rates, or other equivalent measures, as may be deemed necessary to ensure that Gulf Island Dam and wastewater discharges from the upstream paper mills do not cause or contribute to the violation of Class C dissolved oxygen standards in Gulf Island Pond.

SPECIAL CONDITIONS

I. GULF ISLAND POND OXYGEN INJECTION OPERATION (cont'd)

6. The permittee may in partnership with FPL Maine Hydro LLC, Verso Paper LLC and Gorham Paper and Tissue LLC, or their successors-in-interest, submit proposed changes to the operational plan at any time for review and approval by the Department.

   Failure to inject oxygen at the required rates shall be reported verbally to the Department as soon as possible by the permittee or by one or more of the parties operating the GIP oxygenation system on behalf of the permittee. Written notification shall be submitted to the Department within five days by the permittee or by one or more of the parties operating the GIP oxygenation system on behalf of the permittee.

   For the months of June, July, August and September of each calendar year, the permittee shall submit a spreadsheet (similar in format to the example below) to the Department as an attachment to the respective monthly Discharge Monitoring Report (DMR).

Date	Temperature (°C)	River Flow (cfs)	Oxygen Injected (lbs/day)
6/1	23°C	3,200 cfs	31,000 lbs/day
↓			
6/30	25°C	2,900 cfs	38,150 lbs/day

J. AMBIENT WATER QUALITY MONITORING

By February 1st of each year, *[PCS Code 22099]* the permittee shall independently or in conjunction with other parties, submit an updated ambient water quality monitoring plan for that year to the Department for review and approval.

Between June 1 and September 30 of each year *[PCS Code 21599]* the permittee shall independently or in conjunction with other parties participate in ambient water quality monitoring of Gulf Island Pond and/or designated segments of the Androscoggin River in accordance with the pre-approved monitoring plan.

By November 30th of each year, *[PCS Code 90199, 90299, 90399, 90499]* the permittee shall independently or in conjunction with other parties, submit a written report to the Department summarizing the results of the monitoring for that year. The report shall include, but not be limited to, all the field data and any pertinent field observations (algal blooms in particular), a statistical analysis of the field data and interpretation and/or conclusions drawn from the analysis and/or data and any recommendations for revisions to the monitoring plan (if appropriate) for the following year.

SPECIAL CONDITIONS

K. ZONE OF INITIAL DILUTION & MIXING ZONE

The zone of initial dilution for the thermal discharge from the Rumford mill is described as beginning at Outfall 001 and extending downstream a distance of approximately 2.2 miles to the west end (upstream end) of Burke Island. See **Attachment B** of this permit for a map illustrating the extent of the zone of initial dilution.

The mixing zone established by the Department for the thermal discharge from the Rumford mill is described as beginning at Outfall #001 and extending downstream approximately 12 miles to a point where the Dixfield, Canton and Peru Town lines intersect at a point in the thread of the Androscoggin River. See **Attachment E** of this permit for a map illustrating the extent of the mixing zone. The receiving waters shall not be tested for temperature violations within the designated zone of initial dilution or the established mixing zone.

L. THERMAL LOAD

The flow and temperature limitations for each outfall are in effect year-round. The daily maximum thermal load limitation of 1.21×10^{10} BTU's/day from Outfall 001, 002, 003 and 004 collectively, is in effect between June 1 and September 30 when the daily average Androscoggin River temperature as measured at the #1 water treatment plant, Upper Hydro Station, or an alternative location approved by the Department is $\geq 66°$ F. Should the cooling towers from the Cogeneration facility be off-line and a discharge from Outfall #005 become necessary during the same applicable period, the facility will be limited to a daily maximum thermal load of 2.05×10^{10} BTU's/Day from Outfalls 001, 002, 003, 004 and 005 collectively. Between June 1 and September 30 of each year, the Qe, Te and Tr shall be recorded on a daily basis and the thermal load from the mill shall be calculated on a daily basis in accordance with the following formula:

$$[(Qe_{001})(Te_{001}-Tr)+(Qe_{002})(Te_{002}-Tr)+.....+(Qe_{005})(Te_{005}-Tr)](8.34\ lb/gal)= \Sigma BTU/day$$

Qe = Effluent flow in gallons (each outfall)
Te = Effluent Temperature in °F (each outfall)
Tr = Upstream River Water Temperature in °F obtained from the #1 water treatment plant, Upper Hydro Station, or an alternative location approved by the Department.

The daily recorded and calculated values shall be reported to the Department as an attachment to the Discharge Monitoring Reports (DMR's) for the months of June, July, August and September of each year.

SPECIAL CONDITIONS

L. THERMAL LOAD (cont'd)

EXAMPLE - DMR REPORTING FORM ATTACHMENT

Outfall #001

Date	Qe (MGD)	Tr(°F)	Te(°F)	Heat (BTU's)
6/1	30.83	67	91	6.17×10^9
6/2	26.64	67	91	5.33×10^9
6/3	24.63	69	90	4.31×10^9

Heat: (30.83 MGD)(8.34 lbs/gal)(91°F - 67°F) = 6.17×10^9 BTU's/day

The permittee shall continue to investigate water reuse projects within the mill and waste water treatment technology alternatives to reduce the thermal discharge to the Androscoggin River. **As an exhibit in the application for the next permit renewal,** the permittee shall submit a summary of the projects undertaken during the term of this permit to reduce the heat load discharged. The report shall list the individual projects and quantify the heat load (expressed in BTU's/day) removed as a result of said projects.

M. COLOR

The permittee is required to report the daily average color discharged for a calendar quarter expressed as pounds of color per ton of unbleached pulp produced. Supporting calculations, in a format similar to the format illustrated below must be submitted to the Department as an attachment to the DMRs for the months of March, June, September and December of each year.

Quarter Sample Date	#001 Flow (mgd)	Color Conc (cpu)	Mass (lbs/day)	Unbleached Pulp Production tons/day
xx/xs/xx	31	310	80,147	1,100
xx/xs/xx	30	340	85,069	1,050
.....				
xx/xs/xx	31	315	81,440	1,010
Quarterly Average			X=82,219	X=1,053

Quarterly Average Mass per Ton = 82,219/1,053 = 78 lbs color/ton

N. FISH ADVISORY PROGRAM

When directed to do so, the permittee is required to participate in the State's most current Surface Water Ambient Toxics (SWAT) program administered by the Department, pursuant to Maine law, 38 M.R.S.A., §420-B.

SPECIAL CONDITIONS

O. BEST MANAGEMENT PRACTICES PLAN

1. Best Management Practices (BMPs) for spent pulping liquor must be developed by the permittee in accordance with federal regulation 40 CFR, Part 430.03, best engineering practices and must be implemented in a manner that takes into account the specific circumstances at each facility.

2. The permittee must amend its BMP Plan whenever there is a change in mill design, construction, operation, or maintenance that materially affects the potential for leaks or spills of spent pulping liquor, turpentine, or soap from the immediate process areas.

3. The permittee must complete a review and evaluation of the BMP Plan every five years. As a result of this review and evaluation, the permittee must amend the BMP Plan within three months of the review if the mill determines that any new or modified management practices and engineered controls are necessary to reduce significantly the likelihood of spent pulping liquor, soap, and turpentine leaks, spills, or intentional diversions from the immediate process areas, including a schedule for implementation of such practices and controls.

4. The BMP Plan, and any amendments, must be reviewed by the senior technical manager at the mill and approved and signed by the mill manager. Any person signing the BMP Plan or its amendments must certify to the Department under penalty of law that the BMP Plan (or its amendments) has been prepared in accordance with good engineering practices and in accordance with federal regulation 40 CFR, Part 430.03. The mill is not required to obtain approval from the Department of the BMP Plan or any amendments.

5. The permittee must maintain on its premises a complete copy of the current BMP Plan and associated records. The BMP Plan and records must be made available to the Department for review upon request.

6. The permittee must conduct a monitoring program for the purpose of defining wastewater treatment system influent characteristics (or action levels) that will trigger requirements to initiate investigations on BMP effectiveness and to take corrective action.

7. The permittee must employ the following procedures in order to develop required action levels:

   (a) Monitoring parameters. The permittee must collect 24-hour composite samples and analyze the samples for a measure of organic content (e.g., Chemical Oxygen Demand (COD) or Total Organic Carbon (TOC)). Alternatively, the permittee may use a measure related to spent pulping liquor losses measured continuously and averaged over 24 hours (e.g., specific conductivity or color).

SPECIAL CONDITIONS

O. BEST MANAGEMENT PRACTICES PLAN (cont'd)

(b) Monitoring locations. For direct dischargers, monitoring must be conducted at the point influent enters the wastewater treatment system. For the purposes of this requirement, the permittee may select alternate monitoring point(s) in order to isolate possible sources of spent pulping liquor, soap, or turpentine from other possible sources of organic wastewaters that are tributary to the wastewater treatment facilities (e.g., bleach plants, paper machines and secondary fiber operations).

8. A wastewater treatment influent action level is a statistically determined pollutant loading determined by a statistical analysis of six months of daily measurements. The initial action levels shall remain in effect until replaced by revised action levels. The action levels must consist of a lower and a higher action level, which if exceeded will trigger and investigation requirements and corrective actions.

9. Action levels developed must be revised using six months of monitoring data after any change in mill design, construction, operation, or maintenance that materially affects the potential for leaks or spills of spent pulping liquor, soap, or turpentine from the immediate process areas.

10. The permittee must conduct daily monitoring of the influent to the wastewater treatment system in accordance with the procedures described in paragraph (7) for the purpose of detecting leaks and spills, tracking the effectiveness of the BMPs, and detecting trends in spent pulping liquor losses.

11. Whenever monitoring results exceed the lower action level for the period of time specified in the BMP Plan, the permittee must conduct an investigation to determine the cause of such exceedence. Whenever monitoring results exceed the upper action level for the period of time specified in the BMP Plan, the permittee must complete corrective action to bring the wastewater treatment system influent mass loading below the lower action level as soon as practicable.

12. Although exceedence of the action levels will not constitute violations of the permit, failure to take the actions as soon as practicable will be a violation of this permit.

13. The permittee must report to the Department the results of the daily monitoring conducted pursuant to paragraph (7). Such reports must include a summary of the monitoring results, the number and dates of exceedence of the applicable action levels, and brief descriptions of any corrective actions taken to respond to such exceedence. **Submission of such reports shall be at least 1/year with the December DMR** *[PCS Code 34599]*.

SPECIAL CONDITIONS

O. BEST MANAGEMENT PRACTICES PLAN (cont'd)

14. The mill must maintain the following records for three years from the date they are created:

    (a) Records tracking the repairs performed in accordance with the repair program;

    (b) Records of initial and refresher training conducted in accordance with the plan;

    (c) Records of all monitoring required by the plan;

    (d) Reports prepared in accordance with the plan.

P. SCHEDULE OF COMPLIANCE

Beginning upon issuance of this permit, the permittee shall identify sources of and begin investigating source reduction opportunities to mitigate the discharge of total aluminum, total cadmium, total copper and total zinc such that compliance with the water quality based mass limits for said metals established in this permit or alternate limitations established in any subsequent modification thereof are achieved on or before December 19, 2015 (total cadmium) or December 19, 2017 (total aluminum and total copper).

On or before June 30, 2013, ***(PCS 95999)*** the permittee shall submit to the Department for review, a progress report identifying sources of and summarizing the source reduction opportunities investigated since issuance of the permit for mitigating the discharge of total aluminum, total cadmium, total copper and total zinc.

On or before November 30, 2013, ***(PCS 34099)*** the permittee shall submit to the Department for review and approval, a Site Specific Criteria Development Plan for any parameter that the permittee is seeking an alternate ambient water quality criteria for.

On or before December 31, 2013, ***(PCS 95999)*** the permittee shall submit to the Department for review, a progress report summarizing the source reduction opportunities investigated since June 30, 2013, for mitigating the discharge of total aluminum, total cadmium, total copper and total zinc.

On or before June 30, 2014, ***(PCS 95999)*** the permittee shall submit to the Department for review, a progress report containing a scope of work and schedule of practicable process modifications and treatment options for mitigating the discharge of total aluminum, total cadmium, total copper and total zinc.

SPECIAL CONDITIONS

P. SCHEDULE OF COMPLIANCE – ALUMINUM, CADMIUM & COPPER (cont'd)

On or before December 31, 2014, ***(PCS 20099)*** the permittee shall submit to the Department for review, a feasibility study containing a scope of work and schedule for the implementation of source reduction and or treatment options selected to mitigate the discharge of total aluminum, total cadmium, total copper and total zinc and a progress report on the development of alternate ambient water quality criteria for parameters cited in the November 30, 2013 Site Specific Criteria Development Plan submission.

On or before December 31, 2015, ***(PCS 95999)*** the permittee shall submit a progess report containing a scope of work, schedule and progress on the implementation of source reduction and or treatment options selected to mitigate the discharge of total aluminum, total cadmium, total copper and total zinc and a progress report on the development of alternate ambient water quality criteria for parameters cited in the November 30, 2013 Site Specific Criteria Development Plan submission.

On or before December 19, 2015, ***(PCS 05699)*** the permittee shall be in compliance with the water quality based mass limitations for total cadmium established in this permit or alternate limitations established in any subsequent modification thereof.

On or before December 31, 2016, ***(PCS 95999)*** the permittee shall submit a progress report on the implementation of source reduction and or treatment options selected to mitigate the discharge of total aluminum and total copper and a progress report on the development of alternate ambient water quality criteria for parameters cited in the November 30, 2013 Site Specific Criteria Development Plan submission.

On or before December 19, 2017, ***(PCS 05699)*** the permittee shall be in compliance with the water quality based mass limitations for total aluminum and total copper established in this permit or alternate limitations established in any subsequent modification thereof.

Q. MONITORING AND REPORTING

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department and mailed or hand-delivered to a Department Regional Office such that the DMR's are received by the Department on or before the fifteenth (15^{th}) day of the month following the completed reporting period. A signed copy of the DMR and all other reports required herein shall be submitted to the following addresses:

Maine Department of Environmental Protection
Central Maine Regional Office
Bureau of Land & Water Quality
Division of Water Quality Management
State House Station #17
Augusta, ME. 04333

SPECIAL CONDITIONS

Q. MONITORING AND REPORTING (cont'd)

Alternatively, if you are submitting an electronic DMR (eDMR), the completed eDMR must be electronically submitted to the Department by a facility authorized DMR Signatory not later than close of business on the 15th day of the month following the completed reporting period. Hard Copy documentation submitted in support of the eDMR must be mailed on or hand-delivered to the Department's Regional Office such that it is received by the Department on or before the fifteenth (15th) day of the month following the completed reporting period. Electronic documentation in support of the eDMR must be submitted not later than close of business on the 15th day of the month following the completed reporting period.

R. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of the tests results specified by the Special Conditions of this permitting action, new site specific information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at anytime and with notice to the permittee, modify this permit to: 1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded: (2) require additional monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information considering ambient water quality conditions.

S. SEVERABILITY

In the event that any provision, or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit shall remaining in full force and effect, and shall be construed and enforced in all aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

ATTACHMENT A

Printed 1/22/2009

Maine Department of Environmental Protection
WET and Chemical Specific Data Report Form
This form is for reporting laboratory data and facility information. Official compliance reviews will be done by DEP.

Facility Name _____ **MEPDES #** _____ **Pipe #** _____ Facility Representative Signature _____
To the best of my knowledge this information is true, accurate and complete.

Licensed Flow (MGD) _____ **Flow for Day (MGD)[1]** _____ **Flow Avg. for Month (MGD)[2]** _____
Acute dilution factor _____
Chronic dilution factor _____ **Date Sample Collected** _____ Date Sample Analyzed _____
Human health dilution factor _____
Criteria type: M(arine) or F(resh) _____

Laboratory _____ Telephone _____
Address _____
Lab Contact _____ Lab ID # _____

ERROR WARNING ! Essential facility information is missing. Please check required entries in bold above.

FRESH WATER VERSION

Please see the footnotes on the last page.

			Effluent Limits, %			Receiving Water or Ambient	Effluent Concentration (ug/L or as noted)		Possible Exceedence [7]		
	WHOLE EFFLUENT TOXICITY		Acute	Chronic			WET Result, % Do not enter % sign	Reporting Limit Check	Acute	Chronic	
	Trout - Acute										
	Trout - Chronic										
	Water Flea - Acute										
	Water Flea - Chronic										
	WET CHEMISTRY										
	pH (S.U.) (9)					(8)					
	Total Organic Carbon (mg/L)					(8)					
	Total Solids (mg/L)										
	Total Suspended Solids (mg/L)										
	Alkalinity (mg/L)					(8)					
	Specific Conductance (umhos)										
	Total Hardness (mg/L)					(8)					
	Total Magnesium (mg/L)					(8)					
	Total Calcium (mg/L)					(8)					
	ANALYTICAL CHEMISTRY [3]										
	Also do these tests on the effluent with WET. Testing on the receiving water is optional	Reporting Limit	Effluent Limits, ug/L Acute[6]	Chronic[6]	Health[6]			Reporting Limit Check	Possible Exceedence [7] Acute	Chronic	Health
	TOTAL RESIDUAL CHLORINE (mg/L) (9)	0.05				NA					
	AMMONIA	NA				(8)					
M	ALUMINUM	NA				(8)					
M	ARSENIC	5				(8)					
M	CADMIUM	1				(8)					
M	CHROMIUM	10				(8)					
M	COPPER	3				(8)					
M	CYANIDE	5				(8)					
M	LEAD	3				(8)					
M	NICKEL	5				(8)					
M	SILVER	1				(8)					
M	ZINC	5				(8)					

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	PRIORITY POLLUTANTS [4]	Effluent Limits					Reporting Limit Check	Possible Exceedence [7]		
		Reporting Limit	Acute[6]	Chronic[6]	Health[6]			Acute	Chronic	Health
M	ANTIMONY	5								
M	BERYLLIUM	2								
M	MERCURY (5)	0.2								
M	SELENIUM	5								
M	THALLIUM	4								
A	2,4,6-TRICHLOROPHENOL	3								
A	2,4-DICHLOROPHENOL	5								
A	2,4-DIMETHYLPHENOL	5								
A	2,4-DINITROPHENOL	45								
A	2-CHLOROPHENOL	5								
A	2-NITROPHENOL	5								
A	4,6 DINITRO-O-CRESOL (2-Methyl-4,6-dinitrophenol)	25								
A	4-NITROPHENOL	20								
A	P-CHLORO-M-CRESOL (3-methyl-4-chlorophenol)+B80	5								
A	PENTACHLOROPHENOL	20								
A	PHENOL	5								
BN	1,2,4-TRICHLOROBENZENE	5								
BN	1,2-(O)DICHLOROBENZENE	5								
BN	1,2-DIPHENYLHYDRAZINE	10								
BN	1,3-(M)DICHLOROBENZENE	5								
BN	1,4-(P)DICHLOROBENZENE	5								
BN	2,4-DINITROTOLUENE	6								
BN	2,6-DINITROTOLUENE	5								
BN	2-CHLORONAPHTHALENE	5								
BN	3,3'-DICHLOROBENZIDINE	16.5								
BN	3,4-BENZO(B)FLUORANTHENE	5								
BN	4-BROMOPHENYLPHENYL ETHER	2								
BN	4-CHLOROPHENYL PHENYL ETHER	5								
BN	ACENAPHTHENE	5								
BN	ACENAPHTHYLENE	5								
BN	ANTHRACENE	5								
BN	BENZIDINE	45								
BN	BENZO(A)ANTHRACENE	8								
BN	BENZO(A)PYRENE	3								
BN	BENZO(G,H,I)PERYLENE	5								
BN	BENZO(K)FLUORANTHENE	3								
BN	BIS(2-CHLOROETHOXY)METHANE	5								
BN	BIS(2-CHLOROETHYL)ETHER	6								
BN	BIS(2-CHLOROISOPROPYL)ETHER	6								
BN	BIS(2-ETHYLHEXYL)PHTHALATE	3								
BN	BUTYLBENZYL PHTHALATE	5								
BN	CHRYSENE	3								
BN	DI-N-BUTYL PHTHALATE	5								
BN	DI-N-OCTYL PHTHALATE	5								
BN	DIBENZO(A,H)ANTHRACENE	5								
BN	DIETHYL PHTHALATE	5								
BN	DIMETHYL PHTHALATE	5								

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BN	FLUORANTHENE	5									
BN	FLUORENE	5									
BN	HEXACHLOROBENZENE	2									
BN	HEXACHLOROBUTADIENE	1									
BN	HEXACHLOROCYCLOPENTADIENE	10									
BN	HEXACHLOROETHANE	2									
BN	INDENO(1,2,3-CD)PYRENE	5									
BN	ISOPHORONE	5									
BN	N-NITROSODI-N-PROPYLAMINE	10									
BN	N-NITROSODIMETHYLAMINE	1									
BN	N-NITROSODIPHENYLAMINE	5									
BN	NAPHTHALENE	5									
BN	NITROBENZENE	5									
BN	PHENANTHRENE	5									
BN	PYRENE	5									
P	4,4'-DDD	0.05									
P	4,4'-DDE	0.05									
P	4,4'-DDT	0.05									
P	A-BHC	0.2									
P	A-ENDOSULFAN	0.05									
P	ALDRIN	0.15									
P	B-BHC	0.05									
P	B-ENDOSULFAN	0.05									
P	CHLORDANE	0.1									
P	D-BHC	0.05									
P	DIELDRIN	0.05									
P	ENDOSULFAN SULFATE	0.1									
P	ENDRIN	0.05									
P	ENDRIN ALDEHYDE	0.05									
P	G-BHC	0.15									
P	HEPTACHLOR	0.15									
P	HEPTACHLOR EPOXIDE	0.1									
P	PCB-1016	0.3									
P	PCB-1221	0.3									
P	PCB-1232	0.3									
P	PCB-1242	0.3									
P	PCB-1248	0.3									
P	PCB-1254	0.3									
P	PCB-1260	0.2									
P	TOXAPHENE	1									
V	1,1,1-TRICHLOROETHANE	5									
V	1,1,2,2-TETRACHLOROETHANE	7									
V	1,1,2-TRICHLOROETHANE	5									
V	1,1-DICHLOROETHANE	5									
V	1,1-DICHLOROETHYLENE (1,1-dichloroethene)	3									
V	1,2-DICHLOROETHANE	3									
V	1,2-DICHLOROPROPANE	6									
V	1,2-TRANS-DICHLOROETHYLENE (1,2-trans-dichloroethene)	5									
V	1,3-DICHLOROPROPYLENE (1,3-dichloropropene)	5									
V	2-CHLOROETHYLVINYL ETHER	20									

Maine Department of Environmental Protection
WET and Chemical Specific Data Report Form
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V	ACROLEIN	NA									
V	ACRYLONITRILE	NA									
V	BENZENE	5									
V	BROMOFORM	5									
V	CARBON TETRACHLORIDE	5									
V	CHLOROBENZENE	6									
V	CHLORODIBROMOMETHANE	3									
V	CHLOROETHANE	5									
V	CHLOROFORM	5									
V	DICHLOROBROMOMETHANE	3									
V	ETHYLBENZENE	10									
V	METHYL BROMIDE (Bromomethane)	5									
V	METHYL CHLORIDE (Chloromethane)	5									
V	METHYLENE CHLORIDE	5									
V	TETRACHLOROETHYLENE (Perchloroethylene or Tetrachloroethene)	5									
V	TOLUENE	5									
V	TRICHLOROETHYLENE (Trichloroethene)	3									
V	VINYL CHLORIDE	5									

Notes:

(1) Flow average for day pertains to WET/PP composite sample day.

(2) Flow average for month is for month in which WET/PP sample was taken.

(3) Analytical chemistry parameters must be done as part of the WET test chemistry.

(4) Priority Pollutants should be reported in micrograms per liter (ug/L).

(5) Mercury is often reported in nanograms per liter (ng/L) by the contract laboratory, so be sure to convert to micrograms per liter on this spreadsheet.

(6) Effluent Limits are calculated based on dilution factor, background allocation (10%) and water quality reserves (15% - to allow for new or changed discharges or non-point sources).

(7) Possible Exceedence determinations are done for a single sample only on a mass basis using the actual pounds discharged. This analysis does not consider watershed wide allocations for fresh water discharges.

(8) These tests are optional for the receiving water. However, where possible samples of the receiving water should be preserved and saved for the duration of the WET test. In the event of questions about the receiving water's possible effect on the WET results, chemistry tests should then be conducted.

(9) pH and Total Residual Chlorine must be conducted at the time of sample collection. Tests for Total Residual Chlorine need be conducted only when an effluent has been chlorinated or residual chlorine is believed to be present for any other reason.

Comments:

ATTACHMENT B

Protocol for Total Phosphorus Sample Collection and Analysis for Waste Water and Receiving Water Monitoring Required by Permits

Approved Analytical Methods: EPA 365.1 (Rev. 2.0), 365.3, 365.4; SM 4500-P B.5, 4500-P E, 4500-P F; ASTM D515-88(A), D515-88(B); USGS I-4600-85, I-4610-91; OMAAOAC 973.55, 973.56

Sample Collection: The Maine DEP is requesting that total phosphorus analysis be conducted on composite effluent samples, unless a facility's Permit specifically designates grab sampling for this parameter. Facilities can use individual collection bottles or a single jug made out of glass or polyethylene. Bottles and/or jugs should be cleaned prior to each use with dilute HCL. This cleaning should be followed by several rinses with distilled water. Commercially purchased, pre-cleaned sample containers are an acceptable alternative. The sampler hoses should be cleaned, as needed.

Sample Preservation: During compositing the sample must be at 0-6 degrees C (without freezing). If the sample is being sent to a commercial laboratory or analysis cannot be performed the day of collection then the sample must be preserved using H_2SO_4 to obtain a sample pH of <2 su and refrigerated at 0-6 degrees C (without freezing). The holding time for a preserved sample is 28 days.

Note: Ideally, Total P samples are preserved as described above. However, if a facility is using a commercial laboratory then that laboratory may choose to add acid to the sample once it arrives at the laboratory. The Maine DEP will accept results that use either of these preservation methods.

Laboratory QA/QC: Laboratories must follow the appropriate QA/QC procedures that are described in each of the approved methods.

Sampling QA/QC: If a composite sample is being collected using an automated sampler, then once per month run a blank on the composite sampler. Automatically, draw distilled water into the sample jug using the sample collection line. Let this water set in the jug for 24 hours and then analyze for total phosphorus. Preserve this sample as described above.

Protocol for Orthophosphate Sample Collection and Analysis for Waste Water and Receiving Water Monitoring Required by Permits

Approved Analytical Methods: EPA 300.0 (Rev. 2.1), 300.1 (Rev. 1.0), 365.1 (Rev. 2.0), 365.3; SM 4110 B, 4110 B-00, 4500-P E, 4500-P F; ASTM D515-88(A), D4327-97, 03; D6508 (Rev. 2); USGS I-4601-85; OMAAOAC 973.55, 973.56, 993.30

Sample Collection: The Maine DEP is requesting that orthophosphate analysis be conducted on composite effluent samples unless a facility's Permit specifically indicates grab sampling for this parameter. Facilities can use individual collection bottles or a single jug made out of glass or polyethylene. Bottles and/or jugs should be cleaned prior to each use with dilute HCL. This cleaning should be followed by several rinses with distilled water. The sampler hoses should be cleaned, as needed. Commercially purchased, pre-cleaned sample containers and or syringe type filtering apparatus are acceptable. If bench top filtering apparatus is being used this should be cleaned, as described above, before each use.

Sample Preservation: During compositing the sample must be at 0-6 degrees C (without freezing). The sample must be filtered immediately (within 15 minutes) after collection using a pre-washed 0.45-um membrane filter. Be sure to follow one of the pre-washing procedures described in the approved methods unless your commercial lab is providing you with pre-washed filters and filtering apparatus. If the sample is being sent to a commercial laboratory or analysis cannot be performed within 2 hours after collection then the sample must be kept at 0-6 degrees C (without freezing). There is a 48-hour holding time for this sample although analysis should be done sooner, if possible.

Laboratory QA/QC: Laboratories must follow the appropriate QA/QC procedures that are described in each of the approved methods. Additionally, laboratories providing filters or filter apparatus for sampling are required to submit blank data for each lot of filters/filtering apparatus to the facility.

Sampling QA/QC:
Filter Blank- If a facility is using a pre-cleaned filter and or filtering apparatus provided by a commercial laboratory then the commercial laboratory must run a filter/filtering apparatus blank on each lot. The results of that analysis must be provided to the facility.

If a facility is using their own filters and filtering apparatus then a filter blank must be included with every sample set that does not include a composite sampler (composite jug and sample line) blank.

Composite Sampler Blank- If a composite sample is being collected using an automatic composite sampler, then once per month run a blank on the composite sampler. A separate filter blank does not have to be done along with the composite sampler blank. When running a composite sampler blank, automatically, draw distilled water into the sample jug using the sample collection line. Let this water set in the jug for 24 hours and then filter and analyze for orthophosphate. Preserve these samples as described above.

ATTACHMENT C

Maine Department of Environmental Protection

Effluent Mercury Test Report

Name of Facility: _____ Federal Permit # ME _____

Pipe # _____

Purpose of this test:
- ☐ Initial limit determination
- ☐ Compliance monitoring for: year _____ calendar quarter _____
- ☐ Supplemental or extra test

SAMPLE COLLECTION INFORMATION

Sampling Date: ___ ___ ___ (mm dd yy) Sampling time: _____ AM/PM

Sampling Location:

Weather Conditions: _____

Please describe any unusual conditions with the influent or at the facility during or preceding the time of sample collection:

Optional test - not required but recommended where possible to allow for the most meaningful evaluation of mercury results:

Suspended Solids _____ mg/L Sample type: _____ Grab (recommended) or _____ Composite

ANALYTICAL RESULT FOR EFFLUENT MERCURY

Name of Laboratory: _____

Date of analysis: _____ **Result:** _____ **ng/L (PPT)**

Please Enter Effluent Limits for your facility

Effluent Limits: **Average =** _____ ng/L **Maximum =** _____ ng/L

Please attach any remarks or comments from the laboratory that may have a bearing on the results or their interpretation. If duplicate samples were taken at the same time please report the average.

CERTIFICATION

I certifiy that to the best of my knowledge the foregoing information is correct and representative of conditions at the time of sample collection. The sample for mercury was collected and analyzed using EPA Methods 1669 (clean sampling) and 1631 (trace level analysis) in accordance with instructions from the DEP.

By: _____ Date: _____

Title: _____

PLEASE MAIL THIS FORM TO YOUR ASSIGNED INSPECTOR

ATTACHMENT D

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
WHOLE EFFLUENT TOXICITY REPORT
FRESH WATERS

Facility Name _____ MEPDES Permit # _____

Facility Representative _____ Signature _____

By signing this form, I attest that to the best of my knowledge that the information provided is true, accurate, and complete.

Facility Telephone # _____ Date Collected _____ (mm/dd/yy) Date Tested _____ (mm/dd/yy)

Chlorinated? _____ Dechlorinated? _____

Results **% effluent**

	water flea	trout
A-NOEL		
C-NOEL		

Effluent Limitations

A-NOEL	
C-NOEL	

Data summary

	water flea			trout		
	% survival		no. young	% survival		final weight (mg)
QC standard	A>90	C>80	>15/female	A>90	C>80	> 2% increase
lab control						
receiving water control						
conc. 1 (%)						
conc. 2 (%)						
conc. 3 (%)						
conc. 4 (%)						
conc. 5 (%)						
conc. 6 (%)						
stat test used						

place * next to values statistically different from controls

for trout show final wt and % incr for both controls

Reference toxicant

	water flea		trout	
	A-NOEL	C-NOEL	A-NOEL	C-NOEL
toxicant / date				
limits (mg/L)				
results (mg/L)				

Comments _____

Laboratory conducting test

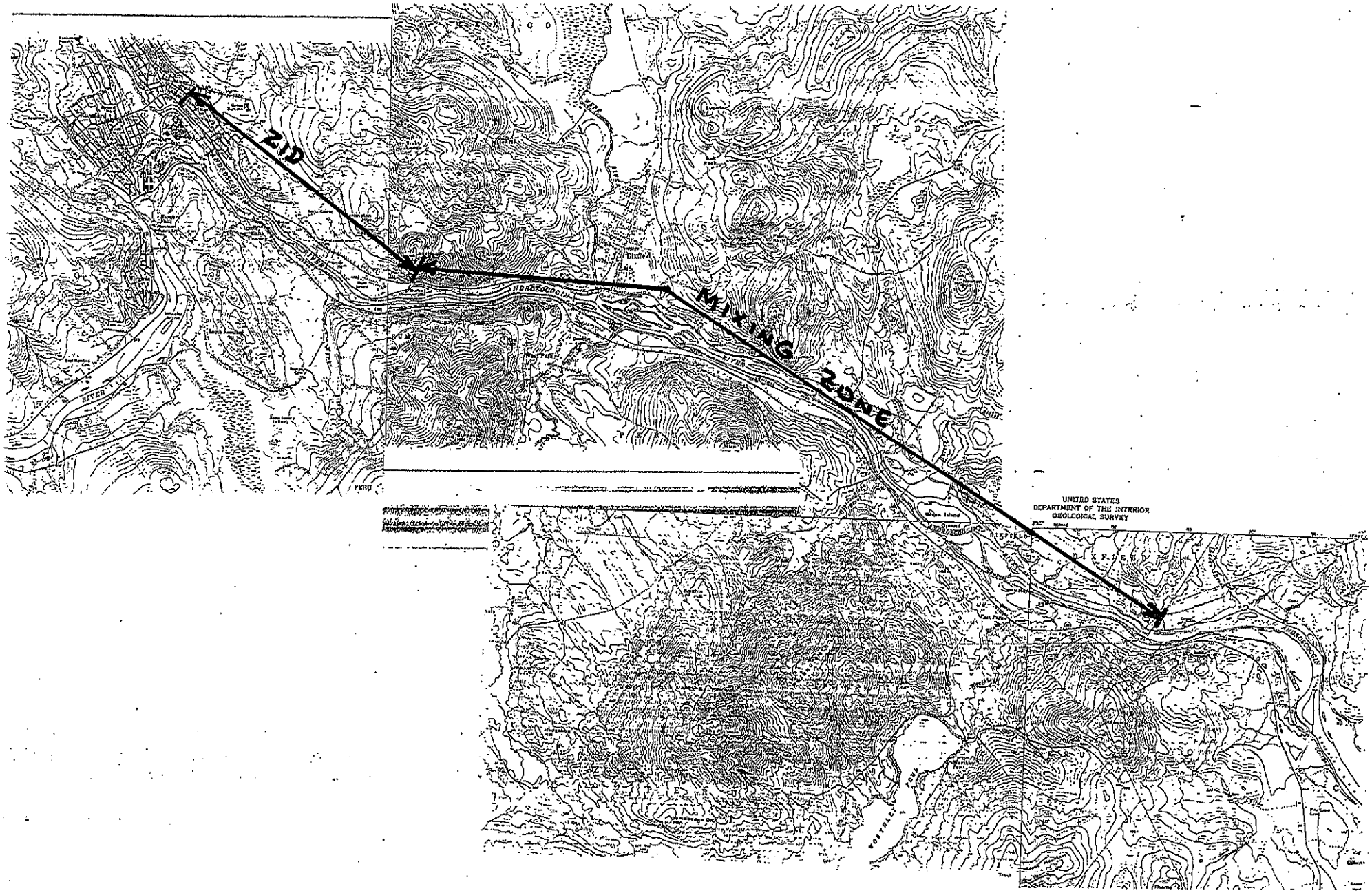
Company Name _____ Company Rep. Name (Printed) _____

Mailing Address _____ Company Rep. Signature _____

City, State, ZIP _____ Company Telephone # _____

Report WET chemistry on DEP Form "ToxSheet (Fresh Water Version), March 2007."

ATTACHMENT E


ZID
MIXING ZONE
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: **September 27, 2012**

PERMIT NUMBER: **ME0002054**
LICENSE NUMBER: **W000955-5N-K-R**

NAME AND ADDRESS OF APPLICANT:

RUMFORD PAPER COMPANY
35 Hartford Street
Rumford, Maine 04276

COUNTY: **Oxford County**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

Rumford Mill
35 Hartford Street
Rumford, Maine 04276

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

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1. APPLICATION SUMMARY

a. Application - Rumford Paper Company (RPC/permittee hereinfter) has filed a timely and complete application with the Department to renew combination Maine Pollutant Discharge Elimination System (MEPDES) permit #ME0002054/MaineWaste Discharge License (WDL) #W000955-5N-G-R (permit hereinafter) that was issued by the Department on September 21, 2005. It is noted the September 21, 2005, permit was subsequently modified on April 10, 2006, August 7, 2006, February 7, 2008, June 30, 2008, June 8, 2010 and February 7, 2012. All permitting actions expired on September 21, 2010.

The RPC mill in Rumford, Maine (see **Attachment A** of this Fact Sheet for a location map) manufactures bleached kraft market pulp and fine coated paper. The 9/21/05 permit authorized the discharge up to a monthly average flow of 34 million gallons per day (MGD) of treated process waste waters, treated spills of sanitary waste waters, treated landfill leachate, treated stormwater runoff, filter backwash and general housekeeping waste waters associated with a kraft pulp and papermaking facility and energy generating equipment from a single outfall to the Androscoggin River in Rumford, Maine. In addition to the aforementioned waste waters discharged, this permit

1. APPLICATION SUMMARY (cont'd)

authorizes treated discharges associated with or resulting from essential maintenance, regularly scheduled maintenance during start-up and shutdown, treated spills and releases (whether anticipated or unanticipated) from anywhere in the permitted facilities. RPC's waste water collection and treatment systems are also used for elementary neutralization pursuant to Maine law, 38 M.R.S.A., 1319.1 The permit also authorized RPC to discharge up to 47 MGD of cooling waters via five additional outfalls. RPC also maintains coverage under a MEPDES Multi-Sector General Permit for Stormwater Discharges Associated With Industrial Activity issued by the Department on April 26, 2011, for eight storm water outfalls.

The mill produces an average of 1,721 tons per day (TPD) of fine coated paper and 313 tons/day of bleached market pulp from 1,503 air-dried tons per day of unbleached kraft pulp and 250 tons/day of ground wood pulp. Pulp production is allocated at approximately 35% softwood and 65% hardwood although the ratio will vary depending on market conditions. Though pulp and paper production is up and down based on market conditions, these values are representative of normal production and are therefore being used to derive applicable production based technology limitations in this permitting action. The RPC mill has been elemental free (ECF) since February 1997 and uses chlorine dioxide as the primary bleaching agent.

b. Permit Modifications Requested – In the July 8, 2010, application for permit renewal (as amended on May 31, 2011), the permittee requested the following permit modifications;

1. Eliminate Special Condition M, *Biological Monitoring Plan*, of the 9/21/05 permit that required the permittee to develop and implement an annual biological monitoring plan to monitor bald eagles and other fish eating bird species as the bald eagle populations have recovered and is no longer listed as an endangered species.

2. Modify the language in Special Condition I, *Thermal Load*, of the 9/21/05 permit to specify an alternate location for obtaining upstream river temperature.

3. Reduce the monitoring frequency of AOX from 1/Week to 1/Month based on statistical evaluation of 526 data points collected as of July 2010.

4. Reduce the monitoring frequency for the 12-chlorinated phenolic compounds from 2/Year to 1/Year given test results for the five-year term of the previous permit indicate all results were less than the minimum level (ML) of detection established by federal regulations.

5. Reduce the monitoring frequency for chloroform from 1/Quarter to 1/Year given a statistical evaluation of 150 data points indicates the discharge levels are approximately ten times lower than the limits established in the 9/21/05 permit.

1. APPLICATION SUMMARY (cont'd)

c. Source Description: The Rumford Mill is an integrated pulp and paper manufacturing plant, owned and operated by the Rumford Paper Company. Operations at the mill include a full range of manufacturing and supporting activities designed to produce a variety of pulp and paper products. The manufacturing processes that generate wastewater in the Rumford Mill complex generally include: the pulp mill and bleach plant area, the paper machines, and the steam plant and utilities area.

The RPC's Rumford Mill pulp mill produces groundwood pulp (also referred to as "mechanical pulp") and bleached softwood and hardwood kraft pulp. The chemical pulp mill operations include separate Line A and Line B pulp bleaching process lines, as well as a chemical preparation process used to produce chemicals used in the bleaching processes. Groundwood pulp is produced in a separate mechanical pulping process line. Pulping operations consist of a continuous Kamyr digester producing softwood kraft pulp, and ten batch digesters producing hardwood kraft pulp. Four of the batch digesters have the capability to process either softwood or hardwood pulp. The kraft pulp is bleached in a three stage $D_0 E_{OP} D_1$ bleach plant utilizing chlorine dioxide and hydrogen peroxide for bleaching, with separate bleaching lines for softwood and hardwood pulp. The Rumford Mill has been elemental chlorine free (ECF) since February 1997.

The paper mill process area consists of all the equipment and operations used to convert pulp to paper. More specifically, this includes stock (pulp) preparation, additives preparation, coating preparation, starch handling, finishing, storage, and four paper machines (R-9, R-10, R-12, and R-15). The pulp used in the production of paper consists primarily of the bleached kraft pulp produced in the pulp mill; for certain applications, pulp obtained from outside suppliers (including recycled fiber) is employed as well. Of the four paper machines, R-10, R-12, and R-15 produce coated papers, while R-9 operates as a pulp dryer to produce market pulp.

The primary sources of waste water and pollutants in these processes are digester blow condensing, pulp washing, screening and thickening. The sources of wastewater in the bleach plant are thickening and washing.

Water system flows and mill water usage is summarized in the following section. Most mill water comes from the Androscoggin and Swift Rivers.

The mill has 6 water systems as follows:

- #1 water system provides 12 - 15 MGD of sand filtered/chlorinated water to the mill as process makeup water further divided into hot and cold #1 water.

- #2 water system provides 15 - 20 MGD of filtered water to the Pulp mill/ Bleach plant. It is also used for seal water.

1. APPLICATION SUMMARY (cont'd)

- Old #3 water system supplies 6-9 MGD of filtered water for cooling water, and is the water discharged from the thermal sewers.

- New #3 water supplies 14 to 30 MGD of filtered water for cooling purposes in the recovery boiler, #15 paper machine, and R-8 ClO_2 plant. Some of this water is also discharged from the thermal sewers.

- Cogeneration water supplies 20 to 35 MGD of cooling water strictly to Cogeneration and is primarily closed loop. When the cooling towers are off-line, this water is discharged from Outfall #003.

- 0.25 MGD of potable water is supplied by the Town of Rumford via hard pipe. Bottled water is supplied for drinking.

Some of these water systems handle water that is recycled from other water systems in the mill. Not all of the nominal capacity of each water system is for water withdrawal.

Sources contributing to process wastewater include pulp and paper manufacturing operations, electric power generation, landfill leachate, and stormwater. Sanitary sewage is transported off-site and treated at the Rumford-Mexico Sewerage District. Process wastewater is pumped to the mill's effluent treatment plant where it is treated prior to discharge. Non-contact cooling water and strainer/filter backwash water is discharged untreated. It is estimated that approximately 1.5 MGD of water is lost to the atmosphere and/or contained in final products.

The steam plant operation encompasses the area associated with #3 Power Boiler and #5 Power Boiler, which provide steam and electric power for mill operations. Utilities operations include the combustion, feedwater treatment, fuel oil storage tanks, and a steam turbine generator associated with these power boilers.

The Cogeneration Plant encompasses the operational area associated with #6 Boiler and #7 Boiler, which provide steam and electric power for mill operations. The steam plant operations include the combustion, feedwater treatment, and steam generation systems associated with these boilers, as well as multi-fuel handling and storage equipment, ash handling and storage equipment, three cooling towers, and a steam turbine generator.

The chemical recovery operation encompasses the operational area associated with C-Recovery boiler, steam stripper, the lime kiln, and causticizing.

Sources of wastewater from the utilities operations include the recovery area, which incurs waste discharges from the evaporator system. Sources of water and solids losses are from the scrubber systems of #3 and #5 boilers, the scrubber for the lime kiln, and purge from the Cogeneration and other boiler feedwater systems.

1. APPLICATION SUMMARY (cont'd)

Outfall #001A & Outfall #001B

Treated process wastewater is discharged from Outfall 001A into the Androscoggin River via a 36-inch steel pipe. The top-of-pipe outfall elevation is approximately 414 feet above mean sea level (MSL) and is located between the lower hydroelectric station tailrace discharge points. There is no diffuser, mixer, or similar structure associated with this outfall. During periods of high flow in the river, most commonly occurring in the spring and fall, discharges from Outfall 001A are hydraulically limited. As a result, the waste water treatment facility experiences hydraulic limitations and best practicable treatment of the waste water is jeopardized. During such times, the facility discharges from Outfall 001B, a 36-inch diameter pipe located slightly upstream of Outfall 001A. The discharges from Outfall 001B receive the same degree of treatment as discharges from Outfall 001A. There is no diffuser, mixer, or similar structure associated with this outfall.

Outfall 002

Outfall #002 consists of non-contact cooling water from heat exchangers located in the pulp mill and paper mill (north end) and is discharged into the Androscoggin River via a 12-inch diameter stainless steel pipe. The top-of-pipe elevation is approximately 413 feet MSL and the summer low water level at this point is approximately 412 feet MSL There is no diffuser, mixer, or similar structure associated with this outfall.

Outfall 003

Outfall #003 consists of non-contact cooling water from the recovery boiler condenser system and discharges into the Androscoggin River via a 24-inch diameter reinforced concrete pipe. The top-of-pipe elevation is approximately 445 feet MSL and the summer low water level is approximately 417 feet MSL. There is no diffuser, mixer, or similar structure associated with this outfall.

Outfall 004

Outfall #004 consists of non-contact cooling water from heat exchangers located at R-15 paper machine and the pulp dryer (R-9) and is discharged into the Androscoggin River via a 24-inch diameter reinforced concrete pipe. (Non-contact cooling water from heat exchangers located at specialty paper machines 7, 8, and 9 were directed to this outfall until December 1999, when these machines were subsequently shutdown permanently. R-9 was then converted to a pulp dryer.) The top-of-pipe elevation is approximately 418 feet MSL and the summer low river level is approximately 412 feet MSL. There is no diffuser, mixer, or similar structure associated with this outfall.

1. APPLICATION SUMMARY (cont'd)

Outfall 005

Outfall #005 consists of non-contact cooling water from the cogeneration plant turbine condenser and enters the Androscoggin River via the penstocks which exit the Rumford Falls Hydro LLC hydroelectric station. The two steel penstocks are 12 feet in diameter and the top-of-pipe elevation is approximately 416 feet MSL. The summer river levels at this point are approximately 420 feet MSL. There is no diffuser, mixer, or similar structure associated with this outfall.

Outfall 006

Outfall #006 consists of backwash water from the cogeneration plant's Kinney strainers (filtered river water) and is discharged into the Androscoggin River via an 18-inch diameter reinforced concrete pipe. The top-of-pipe elevation is approximately 413 feet MSL and the summertime river elevation is approximately 414 feet MSL. There is no diffuser, mixer, or similar structure associated with this outfall.

d. Waste Water Treatment - The waste water treatment facility for the mill receives and treats process wastewater from the Rumford Mill, leachate from Farrington Mountain Landfill, and stormwater from around the mill site. The effluent treatment process at the Rumford Mill uses activated sludge and includes screening, primary clarification, sludge dewatering and disposal, aeration, and secondary clarification. Simplified process flow diagrams of the effluent treatment process are included with this application as **Attachment B** of this Fact Sheet.

1. *Wastewater Collection, Screening, and Pumping*

The pulp and paper mill sewers are combined in an interceptor sewer which discharges to a collection box located at the riverbank. From the collection box, the wastewater flows into the bar screen room and through the bar screen. The screen is comprised of parallel bars placed on a vertical incline to the direction of flow and spaced at one-inch intervals. Coarse solids are caught on the bars and, after removal by the mechanical scrapers, are discharged to an outside pad for storage prior to landfill disposal. A second, smaller bar screen is also operated in conjunction with the primary screen.

After the screen, the wastewater passes through a rectangular mix tank. After the mix tank, wastewater flows into two interconnected tailrace tunnels which run underneath the mill basement. These tunnels are approximately 300 feet long and 10 feet wide, with a water depth of 6 to 8 feet (maximum depth is approximately 18 feet). They serve as a large sump for the three lift pumps. The lift pump motors are controlled by variable frequency drives which allows the pump to

1. APPLICATION SUMMARY (cont'd)

speed up or slow down depending on tailrace level. At 100% speed and under good conditions, each lift pump is capable of pumping 17 to 20 MGD (11,800 to 13,600 GPM). The pumps are located in the mill basement, with suction piping extended 16 feet into the tunnels. The pumps are primed with a common automatic vacuum priming system. A level controller controls pump operation by regulating the pump speed or the number of pumps in use based on the tunnel level. Mill effluent then flows through a 36-inch FRP line approximately one-third of a mile to the former disk screen building, located beside the primary clarifier. At this point, pH adjustment may be made as needed. Wastewater then flows to the primary clarifier centerwell. The disc screen can be bypassed by manipulating valves.

2. *Primary Clarifier*

Waste streams from the pulp mill, paper mill, and utilities area are pumped to a single primary clarifier. The clarifier is 220 feet in diameter and has a total capacity of 4.3 million gallons for a detention time of about 3.5 hours. The drive assembly is comprised of a motor and reducer for each of the two wheels which ride along the rim of the clarifier. Helical rakes plow the sludge in toward the center wall of the clarifier. The rakes are designed to ride up over hard, dense areas and gradually work through compacted sludge. A sludge depth target of 2 feet is desired for optimum sludge consistency and dewatering properties.

Settled sludge is withdrawn from the clarifier centerwell through three 8-inch suction lines to one of three variable speed pumps. The three pumps manifold in to either of the two 6-inch discharge lines which extend underground to the blend tanks in the control building. The speed of the pumps is controlled by the treatment plant operator in the filter building. The pumps can be back-flushed with high pressure water when necessary.

3. *Blend Tanks*

Mixing of primary and secondary waste occurs in the blend tanks, which also provide surge capacity between the pumps and the dewatering equipment. The pumps can be valved to allow them to pump to either blend tank. The blend tanks, equipped with agitators, also mix the material coming from the clarifier bottom, dampening the effect of localized pockets in the clarifier. Sludge is supplied to the dewatering equipment by three variable speed pumps. These pumps draw from a manifold connecting the two blend tanks. The manifold is valved to allow multiple pumping combinations from either or both tanks.

1. APPLICATION SUMMARY (cont'd)

4. *Sludge Dewatering*

Sludge dewatering is accomplished by three gravity tables and screw presses. Polymer is added to the process as a flocculation aid via three variable speed pumps. The polymer is added to each sludge line prior to a mixer. The mixer provides mixing of the polymer and sludge before reaching the gravity table headbox. Polymer dilution and polymer to sludge ratios are maintained by flow ratio controllers that control the polymer pump speeds and dilution water control valves.

Sludge from the blend tanks is pumped to a variable speed gravity table. The sludge enters at a typical consistency of 3 to 5 % solids and is dewatered to approximately 10% solids.

The partially dewatered sludge drops through a chute into the headbox of the screw press. Each variable speed screw press has a production capacity of 40 tons of dry sludge per day. Constant level in the headbox is maintained by a level controller that dictates the speed of the sludge pumps. Steam is added to the center of the screw to aid in dewatering. Sludge is dewatered to approximately 50% solids and is discharged onto individual belt conveyors that carry the sludge to the diked concrete holding pad. The mill may also divert sludge to a belt press for dewatering. The dewatered sludge is stored on the concrete holding pad.

5. *Sludge Disposal*

Approximately 75% of the dewatered sludge generated is then burned for energy recovery. Dewatered sludge is mixed with biomass from the mill's debarking operation and fed to the two Cogeneration boilers. Both dewatered sludge and boiler ash are trucked to the landfill by either mill vehicles or an independent contractor. The landfill site is located at Farrington Mountain, approximately three miles south of the mill. Leachate from the landfill is collected and held in two ponds at the south end of the site. From here, the leachate is pumped back to the mill through an underground pipeline, where it is treated in the effluent treatment plant.

6. *Aeration Basin*

The primary clarifier overflow empties into an outfall box where urea and phosphoric acid are added as nutrients. From there, the overflow travels by gravity to a mix box where recycle sludge is mixed with primary sludge. From this point, the effluent is channeled into four 24-inch FRP pipelines into two discharge points within each of the two aeration basins. The combined capacity of the basins is 8.85 million gallons.

1. APPLICATION SUMMARY (cont'd)

Liquid depth varies between 12.0 to 12.5 feet. Air is supplied through six 500-HP centrifugal blowers (each blower has a capacity of 8,500 standard cubic feet per minute (scfm)) and four 350-HP positive displacement blowers (each blower has a capacity of 6000 scfm). The average continuous air flow of these two independent systems is approximately 50,000 scfm.

During May of 1992, a major modification was performed on all the laterals in each of the aeration basins. The ½" hole under each of the diffusers was plugged and approximately 11,200 3/8" holes were drilled in the existing laterals at 1.75 foot intervals.

Aeration is also supplied to the headbox of the final clarifiers via 30 laterals which supply approximately 1000 scfm of air.

Recycle sludge is transported from the secondary clarifiers to the mix box where it is mixed with primary sludge utilizing a combination of four recycle sludge pumps. Recycle flow rate is maintained depending on incoming flow, mixed liquor concentration (mg/l), current secondary sludge inventory, and microbiology. Waste sludge is withdrawn from the recycle sludge line and pumped to one or two blend tanks. The sludge flow is measured by a magnetic flow meter and can be controlled by an automatic valve.

7. *Secondary Clarifiers*

Mixed liquor feeds by gravity from the aeration basins into three 65 foot wide by 290 foot long by 15 foot deep rectangular syphon clarifiers. Total capacity is 6.3 million gallons. Settled activated sludge is removed by syphoning through six 8-inch header pipes per clarifier that traverse the bottom of a clarifier as the bridge moves. All syphons empty into a seal box, which then discharges thickened sludge into the sludge trough running lengthwise along the clarifier. The sludge trough feeds the recycle pumps previously described. Recycle rate to aeration is controlled by throttling the recycle pump discharge.

Sludge blanket levels are checked daily by one of the effluent treatment plant operators. Filamentous and non-filamentous bulking may result at times in higher blanket levels but chemical addition is available to control filamentous bulking.

2. PERMIT SUMMARY

a. Terms and conditions - This permitting action is carrying forward the terms and conditions of the previous permitting actions (9/21/05, 4/10/06, 8/7/06, 2/7/08, 6/30/08 6/8/10 and 2/7/12) except that this permitting action;

1. Eliminates Special Condition M, *Biological Monitoring Plan*, of the September 21, 2005, permit that required the permittee to develop and implement an annual biological monitoring plan to monitor bald eagles and other fish eating bird species. The permittee is being relieved of this obligation based on the Maine Department of Inland Fisheries and Wildlife and the U.S. Fish and Wildlife Services determination that continuation of the monitoring program is not warranted by the findings of the past monitoring.

2. Establishes new water quality based limitations for total aluminum, total cadmium, total copper, and total zinc as test results submitted to the Department indicate the discharge from mill either exceeds or has a reasonable potential to exceed applicable ambient water quality criteria (AWQC) for each of the metals cited. A schedule of compliance has been established for the new water quality based limits for total aluminum, total cadmium and total copper.

3. Incorporating the interim mercury limitations established in a March 2001 permit modification into this permit.

4. Establishes an annual certification requirement pursuant to Department rule 06-096 CMR, Chapter 530, *Surface Water Toxics Control Program.*

5. Reduces the summertime (June – September) BOD monitoring frequency from 1/Day to 3/Week and reduces the non-summer (October – May) BOD monitoring frequency from 5/Week to 1/Week based on a statistical evaluation of the most recent 43 months of data submitted to the Department.

6. Reduces the summertime (June – September) TSS monitoring frequency from 5/Week to 2/Week and reduces the non-summer (October – May) TSS monitoring frequency from 5/Week to 1/Week based on a statistical evaluation of the most recent 43 months of data submitted to the Department.

7. Reduces the monitoring frequency for AOX from 1/Week to 2/Month based on a statistical evaluation of the most recent 43 months of data submitted to the Department.

8. Reduces the monitoring frequency for the 12 phenolics compounds from 2/Year to 1/Year based on a statistical evaluation of the most recent 43 months of data submitted to the Department.

9. Reduces the monitoring frequency for chloroform from 1/Quarter to 1/Year based on a statistical evaluation of the most recent 43 months of data submitted to the Department.

2. PERMIT SUMMARY (cont'd)

10. Reduces the monitoring frequency for color from 3/Week to 1/Week based on a statistical evaluation of the most recent 43 months of data submitted to the Department.

11. Reduces the monitoring frequencies for total phosphorus and ortho-phosphorus from 3/Week to 2/Week based on a statistical evaluation of the most recent 43 months of data submitted to the Department.

12. Reduces the monitoring frequencies for mercury from 4/Year to 1/Year based on a statistical evaluation of the most recent 60 months of data submitted to the Department.

b. History: - The most recent significant and relevant regulatory actions for the RPC's Rumford mill are as follows:

September 26, 1986 – The EPA issued NPDES permit #ME0023264 for a five-year term. The permit regulated the discharge of non-contact cooling water from the Boise Cascade Corporation's co-generation facility.

March 30, 1992 – The EPA issued a renewal of NPDES permit #ME0002054 for a five-year term. The permit was issued in the name of the Boise Cascade Corporation, former owner and operator of the Rumford Mill.

April 30, 1992 - The Boise Cascade Corporation appealed the EPA's March 30, 1992 permit and requested an evidentiary hearing in regard to limitations and monitoring requirements for dioxin, furan, color, AOX, pH, whole effluent toxicity, fish analysis, and a narrative condition regarding PCB discharges contained in the permit. EPA neither denied nor granted such a hearing and thus the permit never became effective and the permit and the appeal have since expired. It is noted that the EPA and Boise Cascade reached a settlement agreement on September 28, 1994 to address the appeal but the EPA never formally signed off on the agreement. In order to resolve the appeal that was pending before the EPA's Environmental Appeals Board and to ensure the contested conditions of the NPDES permit remained in abeyance until the State of Maine issued a MEPDES permit, the EPA withdrew the contested permit conditions pursuant to federal regulation, 40 CFR Part 124.19(d). The remaining terms and conditions of 4/30/92 NPDES permit remained in effect until the MEPDES permit was issued by the State. The Order to accept the removal of the contested permit conditions from the 1992 NPDES permit was accepted by the federal Environmental Appeals Board judge on May 30, 2001.

June 1, 1995 – The Department issued WDL #W000955-44-C-R for a five-year term. As with the NPDES permit issued by the EPA, the WDL was issued in the name of the Boise Cascade Corporation. It is noted this WDL action incorporated limitations and monitoring requirements for the non-contact cooling water discharge(s) from the co-generation facility.

2. PERMIT SUMMARY (cont'd)

February 27, 1996 - The Department issued WDL #W00955-51-A-N that established a thermal mixing zone in the Androscoggin River for the discharges from the Rumford mill.

November 18, 1996 – The Department issued an Order transferring permits and licenses from the Boise Cascade Corporation to the Mead Oxford Corporation.

April 1998 – The EPA promulgated new National Effluent Guidelines (NEGS) for a portion of the pulp and paper industry. The NEG's applicable to the Rumford mill are found at 40 CFR Part 430, commonly referred to as the Cluster Rule.

October 18, 1998 - The Department issued WDL modification #W000955-5N-D-M to incorporate limitations for dioxin, furan and color.

June 10, 1999 - The Department issued WDL modification #W000955-5N-E-M to incorporate the terms and conditions of a new operational plan for the Gulf Island Pond Oxygenation Project (GIPOP).

July 23, 1999 – The Department issued WDL modification #W000955-5N-F-M which established a schedule of compliance and interim quarterly average limits for color.

January 12, 1999 – The permittee submitted a timely application to the Department to renew the 6/1/95 WDL.

May 23, 2000 – Pursuant to Maine law, 38 M.R.S.A. §420 and Department rule, 06-096 CMR Chapter 519, *Interim Effluent Limitations and Controls for the Discharge of Mercury*, the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee thereby administratively modifying WDL # W000955-44-C-R by establishing interim monthly average and daily maximum effluent concentration limits of 10.6 parts per trillion (ppt) and 15.9 ppt, respectively, and a minimum monitoring frequency requirement of four tests per year for mercury.

January 12, 2001 - The Department received authorization from the EPA to administer the NPDES program in Maine.

March 2, 2001 – The Department issued a letter to the Mead Oxford Corporation that recalculated the interim mercury limits based on additional testing and established an average effluent concentration limit of 35.81 ng/L and a maximum limit of 53.71 ng/L.

December 18, 2002 – The Department was notified that the name of Mead Oxford Corporation was changed to MeadWestvaco Oxford Corporation.

May 25, 2005 – The Department was notified that the name MeadWestvaco Oxford Corporation was changed to Rumford Paper Company.

May 2005 – The Department finalized a TMDL for portions of the Androscoggin River above the Gulf Island Pond Dam.

2. PERMIT SUMMARY (cont'd)

July 18, 2005 – The EPA approved a total maximum daily load (TMDL) entitled, May 2005 TMDL, Final for the Androscoggin River.

September 21, 2005 – The Department issued MEPDES permit #ME0002054/WDL #W000955-5N-G-R for a five-year term.

October 12, 2005 – The Department promulgated two new rules; Chapter 530, *Surface Water Toxics Control Program*, and Chapter 584, *Surface Water Quality Criteria For Toxic Pollutants.*

October 21, 2005 - Timely appeals of the Department's September 21, 2005 decision were filed by RPC, Verso Paper, FPL Energy, the Natural Resources Council of Maine, the Conservation Law Foundation, Maine Rivers, Androscoggin River Alliance, and Androscoggin Lake Improvement Association.

April 10, 2006 – The Department modified the 9/21/05 MEPDES permit by establishing monitoring requirements for whole effluent toxicity (WET) and chemical specific testing pursuant to Department rule Chapter 530.

August 7, 2006 – The Department issued WDL Modification W000955-5N-H-M. The permitting action eliminated the schedule to come into compliance with 60-day rolling average water quality based limits for total suspended solids (TSS) and accelerated the final date in the schedule of compliance for summertime total phosphorus and ortho-phosphorus mass limitations from June 1, 2010 to June 1, 2008.

February 7, 2008 – The Maine Board of Environmental Protection issued a Board Order in response to the appeals of the 9/21/05 MEPDES permit filed on 10/21/05. The Board Order modified several of the terms and conditions of the 9/21/05 MEPDES permit and ordered the Department to revise and re-calibrate its water quality model following the correction of a dispersive mixing error (which could affect additional oxygen injection requirements) and a recalculation of the sediment area that is contributing phosphorus to the pond (which could affect final effluent limits for total phosphorus and/or ortho-phosphorus).

June 30, 2008 – The Department issued a minor revision to the 9/21/05 permit that reduced the monitoring frequencies for AOX, chloroform and the twelve chlorinated phenolic compounds in accordance with guidance provided by the EPA in a document entitled, "*Interim Guidance for Performance Based Reductions of NPDES Permit Monitoring Frequencies*" (USEPA 1996).

June 8, 2010 – The Department issued a modification of the 9/21/05 permit that modified the oxygen injection requirement for the Gulf Island Pond Oxygen Injection System.

July 1, 2010 – The permittee filed a timely and complete application with the Department to renew the 9/21/05 MEPDES permit.

2. PERMIT SUMMARY (cont'd)

July 30, 2010 – The Department issued an Order to FPL Energy Maine Hydro LLC approving a new GIPOP operating Plan. The July 30 Order constitutes compliance with Special Condition K(3) of the June 8, 2010 modification of RPC's 9/21/05 permit.

February 7, 2012 – The Department issued a minor revision to the 9/21/05 permit that reduced the monitoring frequency for mercury from 4/Year to 1/Year pursuant to Maine law, 38 M.R.S.A., §420, sub-§1-B, ¶F.

3. RECEIVING WATER QUALITY STANDARDS

The Androscoggin River is one of the four major New England river basins. The basin extends from the Canadian border to the Atlantic Ocean covering a 3,450 square mile section of eastern New Hampshire and southwestern Maine. New Hampshire has classified the main stem of the river as Class B above and below the Gorham Paper and Tissue LLC's paper mill in Gorham N.H. Maine has classified the river as Class B [Maine law, 38 M.R.S.A. §467(1)(A)(1)] from the Maine-New Hampshire boundary to its confluence with the Ellis River and Class C [Maine law, 38 M.R.S.A. §467(1)(A)(2)] below the Ellis River in Rumford to the confluence with Merrymeeting Bay in Brunswick. The river above and below the RPC mill is classified as a Class C waterway.

Maine law 38 M.R.S.A. §465(4)(B) states in part, *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 order to provide additional protection for the growth of indigenous fish, the following standards apply.*

(1) The 30-day average dissolved oxygen criterion of a Class C water is 6.5 parts per million using a temperature of 22 degrees centigrade or the ambient temperature of the water body, whichever is less, if:

(a) A license or water quality certificate other than a general permit was issued prior to March 16, 2004 for the Class C water and was not based on a 6.5 parts per million 30-day average dissolved oxygen criterion; or

(b) A discharge or a hydropower project was in existence on March 16, 2005 and required but did not have a license or water quality certificate other than a general permit for the Class C water.

(1) This criterion for the water body applies to licenses and water quality certificates issued on or after March 16, 2004.

(2) In Class C waters not governed by subparagraph (1), dissolved oxygen may not be less than 6.5 parts per million as a 30-day average based upon a temperature of 24 degrees centigrade or the ambient temperature of the water body, whichever is less. This criterion for the water body applies to licenses and water quality certificates issued on or after March 16, 2004.

3. RECEIVING WATER QUALITY STANDARDS (cont'd)

This standard codifies the 6.5 mg/L criteria utilized by the Department in historic modeling practices and is consistent with the EPA publication, *Quality Criteria for Water, 1986,* (Gold Book) that establishes a dissolved oxygen criteria with a 30-day mean of 6.5 mg/L to protect and support all species of fish indigenous to the receiving waters and maintain the structure and function of the biological community. On July 18, 2005, the EPA formally approved the Department's May 2005 TMDL for the Androscoggin River which utilized the 30-day average dissolved oxygen standard of 6.5 mg/L at a temperature of 22°C in its analysis.

The use of a 30-day average criterion that considers temperature is premised on the fact that a monthly average criterion is designed to protect for those conditions over which only an insignificant amount of salmonid growth and production is lost. The EPA's "Gold Book" provides a maximum weekly average temperature for growth of Atlantic salmon (20°C), brook trout (19°C) and rainbow trout (19°C) as the optimum temperatures for growth plus 1/3 of the difference between the optimum growth and the ultimate incipient lethal temperature just above the temperature of zero growth. Some growth occurs up to 23-24 °C for these species.

The Maine legislature decided that a temperature threshold of 22°C is an acceptable amount of growth relative to dissolved oxygen [38 M.R.S.A.§465(4)(B)(1)] in the Androscoggin and St. Croix rivers. Consequently, the 30-dayaverage DO criterion applies only when temperatures are 22°C or below.

Therefore, based on a best professional judgment by the Department and EPA's approval of the TMDL to protect and support all species of fish indigenous to the receiving waters and maintain the structure and function of the biological community, this permitting action is utilizing a 30-day average ambient dissolved oxygen criteria of 6.5 mg/L at 22°C in establishing monthly average biochemical oxygen demand (BOD) limitations.

Maine law 38 M.R.S.A. §465(4) also states in part *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.*

Maine law 38 M.R.S.A, §464(13) states *Measurement of dissolved oxygen in riverine impoundments. Compliance with dissolved oxygen criteria in existing riverine impoundments must be measured as follows.*

A. Compliance with dissolved oxygen criteria may not be measured within 0.5 meters of the bottom of existing riverine impoundments

B. Where mixing is inhibited due to thermal stratification in an existing riverine impoundment, compliance with numeric dissolved oxygen criteria may not be measured below the higher of:

3. RECEIVING WATER QUALITY STANDARDS (cont'd)

(1) The point of thermal stratification when such stratification occurs; or

(2) The point proposed by the department as an alternative depth for a specific riverine impoundment based on all factors included in section 466, subsection 11-A and for which a use attainability analysis is conducted if required by the United States Environmental Protection Agency

For purposes of this paragraph, "thermal stratification" means a change of temperature of at least one degree Celsius per meter of depth, causing water below this point in an impoundment to become isolated and not mix with water above this point in the impoundment.

C. Where mixing is inhibited due to natural topographical features in an existing riverine impoundment, compliance with numeric dissolved oxygen criteria may not be measured within that portion of the impoundment that is topographically isolated. Such natural topographic features may include, but not be limited to, natural deep holes or river bottom sills.

Notwithstanding the provisions of this subsection, dissolved oxygen concentrations in existing riverine impoundments must be sufficient to support existing and designated uses of these waters. For purposes of this subsection, "existing riverine impoundments" means all impoundments of rivers and streams in existence as of January 1, 2001 and not otherwise classified as GPA.

Maine law, 38 M.R.S.A. Section 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), 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, 38 M.R.S.A., Section 420 and Department rule 06-096 CMR Chapter 530, *Surface Water Toxics Control Program,* require the regulation of toxic substances not to exceed levels set forth in Department rule 06-096 CMR Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants*, and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

4. RECEIVING WATER QUALITY CONDITIONS

A report entitled, The State of Maine 2010 Integrated Water Quality Monitoring and Assessment Report, prepared by the Department pursuant to Sections 303(d) and 305(b) of the Federal Water Pollution Control Act, lists various segments of the Androscoggin River in the following categories;

1. *Category 4-A: Rivers and Streams With Impaired Use TMDL Required, Waters Impaired by Atmospheric Deposition of Mercury*. This applies to all freshwaters in Maine. Impairment in this context refers to the designated use of recreational fishing due to elevated levels of mercury in some fish caused by atmospheric deposition. As a result, the State has established a fish consumption advisory for all freshwaters in Maine. Maine law 38 M.R.S.A., §420 and Department Rule, Chapter 519, *Interim Effluent Limitations and Controls For the Discharge of Mercury*, establishes controls of mercury to surface waters of the State and United States through interim effluent limitations and implementation of pollution prevention plans. Maine law 38 M.R.S.A., §420 1-B,(B)(1) states that a facility is not in violation of the AWQC for mercury if the facility is in compliance with an interim discharge limit established by the Department pursuant to Section 413, subsection 11. A review of the Department's data base for the period January 2007 through the present indicates the permittee has been in compliance with the interim limits for mercury. See Section 5(m) of this Fact Sheet.

2. *Category 4-A: Rivers and Streams With Impaired Use Other than Mercury, TMDL Completed,* applies to 8.19 mile section of the Androscoggin River designated as a Class C waterbody upstream of the Gulf Island Pond Dam. Impairment in this context refers to algal blooms (none since 2004) and depressed dissolved oxygen levels caused by the discharges of biochemical oxygen demand (BOD), total suspended solids (TSS), and phosphorus by both point and non-point sources. See the discussion in Section 4 and Sections 5(e) and 5(k) of this Fact Sheet.

3. *Category 4-B: Rivers and Streams Impaired By Pollutants – Pollution Control Requirements Reasonably Expected To Result in Attainment*, applies to 97 miles of the Androscoggin River designated as a Class C waterbody. Impairment in this context refers to the designated use of fish consumption due to dioxin. Compliance is measured by (1) no detection of dioxin in any internal waste stream (at 10 pg/L detection limit) (2) dioxin in fish tissue sampled below a mill's outfall is not greater than upstream reference." A review of the Department's data base for the period January 2007 through the present indicates the permittee has been in compliance with the dioxin and furan limitations as well as fish tissue samples and as a result is deemed by statute to not be discharging dioxin into the receiving water. See the discussion in Sections 5(o&p) of this Fact Sheet.

4. *Category 5-D: Rivers and Streams Impaired by Legacy Pollutants*, applies to 69 miles of the Androscoggin River designated as a Class C waterbody. Impairment in this context refers to the designated use of fish consumption due to the presence of polychlorinated biphenyls (PCBs) in fish tissue. Based on data available to it, the Department finds that RPC is not causing or contributing to this impairment.

4. RECEIVING WATER QUALITY CONDITIONS (cont'd)

The Department has reviewed the annual ambient water quality monitoring reports submitted by RPC, in conjunction with others, required by Special Condition O, *Ambient Water Quality Monitoring,* of the 9/21/05 permit. The recent monitoring conducted during summer of 2010 indicates water quality has improved over that of recent years, even at low river flow and high water temperatures. Algal blooms have not been observed since 2004. Dissolved oxygen (DO) levels have steadily improved and were at the highest levels observed since monitoring GIP was initiated in 2004. In 2010 there were documented depressed DO concentrations below the minimum criteria (5.0 ppm) and the monthly average criteria (6.5 ppm when and where temperatures were 22°C or lower) below the new Lower Narrows oxygen injection diffuser. The depressed DO levels were usually restricted vertically to 1-3 meters in or near the thermocline and in the deeper parts of the impoundment where mixing is inhibited and the generally higher DO levels were observed above the thermocline. The Department has concluded the depressed DO levels are related to sediment oxygen demand (SOD) resulting primarily from past inputs of total suspended solid (TSS) and settled algae due to past inputs of nutrients. SOD is a primary cause of reduced DO levels in the deeper areas of GIP. Historically, the Department has estimated that a significant portion of the SOD in GIP resulted from two sources; algal settling and total suspended solids (TSS) settling. The following is a brief discussion of each of these SOD sources influences;

Algal settling - GIP has historically been prone to phytoplankton (free-floating algae) blooms as a result of excessive nutrient loadings from upstream discharges. A substantial portion of the algal biomass that originates in GIP eventually settles to the bottom of the pond providing a particularly labile source of SOD.

TSS settling - The slow moving nature of the GIP impoundment provides a good opportunity for suspended solids to settle out. As a result, TSS that originates from upstream point and non-point source discharges provides another significant source of SOD.

In 2005, the Department issued MEPDES/WDL renewals for dischargers on the Androscoggin River. A primary focus of the 2005 permitting effort was to implement phosphorus and TSS discharge limitations as an annual average to specifically address the above mentioned SOD influences in GIP. For RPC, final water quality based limits for TSS, measured as an annual average, became effective in 2006 and monthly average phosphorus limits became effective in June 2008.

Point source loading reductions combined with seasonal oxygen injection efforts have resulted in significant water quality improvement in GIP. Recent occurrences of deficient DO levels in GIP have been reduced in number and occur at depths in or near the thermocline and generally within areas of inhibited mixing. In accordance with Maine law 38 M.R.S.A. §464(13)(c), numeric dissolved oxygen are not to be measured within that portion of an existing riverine impoundment that is topographically isolated SOD is a primary factor influencing the observed DO levels which occur during periods of water column stratification.

4. RECEIVING WATER QUALITY CONDITIONS (cont'd)

The mean chlorophyll-a concentrations have steadily trended downward since 2004. Secchi disk transparency readings have trended upwards since 2004 and have not been below the 2m threshold for phytoplanktonic algae blooms. Since 2004, there have not been any algae blooms in GIP. With the reductions in point-source and non-point source phosphorus and TSS loadings upstream of GIP compared to historical levels, the Department expects a decrease of SOD in GIP. In addition, the 2010 start-up of the new oxygenation system, the continued local and state efforts to reduce nonpoint-source loadings, and the new state law taking effect on January 1, 2013 requiring certified individuals on-site during activities in the shoreland zone, all also support the Department's reasonable expectation that these SOD related improvements will result in the elimination of DO issues in GIP within the 5-year term of this permit without the need for additional reductions in point source limitations for organic and or nutrient parameters. Over time, these improvements are expected to result in a significant lowering of the SOD rate in GIP. The Department has a reasonable expectation that these SOD related improvements will result in the elimination of any DO issue in GIP within the 5-year term of this permit.

Based on the continued improvement in water quality being experienced in GIP, the Department is recommending the implementation of a program to continue the assessment of the relative improvement in SOD during the course of this 5-year permitting cycle. The goal of the SOD monitoring will be to identify and implement a refined methodology to assist with the on-going SOD assessment. This SOD data will be evaluated prior to the next 5-year permitting term to better reassess water quality conditions in GIP.

The Department has made the determination consistent with the Androscoggin TMDL implementation plan that additional ambient water quality monitoring is necessary to continue to evaluate compliance with Class C water quality criteria. Therefore, this permit carries forward the annual water quality monitoring via Special Condition J, *Ambient Water Quality Monitoring*, of this permit.

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

a. Regulatory Basis: The discharge from the RPC's Rumford mill is subject to National Effluent Guidelines (NEG) found in 40 Code of Federal Regulations (CFR) Part 430 – *Pulp, Paper and Paperboard Manufacturing Point Source Category*. The regulation was revised on April 15, 1998 and reorganized 26 sub-categories in the previous regulation into 12 sub-categories by grouping mills with similar processes. Applicable Subparts of the new regulation for the Rumford Paper Company facility are limited to Subpart B, *Bleached Papergrade and Soda Subcategory*. The NEG's establish applicable limitations representing; 1) best practicable control technology currently available (BPT) for toxic and conventional pollutants for existing dischargers, 2) best conventional pollutant technology economically achievable (BCT) for conventional pollutants for existing dischargers, and 3) best available technology economically achievable (BAT) for toxic and non-conventional pollutants for existing dischargers. The regulation establishes limitations and monitoring requirements on the final outfall to the receiving waterbody as

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001A & 001B (final Effluent)

well as internal waste stream(s) such as the bleach plant effluent. The regulation also establishes limitations based on several methodologies including monthly average and or daily maximum mass limits based on production of pulp and paper produced or concentration limitations based on BPT, BCT or BAT.

b. Production: For the most current three year period, the RPC mill produced an average of 1,721 tons per day (TPD) of fine coated paper (1,503 air-dried tons of unbleached kraft pulp and 250 tons from groundwood pulp) and 313 tons/day of bleached kraft market pulp. These production values are being used to calculate BPT limitations for BOD and TSS in accordance with the NEG's. For AOX and chloroform limitations in this permitting action, a production value of 1,503 tons of unbleached pulp per day is being utilized.

c. Flow: The previous permitting action established a monthly average limit of 34.0 MGD that is being carried forward in this permitting action that represents the design flow of the waste water treatment facility. A review of the monthly Discharge Monitoring Report (DMR) data for the period January 2008 – July 2011 indicates the permittee has been in compliance with said limitation 100% of the time as values have been reported as follows:

Flow (DMRs=43)

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Monthly Average	34	17.5 – 32.2	26.9
Daily Maximum	Report	23.7 – 37.1	30.7

d. Dilution Factors: Dilution factors associated with the discharge from the mill's waste water treatment facility were derived in accordance with freshwater protocols established in Department Rule Chapter 530, *Surface Water Toxics Control Program*, October 2005. With a permitted flow of 34.0 MGD, dilution calculations are:

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

Acute: $1Q10^{(1)} = 1{,}663$ cfs $\Rightarrow \frac{(1{,}663 \text{ cfs})(0.6464)}{34.0 \text{ MGD}} = 31.6{:}1$

Chronic: $7Q10 = 1{,}663$ cfs $\Rightarrow \frac{(1{,}663 \text{ cfs})(0.6464)}{34.0 \text{ MGD}} = 31.6{:}1$

Harmonic Mean: $= 2{,}861$ cfs $\Rightarrow \frac{(2{,}861 \text{ cfs})(0.6464)}{34.0 \text{ MGD}} = 54.4{:}1$

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

OUTFALL #001A & 001B (final Effluent)

Footnotes:

(1) Chapter 530(4)(B)(1) states that analyses using numeric acute criteria for aquatic life must be based on 1/4 of the 1Q10 stream design flow to prevent substantial acute toxicity within any mixing zone. The 1Q10 is lowest one day flow over a ten-year recurrence interval. The regulation goes on to say that where it can be demonstrated that a discharge achieves rapid and complete mixing with the receiving water by way of an efficient diffuser or other effective method, analyses may use a greater proportion of the stream design, up to including all of it. The Department made the determination in the previous permitting action that the discharge does receive rapid and complete mixing with the receiving water, therefore 100% of the 1Q10 is applicable in acute statistical evaluations pursuant to Chapter 530.

e. Biochemical oxygen demand (BOD_5) & Total suspended solids (TSS):

The following table contains the monthly average and daily maximum BOD and TSS limitations as calculated utilizing the BPT effluent limitation in the NEGs found at 40 CFR Part 430, Sub-part B, *Bleached Papergrade and Soda Subcategory*

Final Prod. (t/d)	Subpart B	BOD Avg		BOD Max		TSS Avg		TSS Max	
		kg/kkg	lbs/day	kg/kkg	lbs/day	Kg/kkg	lbs/day	kg/kkg	lbs/day
1,721	Kraft Fine Paper	5.5	18,931	10.6	36,485	11.9	40,960	22.15	76,240
313	B-Mkt Kraft	8.05	5,039	15.45	9,672	16.4	10,266	30.4	19,030
2,058	**Totals**	---	**23,970**	---	**46,157**	---	**51,226**	---	**95,270**

Summary of NEG calculated BPT Limitations

BOD Avg.	BOD Max.	TSS Avg.	TSS Max.
23,970 lbs/day	46,157 lbs/day	51,226 lbs/day	95,270 lbs/day

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001A & 001B (Final effluent)

BOD

The 9/21/05 permitting action established BOD limitations which are being carried forward in this permitting action as follows;

	Monthly Average	Weekly Average	Daily Maximum
June 1 – Sept 30 *Beginning upon issuance*	8,330 lbs/day	---	18,750 lbs/day
June 1 – Sept 30 *Beginning June 1, 2006*	8,330 lbs/day	12,500 lbs/day	18,750 lbs/day
Oct 1 – May 31 *Beginning Oct. 1, 2005*	14,400 lbs/day	---	32,300 lbs/day

The monthly average summertime (June 1 – September 30) mass limit of 8,330 lbs/day was established based on a recommendation in the May 2005 TMDL to maintain compliance with the 30-day rolling average dissolved oxygen threshold of 6.5 mg/L at 22 °C. This limitation is being carried forward in this permitting action.

The summer weekly average and daily maximum water quality based limitations of 12,500 lbs/day and 18,750 lbs/day respectively, were established to maintain compliance with the instantaneous dissolved oxygen standard of 5 mg/L and are based on a TMDL recommendation. The daily maximum limitation was derived by multiplying the TMDL recommended weekly average of 12,500 lbs/day limitation by a statistically derived factor of 1.5. This factor was derived based on a statistical evaluation of the mills historic effluent variability. The non-summer monthly average and daily maximum limitations of 14,400 lbs/day and 32,300 lbs/day respectively were carried forward from a 1995 licensing action pursuant to anti-backsliding provisions of Department rule (Chapter 523 §5(1) and federal regulation (USC §1342(o).

A review of the DMR data for the period January 2008 – July 2011 indicates the permittee has been in compliance with the seasonal BOD limits as values have been reported as follows:

BOD *(June 1 – September 30)*

BOD Mass (DMRs 14)

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	8,330	918 – 4,813	2,465
Weekly average	12,500	1,040 – 7,034	3,280
Daily Maximum	18,750	1,357 – 11,364	5,353

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001A & 001B (Final effluent)

BOD *(October 1 – May 31)*

BOD Mass (DMRs=29)

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	14,400	1,078 – 9,385	2,532
Daily Maximum	32,300	1,828 – 20,038	6,014

On July 31, 2006, the U.S. EPA issued a memorandum to the Water Division Directors in all ten regions of the U.S. reminding them to convey to NPDES permitting authorities that facilities subject to Effluent Limitations Guidelines (ELGs) for Pulp and Paper Mills covered under 40 CFR Part 430 (promulgated by the EPA on April 15, 2008) were eligible for monitoring frequency reductions where appropriate. 40 CFR, Part 430 specified monitoring frequencies that were required for a five-year period with the preamble of Part 430 clarifying that permit writers can require less frequent monitoring after the compulsory five-year period. The EPA recommends the use of a document entitled, "*Interim Guidance for Performance Based Reductions of NPDES Permit Monitoring Frequencies*" (USEPA 1996) as the basis for determining these reduced monitoring frequencies. Monitoring requirements are not considered effluent limitations under section 402(o) of the Clean Water Act and therefore, anti-backsliding prohibitions would not be triggered by reductions in monitoring frequencies

The EPA Guidance indicates "*...the basic premise underlying a performance-based reduction approach is that maintaining a low average discharge relative to the permit limits results in a low probability of the occurrence of a violation for a wide range of sampling frequencies.*" The monitoring frequency reductions in EPA's guidance were designed to maintain approximately the same level of reported violations as that experienced with the existing baseline sampling frequency in the permit. To establish baseline performance the long term average (LTA) discharge rate for each parameter is calculated using the most recent two-year data set of monthly average effluent data representative of current operating conditions. The LTA/permit limit ratio is calculated and then compared to the matrix in Table I of EPA's guidance to determine the potential monitoring frequency reduction. It is noted Table I of EPA's guidance was derived from a probability table that used an 80% effluent variability or coefficient of variation (cv). The permitting authority can take into consideration further reductions in the monitoring frequencies if the actual cv for the facility is significantly lower than the default 80% utilized by the EPA in Table I.

In addition to the parameter-by-parameter performance history via the statistical evaluation cited above, the EPA recommends the permitting authority take into consideration the facility enforcement history and the parameter-by-parameter compliance history and factors specific to the State or facility. If the facility has already been given monitoring reductions due to superior performance, the baseline may be a previous permit.

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001A & 001B (Final effluent)

Though EPA's 1996 Guidance recommends evaluation of the most current two-years of effluent data for a parameter, the Department is considering the most current 43 months of data (January 2008 – July 2011) as it is representative of the timeframe from the last monitoring frequency reduction to the present for a number of parameters including AOX, 12-phenolic compounds and chloroform.

The permittee has been monitoring BOD dating back to the 1970's without a reduction in the monitoring frequency. The review of the seasonal monitoring data for BOD on pages 21 and 22 of this Fact Sheet indicates the ratios (expressed in percent) of the long term effluent average to the monthly average limits can be calculated as follows:

June 1 – September 30

Long term average = 2,465 lbs/day
Monthly average limit = 8,330 lbs/day
Current monitoring frequency = 1/Day

$$\text{Ratio} = \frac{2{,}465 \text{ lbs/day}}{8{,}330 \text{ lbs/day}} = 29\%$$

According to Table I of the EPA Guidance, a 1/Day monitoring requirement can be reduced to 3/Week. Therefore, the summertime BOD monitoring frequency has been reduced to 3/Week in this permitting action.

October 1 – May 31

Long term average = 2,532 lbs/day
Monthly average limit = 14,400 lbs/day
Current monitoring frequency = 5/Week

$$\text{Ratio} = \frac{2{,}532 \text{ lbs/day}}{14{,}400 \text{ lbs/day}} = 17\%$$

According to Table I of the EPA Guidance, a 5/Week monitoring requirement can be reduced to 1/Week. Therefore, the non-summertime BOD monitoring frequency has been reduced to 1/Week in this permitting action.

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001A & 001B (Final effluent)

TSS

The 9/21/05 permitting action and 8/7/06 modification established TSS limitations which are being carried forward in this permitting action as follows;

	Monthly Avg.	60-Day Avg.	Annual Avg.	Daily Maximum
June 1 – Sept 30 *Beginning upon issuance*	15,500 lbs/day	---	---	40,000 lbs/day
June 1 – Sept 30 *Beginning June 1, 2006* *Beginning June 1, 2010*	15,500 lbs/day 15,500 lbs/day	12,200 lbs/day 11,000 lbs/day	15,952 lbs/day 15,952 lbs/day	40,000 lbs/day 40,000 lbs/day
Oct 1 – May 31 *Beginning Oct. 1, 2005*	32,900 lbs/day	N/A	---	50,000 lbs/day
Oct 1 – May 31 *Beginning January 1, 2006*	32,900 lbs/day	N/A	15,952 lbs/day	50,000 lbs/day

The summertime 60-day average (June 1 – September 30) limitation of 11,000 lbs/day was established as a TMDL recommended limit to mitigate the adverse affects of settleable solids on the macro-invertebrate community in the Livermore Falls impoundment. The interim 60-day average limit of 12,200 lbs/day was established in the 2005 permitting action based on a data review and discussion between the Department and the permittee concerning the treatment plant performance, process control and impact to the receiving water. The Department subsequently issued a modification on August 7, 2006, that established the effective date of the 11,000 lbs/day limitation to be June 1, 2006. In a letter dated January 25, 2011, from the Department to Verso's Hydro facility agent, the Department concluded that compliance had been demonstrated with applicable Class C aquatic life standards in the Livermore Falls impoundment under critical water quality conditions. Based on this conclusion, no further sampling will be required.

The summertime monthly average limit of 15,500 was established based on a data review and discussion between the Department and the permittee concerning the treatment plant performance, process control and impact to the receiving water. The non-summertime monthly average limitation of 32,900 lbs/day is being carried forward from a previous licensing action. The summertime and non-summertime daily maximum limitations of 40,000 lbs/day and 50,000 lbs/day respectively, were established based on a data review and discussion between the Department and the permittee concerning the treatment plant performance, process control and impact to the receiving water. The annual average limitation of 15,952 lbs/day is a TMDL recommended limit and was established to reduce the contribution of sediment oxygen demand to dissolved oxygen non-attainment in GIP.

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001A & 001B (Final effluent)

This permitting action is carrying forward the final TSS limitations established in the 9/21/05 permit and 8/7/06 modification as follows:

	Monthly Avg.	60-Day Avg.	Annual Avg.	Daily Maximum
June 1 – Sept 30	15,500 lbs/day	11,000 lbs/day	15,952 lbs/day	40,000 lbs/day
Oct 1 – May 31	32,900 lbs/day	N/A	15,952 lbs/day	50,000 lbs/day

A review of the DMR data for the period January 2008 – July 2011 indicates the permittee has been in compliance with the seasonal TSS limits as values have been reported as follows:

TSS *(June 1 – September 30)*

TSS Mass (DMRs 14)

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	15,500	1,868 – 7,919	4,283
Daily Maximum	40,000	3,651 – 28,761	11,924
60 Rolling Average	11,000	2,584 – 7,445	4,334

TSS *(October 1 – May 31)*

TSS Mass (DMRs=29)

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Monthly Average	32,900	1,493 – 13,965	4,621
Daily Maximum	50,000	3,919 – 47,821	13,868

TSS *(Year-round)*

TSS Mass (DMRs=3)(2008 – 2010)

Value	Limit (lbs/day)	Range (lbs/day)	Average (lbs/day)
Annual Average	15,952	2,944 – 6,350	4,775

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001A & 001B (Final effluent)

As with BOD, the permittee has been monitoring TSS dating back to the 1970's without a reduction in the monitoring frequency. The review of the seasonal monitoring data for TSS on page 25 of this Fact Sheet indicates the ratios (expressed in percent) of the long term effluent average to the monthly average limits can be calculated as follows:

June 1 – September 30

Long term average = 4,283 lbs/day
Monthly average limit = 15,500 lbs/day
Current monitoring frequency = 5/Week

Ratio = 4,283 lbs/day = 28%
15,500 lbs/day

According to Table I of the EPA Guidance, a 5/Week monitoring requirement can be reduced to 2/Week. Therefore, the summertime TSS monitoring frequency has been reduced to 2/Week in this permitting action.

October 1 – May 31

Long term average = 4,621 lbs/day
Monthly average limit = 32,900 lbs/day
Current monitoring frequency = 5/Week

Ratio = 4,621 lbs/day = 14%
32,900 lbs/day

According to Table I of the EPA Guidance, a 5/Week monitoring requirement can be reduced to 1/Week. Therefore, the non-summertime TSS monitoring frequency has been reduced to 1/Week in this permitting action.

f. Temperature: The previous permitting action established a year-round daily maximum temperature limit of 110° F that is being carried forward in this permitting action. See the discussion regarding thermal load limitations in the section *Outfall 00T* of this Fact Sheet.

A review of the DMR data for the period January 2008 – July 2011 indicates the permittee has been in compliance with the seasonal limits as values have been reported as follows:

Temperature *(June 1 – September 30)*

Temperature (DMRs 14)

Value	Limit (°F)	Range (°F)	Average (°F)
Daily Maximum	110	101 - 106	102

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001A & 001B (Final effluent)

Temperature *(October 1 – May 31)*

Temperature Mass (DMRs=29)

Value	Limit (°F)	Range (°F)	Average (°F)
Daily Maximum	110	89 – 102	98

g. pH Range: The previous permitting action established a pH range limit of 5.0 – 9.0 standard units that was based on federal regulation 40 CFR, Part 430. This permitting action is carrying the limit forward and continues to be consistent with the federal NEGs.

A review of the DMR data for the period June 2008 – July 2011 indicates the permittee has been in compliance with the limits as values have been reported as follows:

pH (DMRs 43)

Value	Limit (su)	Range (su)	Average (su)
Daily Maximum	5.0 – 9.0	6.5 – 8.0	N/A

h. Adsorbable organic halogens (AOX): The 9/21/05 permitting action established monthly average and daily maximum technology based mass limits for AOX based on federal regulation found at 40 CFR Part 430 along with a 3/Week monitoring requirement. The regulation establishes production based BAT monthly average and daily maximum allowances of 0.623 kg/kkg and 0.951 kg/kkg (lbs per 1000 pounds or metric tons) of unbleached kraft pulp production. With a representative unbleached kraft pulp production figure of 1,252 tons/day at that time (Jan. 01 – Sept. 04) the limits were calculated as follows:

Monthly average: 1,252 tons/day X 0.623 lbs/1000 lbs X 2000 lbs/ton = 1,560 lbs /day
Daily maximum: 1,252 tons/day X 0.951 lbs/1000 lbs X 2000 lbs/ton = 2,381 lbs /day

In the application for permit renewal, the permittee has indicated that kraft pulp production has increased slightly to 1,503 air-dried tons per day and therefore the technology based limits for AOX should be adjusting accordingly. The Department agrees and has calculated new monthly average and daily maximum limits as follows:

Monthly average: 1,503 tons/day X 0.623 lbs/1000 lbs X 2000 lbs/ton = 1,873 lbs /day
Daily maximum: 1,503 tons/day X 0.951 lbs/1000 lbs X 2000 lbs/ton = 2,859 lbs /day

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001A & 001B (Final effluent)

A review of the monthly Discharge Monitoring Report (DMR) data for the period January 2008 – July 2011 indicates the permittee has been in compliance with the limits in the 9/21/05 permit 100% of the time as values have been reported as follows:

AOX (DMRs=43)

Value	Limit (lbs/day)	Range (lbs/day)	Mean (lbs/day)
Monthly Average	1,560	479 – 1,193	840
Daily Maximum	2,381	640 – 1,662	1,098

It is noted the permittee has been monitoring AOX for the last 18 years as required by the State of Maine's WDL's and MEPDES permits issued by the Department. The review of the monitoring data for AOX above indicates the ratios (expressed in percent) of the long term effluent average to the monthly average limits can be calculated as follows:

Long term average = 840 lbs/day
Monthly average limit = 1,560 lbs/day
Current monitoring frequency = 1/Week

$$\text{Ratio} = \frac{840 \text{ lbs/day}}{1{,}560 \text{ lbs/day}} = 54\%$$

In the July 8, 2010, application for permit renewal, the permittee requested a reduction in the monitoring frequency for AOX from 1/Week to 1/Month. According to Table I of the EPA Guidance, a 1/Week monitoring requirement should be maintained at 1/Week. However, the guidance does provide the permitting authority to take into consideration other factors such as the longevity of the monitoring without any excursions. Given the facility has been monitoring AOX for 18 years without any violations of permit limits and with 528 data points just within the term of the previous five-year permit term without any excursions, the Department has made a determination that an appropriate monitoring frequency for AOX is 2/Month. Therefore, this permit establishes a monitoring frequency of 2/Month for AOX with at least 7 days between sampling events.

i. COD: The 9/21/05 permitting action did not establish final effluent limitations or monitoring requirements for COD. Federal regulation 40 CFR Part 430 has reserved promulgation of specific final effluent limits for COD. The EPA's Permit Guidance Document for implementing 40 CFR Part 430 recommends "... *monitoring of effluent for COD to develop baseline data for developing a COD limit for mills in the future and to provide COD data for helping the mill develop a pollution control strategy.*"

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001A & 001B (Final effluent)

In its July 8, 2010, application for permit renewal the RPC has submitted daily COD test results for the period January 2005 – June 2011 as follows;

COD Mass (n=1,900)

Value	Limit (lbs/day)	lbs/day
Long Term Average	Report	90,742
Daily Maximum	Report	174,617

COD Concentration (n=~1,900)

Value	Limit (mg/L)	mg/L
Long Term Average	Report	372
Daily Maximum	Report	957

This permit is not establishing limitations or monitoring requirements for COD.

j. Color: The 9/21/05 permit established a quarterly average technology based limitation of 150 lbs/day of color per ton of air dried unbleached pulp produced that is being carried forward in this permitting action. For the RPC mill, applicable sections of Maine law, 38 M.R.S.A., §414-C states that:

2) Best practicable treatment; color pollution. For the purposes of Section 414-A, Subsection 1, best practicable treatment for color pollution control for discharges of color pollutants from the kraft pulping process is:

A) For discharges licensed and in existence prior to July 1, 1989:

2) On and after January 1, 2001, 150 pounds or less of color pollutants per ton of unbleached pulp produced, measured on a quarterly average basis.

A discharge from a kraft mill that is in compliance with this section is exempt from provisions of subsection 3.

3. An individual waste discharge may not increase the color of any water body by more than 20 color units. The total increase in color pollution units caused by all dischargers to the water body must be less than 40 color pollution units. This subsection applies to all flows greater than the minimum 30-day low flow that can be expected to occur with a frequency of once in 10 years (30Q10). A discharge that is in compliance with this subsection is exempt from the provisions of subsection 2. Such a discharge may not exceed 175 pounds of color pollutants per ton of unbleached pulp produced after January 1, 2001.

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001A & 001B (Final effluent)

A review of the monthly Discharge Monitoring Report (DMR) data for the period January 2008 – July 2011 indicates the permittee has been in compliance with the quarterly average limits in the 9/21/05 permit 100% of the time as values have been reported as follows:

Color (DMRs=8)

Value	Limit (lbs/ton)	Range (lbs/ton)	Mean (lbs/ton)
Quarterly Average	150	66 - 89	74

The permittee has been monitoring color 3/Week in its discharge and reporting the quarterly average results since the mid 1980's. The review of the monitoring data for color indicates the ratios (expressed in percent) of the long term effluent average to the monthly average limits can be calculated as follows:

Long term average = 74 lbs/ton
Monthly average limit = 150 lbs/ton
Current monitoring frequency = 3/Week

Ratio = $\frac{76 \text{ lbs/ton}}{150 \text{ lbs/ton}}$ = 49%

According to Table I of the EPA Guidance, a 3/Week monitoring requirement can be reduced to 1/Week. Therefore, the monitoring frequency for color has been reduced to 1/Week in this permitting action.

k. Total phosphorus and Ortho-phosphorus – The 9/21/05 permitting action established seasonal (June 1 – September 30) monthly average total phosphorus and ortho-phosphorus mass limitations. The final limitations of 152 lbs/day and 97 lbs/day respectively, were based on the recommendations in the May 2005 final TMDL and were derived based on mass discharge values for both parameters for the period May 1 – September 30, 2004. The 9/21/05 permitting action also established a seasonal (June 1 – September 30) monthly average and daily maximum reporting requirement for concentration for both parameters to track discharge performance as well as a monitoring frequency of 3/Week. The limitations are being carried forward in this permitting action.

A review of the monthly Discharge Monitoring Report (DMR) data for the period June 2008 – July 2011 indicates the permittee has reported values as follows:

Mass

Total phosphorus (DMRs=14)

Value	Limit (lbs/day)	Range (lbs/day)	Mean (lbs/day)
Monthly Average	152	48 – 116	77
Daily Maximum	Report	81 - 304	167

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001 (Final effluent)

Mass

Ortho-phosphorus (DMRs=14)

Value	Limit (lbs/day)	Range (lbs/day)	Mean (lbs/day)
Monthly Average	97	16 – 58	33
Daily Maximum	Report	53 - 152	98

Concentration

Total phosphorus (DMRs=14)

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Monthly Average	Report	0.23 – 0.46	0.31
Daily Maximum	Report	0.27 – 1.20	0.66

Ortho-phosphorus (DMRs=14)

Value	Limit (mg/L)	Range (mg/L)	Mean (mg/L)
Monthly Average	Report	0.06 – 0.3	0.14
Daily Maximum	Report	0.22 – 0.6	0.40

For the purposes of consideration for monitoring frequency reductions, the permittee has completed baseline monitoring for total and ortho-phosphorus as the permittee has been conducting the monitoring at frequency of 3/Week for the five-year term of the previous permitting action. The review of the monitoring data for total and ortho-phosphorus indicates the ratios (expressed in percent) of the long term effluent average to the monthly average limits can be calculated as follows:

Total phosphorus

Long term average = 77 lbs/day
Monthly average limit = 152 lbs/day
Current monitoring frequency = 3/Week

$$\text{Ratio} = \frac{77 \text{ lbs/day}}{152 \text{ lbs/day}} = 51\%$$

According to Table I of the EPA Guidance, a 3/Week monitoring requirement can be reduced to 2/Week.

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001 (Final effluent)

Ortho-phosphorus

Long term average = 33 lbs/day
Monthly average limit = 97 lbs/day
Current monitoring frequency = 3/Week

Ratio = 33 lbs/day = 34%
97 lbs/day

According to Table I of the EPA Guidance, a 3/Week monitoring requirement can be reduced to 1/Week.

Given the sensitivity of the collective discharge of phosphorus to the Androscoggin River watershed and its historic impact on algal blooms in Gulf Island Pond, this permitting action is limiting the reduction in the monitoring frequency for both total and ortho-phosphorus to 2/Week.

l. Whole Effluent Toxicity (WET) & Chemical-Specific Testing – Maine law, 38 M.R.S.A., Sections 414-A and 420, prohibit the discharge of effluents containing substances in amounts that would cause the surface waters of the State to contain toxic substances above levels set forth in Federal Water Quality Criteria as established by the USEPA. Department Rules, 06-096 CMR Chapter 530, *Surface Water Toxics Control Program*, and Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants* set forth ambient water quality criteria (AWQC) for toxic pollutants and procedures necessary to control levels of toxic pollutants in surface waters. WET, priority pollutant and analytical chemistry testing as required by Chapter 530, is included in this permit in order to fully characterize the effluent. This permit also provides for reconsideration of effluent limits and monitoring schedules after evaluation of toxicity testing results. The monitoring schedule includes consideration of results currently on file, the nature of the wastewater, existing treatment and receiving water characteristics.

WET monitoring is required to assess and protect against impacts upon water quality and designated uses caused by the aggregate effect of the discharge on specific aquatic organisms. Acute and chronic WET tests are performed on invertebrate and vertebrate species. Priority pollutant and analytical chemistry testing is required to assess the levels of individual toxic pollutants in the discharge, comparing each pollutant to acute, chronic, and human health AWQC as established in Chapter 584.

Chapter 530 establishes four categories of testing requirements based predominately on the chronic dilution factor. The categories are as follows:

1) Level I – chronic dilution factor of <20:1.
2) Level II – chronic dilution factor of ≥20:1 but <100:1.
3) Level III – chronic dilution factor ≥100:1 but <500:1 or >500:1 and Q ≥1.0 MGD
4) Level IV – chronic dilution >500:1 and Q ≤1.0 MGD

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001 (Final effluent)

Department rule Chapter 530 (1)(D) specifies the criteria to be used in determining the minimum monitoring frequency requirements for WET, priority pollutant and analytical chemistry testing. Based on the Chapter 530 criteria, the permittee's facility falls into the Level II frequency category as the facility has a chronic dilution factor of ≥20:1 but <100:1. Chapter 530(1)(D)(1) specifies that routine screening and surveillance level testing requirements are as follows:

Screening level testing – Beginning 24 months prior to permit expiration and lasting through 12 months prior to permit expiration (Year 4 of the permit) and every five years thereafter if a timely request for renewal has been made and the permit continues in force, or is replaced by a permit renewal containing this requirement.

Level	WET Testing	Priority pollutant testing	Analytical chemistry
II	2 per year	1 per year	4 per year

Surveillance level testing – Beginning upon issuance of the permit and lasting through 24 months prior to permit expiration (Years 1, 2 & 3 of the term of the permit) and commencing again 12 months prior to permit expiration (Year 5 of the permit).

Level	WET Testing	Priority pollutant testing	Analytical chemistry
II	1 per year	None required	2 per year

See **Attachment C** of this Fact Sheet for a summary of the WET test results and **Attachment D** of this Fact Sheet for a summary of the chemical-specific test dates.

Department rule Chapter 530(D)(3)(b) states in part, *Dischargers in Level II may reduce surveillance testing to one WET or specific chemical series every other year provided that testing in the preceding 60 months does not indicate any reasonable potential for exceedence as calculated pursuant to section 3(E).*

Chapter 530(3)(E) states "*For effluent monitoring data and the variability of the pollutant in the effluent, the Department shall apply the statistical approach in Section 3.3.2 and Table 3-2 of USEPA's "Technical Support Document for Water Quality-Based Toxics Control" (USEPA Publication 505/2-90-001, March, 1991, EPA, Office of Water, Washington, D.C.) to data to determine whether water-quality based effluent limits must be included in a waste discharge license. Where it is determined through this approach that a discharge contains pollutants or WET at levels that have a reasonable potential to cause or contribute to an exceedence of water quality criteria, appropriate water quality-based limits must be established in any licensing action.*"

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

OUTFALL #001 (Final effluent)

Chapter 530 §3 states, "*In determining if effluent limits are required, the Department shall consider all information on file and effluent testing conducted during the preceding 60 months. However, testing done in the performance of a Toxicity Reduction Evaluation (TRE) approved by the Department may be excluded from such evaluations.*"

WET evaluation

On 7/31/12, the Department conducted a statistical evaluation on the most recent 60 months of WET data that indicates that the discharge does not exceed or have a reasonable potential (RP) to exceed either the acute or chronic critical ambient water quality criteria (AWQC) threshold (3.2% – mathematical inverse of the applicable dilution factors) for any of the WET species tested to date.

Given the absence of exceedences or reasonable potential to exceed critical WET thresholds, the permittee meets the surveillance level monitoring frequency reduction criteria found at Department rule Chapter 530(D)(3)(b). Therefore, surveillance level WET testing is being established at once every other year (1/2 Years). Routine screening level testing of 2/Year shall be completed in the period 24-months to 12 months prior to the expiration date of this permit and every five years thereafter if a timely request for renewal has been made and the permit continues in force, or is replaced by a permit renewal containing this requirement.

In accordance with Department rule Chapter 530(2)(D)(4) and Special Condition G, *06-096 CMR 530(2)(D)(4) Statement For Reduced/Waived Toxics Testing*, of this permit, the permittee must annually submit to the Department a written statement evaluating its current status for each of the conditions listed.

Chemical evaluation

Chapter 530 (promulgated on October 12, 2005) §4(C), states *"The background concentration of specific chemicals must be included in all calculations using the following procedures. The Department may publish and periodically update a list of default background concentrations for specific pollutants on a regional, watershed or statewide basis. In doing so, the Department shall use data collected from reference sites that are measured at points not significantly affected by point and non-point discharges and best calculated to accurately represent ambient water quality conditions The Department shall use the same general methods as those in section 4(D) to determine background concentrations. For pollutants not listed by the Department, an assumed concentration of 10% of the applicable water quality criteria must be used in calculations."* The Department has limited information on the background levels of metals in the water column in the Androscoggin River in the vicinity of the permittee's outfall. Therefore, a default background concentration of 10% of the applicable water quality criteria is being used in the calculations of this permitting action.

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

OUTFALL #001 (Final effluent)

Chapter 530 4(E), states "*In allocating assimilative capacity for toxic pollutants, the Department shall hold a portion of the total capacity in an unallocated reserve to allow for new or changed discharges and non-point source contributions. The unallocated reserve must be reviewed and restored as necessary at intervals of not more than five years. The water quality reserve must be not less than 15% of the total assimilative quantity.*" However, in May 2012, Maine law 38 M.R.S.A. §464, ¶¶ J was enacted which reads as follows, "*For the purpose of calculating waste discharge license limits for toxic substances, the department may use any unallocated assimilative capacity that the department has set aside for future growth if the use of that unallocated assimilative capacity would avoid an exceedance of applicable ambient water quality criteria or a determination by the department of a reasonable potential to exceed ambient water quality criteria..*"

On July 24, 2012, the Department conducted statistical evaluations based on 15% of the ambient water quality criteria reserve being withheld (Report ID 457) and 0% of the reserve of the criteria being withheld (Report ID 458) to determine if the unallocated assimilative capacity would avoid an exceedance or avoid a reasonable potential to exceed applicable ambient water quality criteria for toxic pollutants. Report ID 458 indicates Mechanic Falls no longer has a reasonable potential to exceed the chronic ambient water quality criteria for aluminum or zinc and North Jay no longer has a reasonable potential to exceed the chronic ambient water quality criteria for lead. Therefore, the department is utilizing the full 15% of the unallocated assimilative capacity in the statistical evaluation when establishing limits for toxic pollutants in waste discharge licenses for facilities in the Androscoggin River watershed.

Chapter 530 §(3)(E) states "*... that a discharge contains pollutants or WET at levels that have a reasonable potential to cause or contribute to an exceedence of water quality criteria, appropriate water quality-based limits must be established in any licensing action.*"

Chapter 530 §4(F) states in part "*Where there is more than one discharge into the same fresh or estuarine receiving water or watershed, the Department shall consider the cumulative effects of those discharges when determining the need for and establishment of the level of effluent limits. The Department shall calculate the total allowable discharge quantity for specific pollutants, less the water quality reserve and background concentration, necessary to achieve or maintain water quality criteria at all points of discharge, and in the entire watershed. The total allowable discharge quantity for pollutants must be allocated consistent with the following principles.*

Evaluations must be done for individual pollutants of concern in each watershed or segment to assure that water quality criteria are met at all points in the watershed and, if appropriate, within tributaries of a larger river.

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

OUTFALL #001 (Final effluent)

The total assimilative capacity, less the water quality reserve and background concentration, may be allocated among the discharges according to the past discharge quantities for each as a percentage of the total quantity of discharges, or another comparable method appropriate for a specific situation and pollutant. Past discharges of pollutants must be determined using the average concentration discharged during the past five years and the facility's licensed flow.

The amount of allowable discharge quantity may be no more than the past discharge quantity calculated using the statistical approach referred to in section 3(E) [Section 3.3.2 and Table 3-2 of USEPA's "Technical Support Document for Water Quality-Based Toxics Control"] of the rule, but in no event may allocations cause the water quality reserve amount to fall below the minimum referred to in 4(E) [15% of the total assimilative capacity]. Any difference between the total allowable discharge quantity and that allocated to existing dischargers must be added to the reserve.

Chapter 530 §(3)(D)(1) states "*For specific chemicals, effluent limits must be expressed in total quantity that may be discharged and in effluent concentration. In establishing concentration, the Department may increase allowable values to reflect actual flows that are lower than permitted flows and/or provide opportunities for flow reductions and pollution prevention provided water quality criteria are not exceeded. With regard to concentration limits, the Department may review past and projected flows and set limits to reflect proper operation of the treatment facilities that will keep the discharge of pollutants to the minimum level practicable.*" However, in May 2012, Maine law 38 M.R.S.A. §464, ¶¶ K was enacted which reads as follows, "*Unless otherwise required by an applicable effluent limitation guideline adopted by the department, any limitations for metals in a waste discharge license may be expressed only as mass-based limits.*" There are no applicable effluent limitation guidelines adopted by the Department or the USEPA for metals for dischargers subject to federal regulation. See Effluent Limitations Guidelines (ELGs) for Pulp and Paper Mills covered under 40 CFR Part 430 (promulgated by the EPA on April 15, 2008). Therefore, concentration limits for pollutants identified in Report ID 458 that exceed or have a reasonable potential to exceed applicable ambient water quality criteria are not being established in this permitting action.

See **Attachment E** of this Fact Sheet for Department guidance that establishes protocols for establishing waste load allocations. The guidance states that the most protective of water quality becomes the facility's allocation. According to the 7/24/12 statistical evaluation (Report ID #458), all pollutants of concern (aluminum, cadmium, copper and zinc) are to be limited based on the segment allocation method.

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

OUTFALL #001 (Final effluent)

Segment allocation methodology

Historical Average:

For the segment allocation methodology, the historical average quantity (mass) for each pollutant of concern for each facility is calculated utilizing the arithmetic mean of the concentrated values reported for each pollutant, a conversion factor of 8.34 lbs/gallon and the monthly average permit limit for flow. The historical mass discharged for each pollutant for each facility is mathematically summed to determine the total mass discharged for each pollutant in the watershed. Based on the individual dischargers historical average each discharger is assigned a percentage of the whole which is then utilized to determine the percent of the segment allocation for each pollutant for each facility. For RPC's facility, historical averages for aluminum, cadmium, copper and zinc were calculated as follows:

Aluminum

Mass limits

Mean concentration (n=7) = 320 ug/L or 0.320 mg/L
Permit flow limit = 34 MGD
Historical average mass = (0.320 mg/L)(8.34)(34 MGD) = 90.7 lbs/day

The 7/24/12 statistical evaluation indicates the historical average mass of aluminum discharged by the permittee's facility is 11.9% of the aluminum discharged by the facilities on the Androscoggin River and its tributaries. The Department has calculated a chronic assimilative capacity 807 lbs/day of aluminum at Brunswick, the most downstream discharger on the Androscoggin River. The chronic assimilative capacity (AC) at Brunswick was calculated based on 90% of the applicable AWQC (taking into consideration the 10% reduction to account for background, 0% reduction for reserve, totaling 10%), critical low flows (1Q10 = 1,053 cfs, 7Q10 = 2,010 cfs) at Brunswick less the assimilative capacity allocated to Whitney Brook in Canton (critical low flows 1Q10 = 20 cfs, 7Q10 = 20 cfs), to Seven Mile Stream in Jay (critical low flows 1Q10 = 2 cfs, 7Q10 = 2 cfs) and to the Little Androscoggin River in Auburn(critical low flows 1Q10 = 75 cfs, 7Q10 = 75 cfs). The calculations for aluminum are as follows:

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001 (Final effluent)

Segment allocation methodology

Chronic:

7Q10 @ Brunswick = 2,010 cfs or 1,299 MGD
7Q10 at Canton = 20 cfs or 12.9 MGD
7Q10 at Jay = 2 cfs or 1.29 MGD
7Q10 at Auburn = 75 cfs or 48.5 MGD

AWQC = 87 ug/L
87 ug/L(0.90) = 78.3 ug/L or 0.0783 mg/L

Chronic AC = 1,299 MGD – 12.9 MGD – 1.29 MGD – 48.5 MGD = 1,236 MGD

(1,236 MGD)(8.34 lbs/gal)(0.0783 mg/L) = 807 lbs/day

Therefore, the chronic mass segment allocations for aluminum for the permittee can be calculated as follows:

Monthly average: (Chronic assimilative capacity mass)(% of total aluminum discharged)
(807 lbs/day)(0.119) = **96 lbs/day**

Cadmium

Mass limits

Mean concentration (n=7) = 0.62 ug/L or 0.00062 mg/L
Permit flow limit = 34 MGD
Historical average mass = (0.00062 mg/L)(8.34)(34 MGD) = 0.178 lbs/day

The 7/24/12 statistical evaluation indicates the historical average mass of cadmium discharged by the permittee's facility is 37.2% of the cadmium discharged by the facilities on the Androscoggin River and its tributaries. The Department has calculated an acute assimilative capacity of 1.95 lbs and a chronic assimilative capacity 0.742 lbs/day of cadmium at Brunswick, the most downstream discharger on the Androscoggin River. The acute and chronic assimilative capacities (AC) at Brunswick were calculated based on 90% of the applicable AWQC (taking into consideration the 10% reduction to account for background, 0% reduction for reserve, totaling 10%), critical low flows (1Q10 = 1,053 cfs, 7Q10 = 2,010 cfs) at Brunswick less the assimilative capacity allocated to Whitney Brook in Canton (critical low flows 1Q10 = 20 cfs, 7Q10 = 20 cfs), to Seven Mile Stream in Jay (critical low flows 1Q10 = 2 cfs, 7Q10 = 2 cfs) and to the Little Androscoggin River in Auburn(critical low flows 1Q10 = 75 cfs, 7Q10 = 75 cfs). The calculations for cadmium are as follows:

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001 (Final effluent)

Segment allocation methodology

Acute:

1Q10 @ Brunswick = 1,053 cfs or 681 MGD
1Q10 at Canton = 20 cfs or 12.9 MGD
1Q10 at Jay = 2 cfs or 1.29 MGD
1Q10 at Auburn = 75 cfs or 48.5 MGD

AWQC = 0.42 ug/L
0.42 ug/L(0.90) = 0.378 ug/L or 0.000378 mg/L

Acute AC = 681 MGD – 12.9 MGD – 1.29 MGD – 48.5 MGD = 618 MGD

(618 MGD)(8.34 lbs/gal)(0.000378 mg/L) = 1.95 lbs/day

Therefore, the acute mass segment allocations for cadmium for the permittee can be calculated as follows:

Daily maximum mass for cadmium:
(Acute assimilative capacity mass)(% of total cadmium discharged)
(1.95 lbs/day)(0.372) = **0.72 lbs/day**

Chronic:

7Q10 @ Brunswick = 2,010 cfs or 1,299 MGD
7Q10 at Canton = 20 cfs or 12.9 MGD
7Q10 at Jay = 2 cfs or 1.29 MGD
7Q10 at Auburn = 75 cfs or 48.5 MGD

AWQC = 0.08 ug/L
0.08 ug/L(0.90) = 0.072 ug/L or 0.000072 mg/L

Chronic AC = 1,299 MGD – 12.9 MGD – 1.29 MGD – 48.5 MGD = 1,236 MGD

(1,236 MGD)(8.34 lbs/gal)(0.000072 mg/L) = 0.742 lbs/day

Therefore, the chronic mass segment allocation for cadmium for the permittee can be calculated as follows:

Monthly average: (Chronic assimilative capacity mass)(% of total cadmium discharged)
(0.742 lbs/day)(0.327) = **0.24 lbs/day**

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001 (Final effluent)

Segment allocation methodology

Copper

Mass limits

Mean concentration (n=7) = 15 ug/L or 0.015 mg/L
Permit flow limit = 34 MGD
Historical average mass = (0.015 mg/L)(8.34)(34 MGD) = 4.23 lbs/day

The 7/24/12 statistical evaluation indicates the historical average mass of copper discharged by the permittee's facility is 26% of the copper discharged by the facilities on the Androscoggin River and its tributaries. The Department has calculated an acute assimilative capacity of 14.2 lbs and a chronic assimilative capacity 21.8 lbs/day of copper at Brunswick, the most downstream discharger on the Androscoggin River. The acute and chronic assimilative capacities (AC) at Brunswick were calculated based on 90% of the applicable AWQC (taking into consideration the 10% reduction to account for background, 0% reduction for reserve, totaling 10%), critical low flows (1Q10 = 1,053 cfs, 7Q10 = 2,010 cfs) at Brunswick less the assimilative capacity allocated to Whitney Brook in Canton (critical low flows 1Q10 = 20 cfs, 7Q10 = 20 cfs), to Seven Mile Stream in Jay (critical low flows 1Q10 = 2 cfs, 7Q10 = 2 cfs) and to the Little Androscoggin River in Auburn(critical low flows 1Q10 = 75 cfs, 7Q10 = 75 cfs). The calculations for copper are as follows:

Acute:

1Q10 @ Brunswick = 1,053 cfs or 681 MGD
1Q10 at Canton = 20 cfs or 12.9 MGD
1Q10 at Jay = 2 cfs or 1.29 MGD
1Q10 at Auburn = 75 cfs or 48.5 MGD

AWQC = 3.07 ug/L
3.07 ug/L(0.90) = 2.76 ug/L or 0.00276 mg/L

Acute AC = 681 MGD – 12.9 MGD – 1.29 MGD – 48.5 MGD = 618 MGD

(618 MGD)(8.34 lbs/gal)(0.00276 mg/L) = 14.2 lbs/day

Therefore, the acute mass segment allocations for copper for the permittee can be calculated as follows:

Daily maximum mass for copper:
(Acute assimilative capacity mass)(% of total copper discharged)
(14.2 lbs/day)(0.26) = **3.7 lbs/day**

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001 (Final effluent)

Segment allocation methodology

Chronic:

7Q10 @ Brunswick = 2,010 cfs or 1,299 MGD
7Q10 at Canton = 20 cfs or 12.9 MGD
7Q10 at Jay = 2 cfs or 1.29 MGD
7Q10 at Auburn = 75 cfs or 48.5 MGD

AWQC = 2.36 ug/L
2.36 ug/L(0.90) = 2.12 ug/L or 0.00212 mg/L

Chronic AC = 1,299 MGD – 12.9 MGD – 1.29 MGD – 48.5 MGD = 1,236 MGD

(1,236 MGD)(8.34 lbs/gal)(0.00212 mg/L) = 21.85 lbs/day

Therefore, the chronic mass segment allocation for copper for the permittee can be calculated as follows:

Monthly average: (Chronic assimilative capacity mass)(% of total copper discharged)
(21.85 lbs/day)(0.26) = **5.7 lbs/day**

The calculations above are correct in that the monthly average limitation is greater than the daily maximum limit. This will occur when the ratio between the acute and chronic AWQC is smaller than the ratio between the acute (1Q10) and chronic (7Q10) receiving water flows.

Zinc

Mass limits
Mean concentration (n=7) = 29.6 ug/L or 0.0296 mg/L
Permit flow limit = 34 MGD
Historical average mass = (0.0296 mg/L)(8.34)(34 MGD) = 8.4 lbs/day

The 7/24/12 statistical evaluation indicates the historical average mass of zinc discharged by the permittee's facility is 12.9% of the zinc discharged by the facilities on the Androscoggin River and its tributaries. The Department has calculated an acute assimilative capacity of 142 lbs of zinc at Brunswick, the most downstream discharger on the Androscoggin River. The acute assimilative capacity (AC) at Brunswick was calculated based on 90% of the applicable AWQC (taking into consideration the 10% reduction to account for background, 0% reduction for reserve, totaling 10%), critical low flows (1Q10 = 1,053 cfs, 7Q10 = 2,010 cfs) at Brunswick less the assimilative capacity allocated to Whitney Brook in Canton (critical low flows 1Q10 = 20 cfs, 7Q10 = 20 cfs),

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001 (Final effluent)

Segment allocation methodology

to Seven Mile Stream in Jay (critical low flows 1Q10 = 2 cfs, 7Q10 = 2 cfs) and to the Little Androscoggin River in Auburn(critical low flows 1Q10 = 75 cfs, 7Q10 = 75 cfs). The calculations for zinc are as follows:

Acute:

1Q10 @ Brunswick = 1,053 cfs or 681 MGD
1Q10 at Canton = 20 cfs or 12.9 MGD
1Q10 at Jay = 2 cfs or 1.29 MGD
1Q10 at Auburn = 75 cfs or 48.5 MGD

AWQC = 30.6 ug/L
30.6 ug/L(0.90) = 27.54 ug/L or 0.02754 mg/L

Acute AC = 681 MGD – 12.9 MGD – 1.29 MGD – 48.5 MGD = 618 MGD

(618 MGD)(8.34 lbs/gal)(0.02754 mg/L) = 142 lbs/day

Therefore, the acute mass segment allocation for zinc for the permittee can be calculated as follows:

Daily maximum mass for zinc:
(Acute assimilative capacity mass)(% of total zinc discharged)
(142 lbs/day)(0.129) = **18 lbs/day**

Chapter 530 does not establish monitoring frequencies for parameters that exceed or have a reasonable potential to exceed AWQC. Monitoring frequencies are established on case-by-case basis given the timing, severity and frequency of occurrences of the exceedences or reasonable potential to exceed applicable critical water quality thresholds. Therefore, this permitting action is making a best professional judgment to establish the monitoring frequencies for the parameters of concern at the routine surveillance level frequency of 2/Year specified in Chapter 530.

As for the remaining analytical chemistry and priority pollutant parameters tested to date, none of the test results in the 60-month evaluation period exceed or have a reasonable potential to exceed applicable acute, chronic or human health AWQC. Therefore, this permitting action is establishing reduced surveillance level reporting and monitoring frequency for analytical chemistry and priority pollutant testing for the first three years and the fifth year of the term of the permit. As with reduced WET testing, the permittee must file an annual certification with the Department pursuant to Chapter 530 §2(D)(3) and Special Condition G of this permit.

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001 (Final effluent)

Segment allocation methodology

Beginning 24-months prior to the expiration date of this permit and last through 12 months prior to permit expiration every five years thereafter if a timely request for renewal has been made and the permit continues in force, or is replaced by a permit renewal containing this requirement, the permittee shall conduct routine screening level analytical chemistry testing at 1/Quarter and priority pollutant testing of 1/Year.

In a letter dated August 8, 2012, to the Department, the permittee stated that after reviewing the mill's effluent data and the results of the Department's recent re-analysis for the Androscoggin River, RPC has determined that it cannot sustain compliance with the newly proposed license limitations for aluminum, cadmium, copper and zinc without a compliance schedule. RPC requested the Department incorporate a five-year schedule of compliance for aluminum, cadmium and copper and a three-year schedule of compliance for zinc. Subsequent discussions between the Department and RPC resulted in limiting the schedule of compliance for aluminum and copper until December 19, 2017 (term of the permit) and cadmium until December 19, 2015.

Maine law 38 M.R.S.A. §414(2) *Schedules of Compliance*, clearly authorizes the Department to establish schedules of compliance for water quality based limitations within the terms and conditions of a license. Said law states "*Within the terms and conditions of a license, the department may establish a schedule of compliance for a final effluent limitation based on a water quality standard adopted after July 1, 1977. When a final effluent limitation is based on new or more stringent technology-based treatment requirements, the department may establish a schedule of compliance consistent with the time limitations permitted for compliance under the Federal Water Pollution Control Act, Public Law 92-500, as amended. A schedule of compliance may include interim and final dates for attainment of specific standards necessary to carry out the purposes of this subchapter and must be as short as possible, based on consideration of the technological, economic and environmental impact of the steps necessary to attain those standards.*"

In addition, Department rule Chapter 523, Waste Discharge License Conditions, § Section 7, *Schedules of Compliance*, states in part, "*if a permit establishes a schedule of compliance which exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.*

(i) The time between interim dates shall not exceed 1 year, except that in the case of a schedule for compliance with standards for sewage sludge use and disposal, the time between interim dates shall not exceed six months.

(ii) If the time necessary for completion of any interim requirement (such as the construction of a control facility) is more than 1 year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date."

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001 (Final effluent)

RPC's August 8, 2012, letter indicates it has already begun to assess the steps necessary to undertake site specific criteria development, identify source reduction options, outline possible engineering controls for removal of metals from the effluent, evaluate product substitution and research alternative industry practices. RPC states that through technical research and literature review it has determined there are no demonstrated technical improvements on the scale of an integrated pulp and paper manufacturing facility that can be instituted upon the issuance of the permit to ensure compliance with the water quality based effluent limits for the metals of concern in a timely fashion.

Special Condition P, *Schedule of Compliance*, of this permit establishes said schedule of compliance.

m. Mercury

Pursuant to Maine law, 38 M.R.S.A. §420 and Department rule, 06-096 CMR Chapter 519, *Interim Effluent Limitations and Controls for the Discharge of Mercury*, the Department issued a *Notice of Interim Limits for the Discharge of Mercury* to the permittee thereby administratively modifying WDL # W000955-44-C-R by establishing interim average and maximum effluent concentration limits of 35.8 parts per trillion (ppt) and 53.7 ppt, respectively, and a minimum monitoring frequency requirement of four tests per year for mercury. The interim mercury limits were scheduled to expire on October 1, 2001. However, effective June 15, 2001, the Maine Legislature enacted Maine law, 38 M.R.S.A. §413, sub-§11 specifying that interim mercury limits and monitoring requirements remain in effect. Maine law 38 M.R.S.A., §420 1-B,(B)(1) states that a facility is not in violation of the AWQC for mercury if the facility is in compliance with an interim discharge limit established by the Department pursuant to section 413, subsection 11. A review of the Department's database for the period February 2007 – May 2011 indicates the permittee has been in compliance with the interim limits for mercury as results have been reported as follows;

A review of the most current 60 months (Feb 2007 – May 2011) of mercury data for the permittee's facility indicate mercury results have been reported as follows:

Mercury (DMRs=19)

Value	Limit (ng/L)	Range (ng/L)	Mean (ng/L)
Average	35.8	1.1 – 11.4	4.4
Maximum	53.7	1.1 – 11.4	4.4

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #001 (Final effluent)

The review of the monitoring data for total and mercury indicates the ratios (expressed in percent) of the long term effluent average to the average limit can be calculated as follows:

Mercury

Long term average = 4.4 ng/L
Average limit = 10.5 ng/L
Current monitoring frequency = 4/Year

$$\text{Ratio} = \frac{4.4 \text{ ng/L}}{10.5 \text{ ng/L}} = 42\%$$

Pursuant to Maine law 38, M.R.S.A. §420, sub-§1-B, ¶F, a minor revision of the 9/21/05 permit was issued on February 7, 2012, that reduced the monitoring frequency for mercury from 4/Year to 1/Year. The permittee has maintained at least 5 years of mercury testing data. In fact, the permittee has been monitoring mercury at a frequency of 4/Year since May 2000 or 11 years.

OUTFALL #100 (Bleach Plant)

In accordance with federal regulation 40 CFR Part 430, this permitting action is establishing limitations and monitoring requirements for an internal point source, the combined bleach plant filtrate effluents.

n. Flow: The previous permitting action established a monthly average and daily maximum reporting requirement for flow from the bleach plant that is being carried forward in this permitting action. The permittee has installed a flow meter on the combined bleach plant effluent line such that flow is measured continuously. This permitting action is establishing a monthly average and daily maximum reporting requirement that applies when sampling is being conducted.

A review of the monthly Discharge Monitoring Report (DMR) data for the period January 2008 – July 2011 indicates the permittee has reported values as follows:

Flow (DMRs=43)

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Monthly Average	Report	2.7 – 6.4	5.4
Daily Maximum	Report	5.0 – 7.1	6.3

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #100 (Bleach Plant)

o. 2,3,7,8-TCDD (Dioxin): Federal regulation 40 CFR Part 430 establishes a default monitoring frequency of 1/Month for both dioxin and furan. The regulation also authorizes the permitting authority to modify the monitoring frequency for dioxin and furans after five years of monitoring data (60 data points) for dioxin and furan has been collected. RPC had been monitoring the bleach plant effluent for dioxin and furan since 1997 and had more than 65 data points at the time of permit renewal in 2005. The data collected to date at that time indicated dioxin and furan levels had been less than the respective MLs of 10 ppq since the transition to the elimination of elemental chlorine from the bleaching process was completed in late 1996. Therefore, the Department reduced the 1/Month monitoring requirement to 1/Year for dioxin and furan in the 9/21/05 permit. The 1/Year monitoring requirement is being carried forward in this permitting action. In lieu of the 1/Month monitoring requirement, Special Condition K, *Dioxin/Furan Certification,* of the 9/21/05 permit required the permittee to submit an annual certification indicating the bleaching process has not changed from previous practices and therefore the formation of dioxin/furan compounds is highly unlikely. The permittee has done so to date and Special Condition H of this permit maintains the requirement to submit said annual certification.

The previous permitting action established a daily maximum concentration limit of <10 ppq (pg/L) with a monitoring frequency of 1/Year for dioxin based on Maine law, 38 M.R.S.A., §420. The limit of 10 pg/L is also the ML (Minimum Level - the level at which the analytical system gives recognizable signals and an acceptable calibration point) for EPA Method 1613. Federal regulation 40 CFR Part 430 establishes the same limitation and is therefore being carried forward in this permitting action.

A review of the monthly DMR data for the period January 2008 – July 2011 indicates the permittee has reported non-detect values as follows:

Dioxin (DMRs=4)

Value	Limit (pg/L)	Range (pg/L)	Mean (pg/L)
Daily maximum	10	<1.0 - <4.1	n/a

p. 2,3,7,8 TCDF (Furan): The previous permitting action established a daily maximum concentration limit of 10 pg/L which is also the ML for furan for EPA Method 1613. Federal regulation 40 CFR Part 430 establishes a daily maximum concentration limit of 31.9 pg/L. Being that Maine law is more stringent, the limit of <10 pg/L is being carried forward in this permitting action.

A review of the monthly DMR data for the period January 2008 – July 2011 indicates the permittee has reported non-detect values as follows:

Furan (DMRs=4)

Value	Limit (pg/L)	Range (pg/L)	Mean (pg/L)
Daily maximum	10	<1.6 - <4.3	n/a

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #100 (Bleach Plant)

Maine law 38 M.R.S.A., §420(2)(I)(3) states that - *After December 31, 2002, a mill may not discharge dioxin into its receiving waters. For purposes of this subparagraph, a mill is considered to have discharged dioxin into its receiving waters if 2, 3, 7, 8 - tetrachlorodibenzo-p-dioxin or 2, 3, 7, 8 - tetrachlorodibenzo-p-furan is detected in any of the mill's internal waste streams of its bleach plant and in a confirmatory sample at levels exceeding 10 picograms per liter, unless the Department adopts a lower detection level by rule, which is a routine technical rule pursuant to Title 5, chapter 375, subchapter II-A, or a lower detection level by incorporation of a method in use by the United States Environmental Protection Agency, or if levels of dioxin, as defined in section 420-A, subsection 1 detected in fish tissue sampled below the mill's wastewater outfall are higher than levels in fish tissue sampled at an upstream reference site not affected by the mill's discharge or on the basis of a comparable surrogate procedure acceptable to the commissioner. The commissioner shall consult with the technical advisory group established in section 420-B, subsection 1, paragraph B, subparagraph (5) in making this determination and in evaluating surrogate procedures. The fish-tissue sampling test must be performed with differences between the average concentrations of dioxin in the fish samples taken upstream and downstream from the mill measured with at least 95% statistical confidence. If the mill fails to meet the fish-tissue sampling-result requirements in this subparagraph and does not demonstrate by December 31, 2003 to the commissioner's satisfaction that its wastewater discharge is not the source of elevated dioxin concentrations in fish below the mill, then the commissioner may pursue any remedy authorized by law.*

On May 3, 2005, the Department presented a report to the Natural Resources Committee of the Maine Legislature reporting on the status of each mill regarding the "above/below" test. In the report, the Department made the determination that dioxin levels in the fish tissue from fish collected above and below the RPC mill, though detectable, were not statistically different. As a result, the Department made the determination that RPC was in compliance with Maine law 38 M.R.S.A., §420(2)(I)(3). Therefore, RPC had been granted a reduction in the monitoring frequency for dioxin and furans at the end of the bleach plant.

If required to do so, the permittee must continue to participate in the State's Fish Advisory Program as required by Special Condition N, *Fish Advisory Program*, of this permitting action in accordance with maine law 38 M.R.S.A. §420-B. This statute directs the Department to conduct a monitoring program in order to determine the need for fish advisories on affected waters. The permittee is required to participate in the program even though there is no statistical difference in the dioxin levels in fish tissue in the fish collected upstream and downstream of the mill as the statute authorizes the Department to select participants from among publicly owned treatment works, bleached kraft mills or other sources.

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #100 (Bleach Plant)

q. Twelve Chlorophenolics: The 9/21/05 permitting action established limitations and monitoring requirements for the chlorophenolic compounds pursuant to federal regulation 40 CFR Part 430. The technology based limitations varied from 2.5 ug/L to 5.0 ug/L and are equivalent to the ML for each parameter using EPA Method 1653 and are being carried forward in this permitting action. A 1/Month monitoring requirement was established in the 9/21/05 permit based on the federal regulation but was subsequently reduced to 2/Year in a permit minor revision dated June 27, 2008, based on a statistical evaluation of 60 months of data.

A review of the monthly Discharge Monitoring Report (DMR) data for the period January 2008 – July 2011 indicates the permittee has reported values indicating none of the parameters have been detected at or above their respective MLs.

In its July 8, 2010 application for permit renewal, the permittee requested the Department consider reducing the monitoring frequency for the 12-phenolic compounds from 2/Year to 1/Year based on the fact none of the compounds have ever been reported in a detectable concentration since monitoring for the parameters began with promulgation of 40 CFR Part 430 in April 1998. The Department concurs and is therefore reducing the monitoring frequency for the 12 phenolic compounds from 2/Year to 1/Year in this permitting action.

r. Chloroform: The previous permitting action established monthly average and daily maximum mass limits for chloroform based on federal regulation found at 40 CFR Part 430. The regulation establishes production based BAT monthly average and daily maximum allowances of 4.14 and 6.92 g/kkg of unbleached pulp production. With a historic unbleached kraft pulp production of 1,252 tons/day the monthly average (MA) and daily maximum (DM) limits were calculated as follows:

MA: 1,252 tons/day x 4.14 g/kkg x 0.907 kkg/ton x 1.0 lb/ 454 g = 10.4 lbs /day
DM: 1,252 tons/day x 6.92 g/kkg x 0.907 kkg/ton x 1.0 lb/ 454 g = 17.3 lbs /day

The 9/21/05 permit established a monitoring requirement of 1/Week based on the federal regulation but was subsequently reduced to 1/Quarter in a permit minor revision dated June 27, 2008, based on a statistical evaluation of 60 months of data. The 1/Quarter monitoring requirement is being carried forward in this permitting action.

This permitting action is establishing slightly higher limitations due to the increase in kraft pulp production. With a kraft pulp production of 1,503 air-dried tons per day, the monthly average and daily maximum technology based limitation were calculated as follows;

MA: 1,503 tons/day x 4.14 g/kkg x 0.907 kkg/ton x 1.0 lbs/ 454g = 12.4 lbs /day
DM: 1,503 tons/day x 6.92 g/kkg x 0.907 kkg/ton x 1.0 lbs/ 454g = 20.8 lbs /day

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #100 (Bleach Plant)

A review of the monthly Discharge Monitoring Report (DMR) data for the period January 2008 – July 2011 indicates the permittee has reported values as follows:

Chloroform (DMRs=16)

Value	Limit (lbs/day)	Range (lbs/day)	Mean (lbs/day)
Monthly average	10.4	0.6 – 1.5	0.91
Daily maximum	17.4	0.6 – 1.24	0.99

In its July 8, 2010 application for permit renewal, the permittee requested the Department consider reducing the monitoring frequency for the chloroform from 1/Quarter to 1/Year based on the 99% confidence interval of the most current 5 years of chloroform data. The Department is evaluating the monitoring reduction request in accordance with EPA 1996 guidance document as it has done with other parameters in this permit.

A review of the monitoring data above for chloroform indicates the ratios (expressed in percent) of the long term effluent average to the monthly average limits can be calculated as follows:

Chloroform

Long term average = 0.91 lbs/day
Monthly average limit = 10.4 lbs/day
Current monitoring frequency = 1/Quarter

$$\text{Ratio} = \frac{0.91 \text{ lbs/day}}{10.4 \text{ lbs/day}} = 9\%$$

Given the facility has been monitoring chloroform since promulgation of 40 CFR Part 430 in April 1998 without any violations of permit limits and the fact the most recent 43 months of data indicates discharge levels to be at or about 10% of the permit limits, the Department has made a determination that an appropriate monitoring frequency for chloroform is 1/Year. Therefore, this permit establishes a monitoring frequency of 1/Year for chloroform.

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #002 – (Non Contact Cooling Water)

s. Flow - The 9/21/05 permitting action established a monthly average flow limitation of 17.0 MGD for Outfall #002 that is being carried forward in this permit. A review of the monthly Discharge Monitoring Report (DMR) data for the period January 2008 – July 2011 indicates the permittee has reported values as follows:

Flow (DMRs=42)

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Monthly average	17.0	0.3 – 3.6	2.4
Daily maximum	Report	1.8 – 4.3	2.8

t. Temperature: The previous permitting action established a year-round daily maximum temperature limit of 105° F that is being carried forward in this permitting action. See the discussion regarding thermal load limitations in the section *Outfall 00T* of this Fact Sheet.

A review of the DMR data for the period January 2008 – July 2011 indicates the permittee has been in compliance with the seasonal limits as values have been reported as follows:

Temperature *(June 1 – September 30)*

Temperature (DMRs 14)

Value	Limit (°F)	Range (°F)	Average (°F)
Daily Maximum	105	81 – 94	92

Temperature *(October 1 – May 31)*

Temperature Mass (DMRs=29)

Value	Limit (°F)	Range (°F)	Average (°F)
Daily Maximum	105	70 – 102	80

u. pH Range: The previous permitting action established a pH range limit of 5.0 – 9.0 standard units that was based on federal regulation 40 CFR, Part 430. This permitting action is carrying the limit forward and continues to be consistent with the federal NEGs.

A review of the DMR data for the period January 2008 – July 2011 indicates the permittee has reported values as follows:

pH (DMRs 43)

Value	Limit (su)	Range (su)	Average (su)
Daily Maximum	5.0 – 9.0	4.9* – 7.6	N/A

*Not a violation of the permit as this value was associated with a low ambient pH reading which authorizes the discharge of not more than 0.5 standard units greater or less than than ambient conditions.

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #003 – (Non Contact Cooling Water)

v. Flow - The 9/21/05 permitting action established a monthly average flow limitation of 17.0 MGD for Outfall #003 that is being carried forward in this permit. A review of the monthly Discharge Monitoring Report (DMR) data for the period January 2008 – July 2011 indicates the permittee has reported values as follows:

Flow (DMRs=43)

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Monthly average	17.0	0.03 – 2.0	0.25
Daily maximum	Report	0.1 – 7.0	0.85

w. Temperature: The previous permitting action established a year-round daily maximum temperature limit of 105° F that is being carried forward in this permitting action. See the discussion regarding thermal load limitations in the section *Outfall 00T* of this Fact Sheet.

A review of the DMR data for the period January 2008 – July 2011 indicates the permittee has been in compliance with the seasonal limits as values have been reported as follows:

Temperature *(June 1 – September 30)*

Temperature (DMRs 14)

Value	Limit (°F)	Range (°F)	Average (°F)
Daily Maximum	105	76 – 96	85

Temperature *(October 1 – May 31)*

Temperature Mass (DMRs=29)

Value	Limit (°F)	Range (°F)	Average (°F)
Daily Maximum	105	45 – 88	61

x. pH Range: The previous permitting action established a pH range limit of 5.0 – 9.0 standard units that was based on federal regulation 40 CFR, Part 430. This permitting action is carrying the limit forward and continues to be consistent with the federal NEGs.

A review of the DMR data for the period January 2008 – July 2011 indicates the permittee has been in compliance with the limits as values have been reported as follows:

pH (DMRs 43)

Value	Limit (su)	Range (su)	Average (su)
Daily Maximum	5.0 – 9.0	5.0 – 7.6	N/A

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #004 – (Non Contact Cooling Water)

y. Flow - The 9/21/05 permitting action established a monthly average flow limitation of 17.0 MGD for Outfall #004 that is being carried forward in this permitting action. A review of the monthly Discharge Monitoring Report (DMR) data for the period January 2008 – July 2011 indicates the permittee has reported values as follows:

Flow (DMRs=43)

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Monthly average	17.0	0.1 – 1.3	0.5
Daily maximum	Report	0.1 – 1.7	0.6

z. Temperature: The previous permitting action established a year-round daily maximum temperature limit of 105° F that is being carried forward in this permitting action. See the discussion regarding thermal load limitations in the section *Outfall 00T* of this Fact Sheet.

A review of the DMR data for the period January 2008 – July 2011 indicates the permittee has been in compliance with the seasonal limits as values have been reported as follows:

Temperature *(June 1 – September 30)*

Temperature (DMRs 14)

Value	Limit (°F)	Range (°F)	Average (°F)
Daily Maximum	105	87 – 92	90

Temperature *(October 1 – May 31)*

Temperature Mass (DMRs=29)

Value	Limit (°F)	Range (°F)	Average (°F)
Daily Maximum	105	50 – 89	72

aa. pH Range: The previous permitting action established a pH range limit of 5.0 – 9.0 standard units that was based on federal regulation 40 CFR, Part 430. This permitting action is carrying the limit forward and continues to be consistent with the federal NEGs.

A review of the DMR data for the period January 2008 – July 2011 indicates the permittee has been in compliance with the limits as values have been reported as follows:

pH (DMRs 43)

Value	Limit (su)	Range (su)	Average (su)
Daily Maximum	5.0 – 9.0	5.6 – 7.7	N/A

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #005 – (Non Contact Cooling Water)

bb. Flow - The 9/21/05 permitting action established a monthly average flow reporting requirement and a daily maximum limitation of 30.0 MGD for Outfall #005 that are being carried forward in this permitting action. A review of the monthly Discharge Monitoring Report (DMR) data for the period January 2008 – July 2011 indicates the permittee has reported values as follows:

Flow (DMRs=3)

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Monthly average	Report	0.2 – 2.4	1.3
Daily maximum	30.0	5.8 – 29.4	20.3

cc. Temperature: The previous permitting action established a year-round daily maximum temperature limit of 105° F that is being carried forward in this permitting action. See the discussion regarding thermal load limitations in the section *Outfall 00T* of this Fact Sheet.

A review of the DMR data for the period January 2008 – July 2011 indicates the permittee has been in compliance with the seasonal limits as values have been reported as follows:

Temperature *(June 1 – September 30)*

Temperature (DMRs 3)

Value	Limit (°F)	Range (°F)	Average (°F)
Daily Maximum	105	No discharges	No discharges

Temperature *(October 1 – May 31)*

Temperature Mass (DMRs=3)

Value	Limit (°F)	Range (°F)	Average (°F)
Daily Maximum	105	64 – 69	67

dd. pH Range: The previous permitting action established a pH range limit of 5.0 – 9.0 standard units that was based on federal regulation 40 CFR, Part 430. This permitting action is carrying the limit forward and continues to be consistent with the federal NEGs.

A review of the DMR data for the period January 2008 – July 2011 indicates the permittee has been in compliance with the limits as values have been reported as follows:

pH (DMRs 3)

Value	Limit (su)	Range (su)	Average (su)
Daily Maximum	5.0 – 9.0	6.5 – 6.7	N/A

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #005 – (Non Contact Cooling Water)

ee. Total residual chlorine (TRC) - The previous permitting action established a daily maximum technology based limitation of 0.2 mg/L for TRC that was erroneously cited as being based on federal regulation 40 CFR, Part 430.

A review of the DMR data for the period January 2008 – July 2011 indicates the permittee has been in compliance with the limits as values have been reported as follows:

TRC (DMRs 3)

Value	Limit (mg/L)	Range (mg/L)	Average (mg/L)
Daily Maximum	0.2	0.0 – 0.0	0.0

Given the compliance history cited above, the Department is eliminating the limitation and monitoring requirement for TRC in this permitting action.

OUTFALL #00TA & 00TB (Seasonal thermal load limitation)

These "outfalls" are not physical outfall structures discharging to a receiving water but are administrative "outfalls" utilized to track thermal loadings discharged collectively by Outfalls 001, 002, 003, and 004 (#00TA) and Outfalls 001, 002, 003, 004 and 005 (#00TB) from the mill to the Androscoggin River.

A 1996 license modification established a seasonal daily maximum thermal load limitation of 1.43×10^{10} British Thermal Units (BTU's)/Day for Outfall 001, 002, 003 and 004 collectively. The license modification also provided for a discharge from Outfall #005 should the cooling towers from the Cogeneration facility be off-line. It is noted the license modification required the cooling towers to be operated between May 15th and September 30th of each year. In the unlikely event of a discharge from Outfall #005, the facility was limited to a daily thermal load of 2.16×10^{10} BTU's/Day from Outfalls 001, 002, 003, 004 and 005 collectively. The daily maximum thermal limitation for the mill was established in accordance with the past demonstrated performance methodology established in Maine law, 38 M.R.S.A., §464(4)(I)(since repealed) that stated the amount of heat discharged on any single day may not exceed 1.15 times the maximum 7-day average heat discharged in any 7-day period between January 1, 1989 and January 1, 1995. The 1996 licensing action also established a formal thermal mixing zone, which was carried forward in the 9/21/05 permitting action and is being carried forward in this permitting per Special Condition K, *Zone of Initial Dilution and Mixing Zone*.

Department Rule Chapter 582, *Regulations Relating To Temperature*, limits thermal discharges to an in-stream temperature increase (ΔT) of 0.5° F above the temperature that would naturally occur outside a mixing zone established by the Board when the weekly average temperature of the receiving water is greater than or equal to 66° F or when the daily maximum temperature is greater than or equal to 73° F. The temperature thresholds are based on EPA water quality criterion for the protection of brook trout and Atlantic salmon (both species indigenous to the Androscoggin River). The weekly average temperature of 66° F

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #00TA & 00TB (Seasonal thermal load limitation)

was derived to protect for normal growth of the brook trout and the daily maximum threshold temperature of 73° F protects for the survival of juveniles and adult Atlantic salmon during the summer months. As a point of clarification, the Department interprets the term "weekly average temperature" to mean a seven (7) day rolling average. To promote consistency, the Department also interprets the ΔT of 0.5° F as a weekly rolling average criterion when the receiving water temperature is $\geq$66° F and <73° F. When the receiving water temperature is $\geq$73° F compliance with the ΔT of 0.5° F is evaluated on a daily basis.

Maine law, 38 M.R.S.A., §464(4)(I) (since repealed) stated in part that dischargers must demonstrate to the satisfaction of the Department that they are unable to meet the standards in the existing temperature rule after application of best practicable treatment (BPT). In supplemental information to their 1996 application for establishing the mixing zone and their 1999 application for license renewal (supplemented in November of 2004), MeadWestvaco (former owner/operator of the RPC mill) identified numerous temperature reduction projects and waste water treatment minimization practices

Maine law, 38 M.R.S.A., §451 states that after adoption of any classification by the Legislature for surface waters or tidal flats or sections thereof, it is unlawful for any person, firm, corporation, municipality, association, partnership, quasi-municipal body, state agency or other legal entity to dispose of any pollutants, either alone or in conjunction with another or others, in such manner as will, after reasonable opportunity for dilution, diffusion or mixture with the receiving waters or heat transfer to the atmosphere, lower the quality of those waters below the minimum requirements of such classifications, or where mixing zones have been established by the department, so lower the quality of those waters outside such zones, notwithstanding any exemptions or licenses which may have been granted or issued under sections 413 to 414-B.

Section 451 also states that, after opportunity for hearing, the Department may establish by order a mixing zone with respect to any discharge for which a license has been issued pursuant to section 414.

Section 451 also states that the purpose of a mixing zone is to allow a reasonable opportunity for dilution, diffusion or mixture of pollutants with the receiving waters before the receiving waters below or surrounding a discharge will be tested for classification violations. In determining the extent of any mixing zone to be established under this section, the Department may require from the applicant testimony concerning the nature and rate of the discharge; the nature and rate of existing discharges to the waterway; the size of the waterway and the rate of flow therein; any relevant seasonal, climatic, tidal and natural variations in such size, flow, nature and rate; the uses of the waterways in the vicinity of the discharge, and such other and further evidence as in the Department's judgment will enable it to establish a reasonable mixing zone for such discharge. An order establishing a mixing zone may provide that the extent thereof varies in order to take into account seasonal, climatic, tidal and natural variations in the size and flow of, and the nature and rate of, discharges to the waterway.

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #00TA & 00TB (Seasonal thermal load limitation)

Boise Cascade (permittee at that time) submitted extensive instream temperature monitoring data that was collected in accordance with Department guidance between 1992 and 1994. A final report titled "Thermal Impacts to the Androscoggin River" was submitted to the Department on December 13, 1994. In addition, the permittee conducted an instream dye study on November 11 & 12, 1994 to determine the point downstream where complete mixing of the mill discharges takes place. It was determined that Outfalls 001, 002, 003 & 004 completely mix with the receiving waters at the Hunt's airfield transect which is approximately 2.2 miles downstream of Outfall 004. The Department and MeadWestvaco agreed that this segment of the receiving water was to be considered the zone of initial dilution.

Boise Cascade's report concluded that at the downstream end of the zone of initial dilution, instream temperature monitoring data collected between 1992 and 1994 demonstrated that the thermal discharge from the mill was in compliance with the Chapter 582 regulation. Boise Cascade maintained the position that diurnal fluctuations are responsible for instream ΔT's of greater than 0.5° F.

The Department reviewed Boise Cascade's thermal report and disagreed with their conclusion. In a memorandum of February 16, 1995, the Bureau of Land and Water Quality's Division of Environmental Assessment concluded that long- term averages indicate that the ΔT at the Hunts airfield transect is 1.5°F. The memorandum went on to say that the temperature data indicates that the discharge would not be in compliance with the Chapter 582 regulation's ΔT threshold of 0.5°F until 12 miles downstream of Outfall 004 or nearly 10 miles below the zone on initial dilution.

In a meeting on November 29, 1995 between representatives of the Department and Boise Cascade, Boise Cascade maintained its position that diurnal fluctuations were principally responsible for the elevated instream ΔT's. A consensus was reached however, that it is extremely difficult to separate out what portion of the ΔT is due to the thermal discharge from the mill and what portion is due to diurnal fluctuations. As a result, it was agreed that establishment of a formal mixing zone would be the preferred option to address the thermal discharge issue. On February 27, 1996, the Department issued #W000955-51-A-N that established a zone of initial dilution and a mixing zone that are being carried forward in this permitting action. The WDL stated that the receiving waters are not to be tested for temperature violations within the designated zone of initial dilution or the established mixing zone.

The zone of initial dilution for the thermal discharge from the Rumford mill is described as beginning at Outfall 001 and extending downstream a distance of approximately 2.2 miles to the west end (upstream end) of Burke Island. See **Attachment B** of this permit for map illustrating the extent of the zone of initial dilution.

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #00TA & 00TB (Seasonal thermal load limitation)

The mixing zone established by the Department for the thermal discharge from the Rumford mill is described as beginning at the west end of Burke Island and extending downstream approximately 10 miles to a point where the Dixfield, Canton and Peru Town lines intersect at a point in the thread of the Androscoggin River. See **Attachment B** of this permit for a map illustrating the extent of the mixing zone.

The Department finds the 1996 licensing action that established a Board approved mixing zone and a daily maximum thermal limitation to be in compliance with Maine law 38 M.R.S.A., §451 and Department Rule Chapter 582. However, the Department's goal is to reduce thermal discharges through continuous improvement where feasible for facilities with thermal mixing zones. Therefore, the thermal mixing zone established in the 1996 licensing action and the 2005 permitting action is being carried forward in this permitting action.

On November 2004, MeadWestvaco submitted updated thermal calculations to the Department. The calculations indicated that for the summer months (June – September) between June 2001 and September of 2004, the highest 7-day quantity of heat collectively discharged was 1.05×10^{10} BTU/day. Therefore, in keeping with the methodology established in the Maine law, 38 M.R.S.A., §464(4)(I) (since repealed) and utilized in the 1996 licensing action, the Department reduced the daily maximum heat load limitation from 1.43×10^{10} BTU/day to 1.21×10^{10} BTU/day for Outfalls 001, 002, 003 and 004 collectively. As with the 1996 licensing action, the daily maximum limitation was derived by multiplying the weekly average heat load of 1.05×10^{10} BTU/day by a factor of 1.15. If the co-generation cooling towers were off-line and a discharge from Outfall #005 became necessary, the permittee was limited to a daily maximum heat load of 2.05×10^{10} BTU/day. Both daily maximum heat load limitations are being carried forward in this permitting action.

In its 2010 application for permit renewal, the permittee submitted an up-to-date summary of the projects within the mill to further reduce the overall thermal discharge to the river. The application indicates RPC has spent upwards of $3.6 million and reduced the thermal discharge by 10% between 2005 and 2008. As a result of the implementation, the permittee will be allowed to change the operating regime for the cooling towers to begin June 1 rather than May 15th. Special Condition L, *Thermal Load*, of this permitting action requires the permittee to continue to investigate water reuse projects within the mill and waste water treatment technology alternatives to reduce the thermal discharge to the Androscoggin River. As an exhibit in the next application for permit renewal, the permittee shall submit a summary of the projects undertaken during the term of this permit to reduce the heat load discharged. The report shall list the individual projects and quantify the heat load in BTU's/day that was removed from the discharge point(s).

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

OUTFALL #00TA & 00TB (Seasonal thermal load limitation)

A review of the monthly Discharge Monitoring Report (DMR) data for the period June 2008 – July 2011 indicates the permittee has reported values as follows:

Thermal load (DMRs=14)

Value	Limit (BTUs/day)	Range (BTUs/day)	Mean (BTUs)
Daily maximum	1.21×10^{10} BTU/day	0.74×10^{10} BTU/day – 1.00×10^{10} BTU/day	0.85×10^{10} BTU/day

6. GULF ISLAND POND (GIP) OXYGEN INJECTION SYSTEM

At the time of permitting in 2005, it was the Department's understanding that the contractual agreement for the operation and maintenance of the existing oxygenation system at Upper Narrows was as follows: FPLE (now FPL Maine Hydro LLC) 14%, Fraser (succeeded in interest by Gorham Paper and Tissue LLC) 10%, RPC 38% and IP (succeeded in interest by Verso Paper LLC) 38%. Based on collective loadings of phosphorus, BOD and TSS that are representative of current discharges levels and assimilation rates for each parameter, the Department determined the individual percentages of mill-related pollutant loading to GIP are Fraser 20.13%, RPC, 32.64% and IP 47.23%.

The May 2005 final TMDL indicated with zero discharge from all point sources, oxygen injection was still required due to dissolved oxygen deficiencies as a result of sediment oxygen demand in an environment of low velocity water movement and low vertical mixing due to the presence of the Gulf Island Dam. Modeling for the TMDL indicated that to offset this dissolved oxygen deficiency, FPLE would be required to inject 105,000 lbs/day of oxygen at Upper Narrows (present system) or inject 65,000 lbs/day of oxygen at Lower Narrows. Therefore, only 0.619 lbs of oxygen is required at Lower Narrows for every 1.0 lb of oxygen at Upper Narrows (65,000/105,000 = 0.619).

In an effort to distribute oxygen injection based on loadings to GIP, (at the same time recognizing parties contractual obligations), the Department assigned oxygen requirements for each entity in the 9/21/05 permit based on collectively injecting 105,000 lbs/day at Upper Narrows and 105,000 lbs/day at Lower Narrows. The oxygen injection requirements for each entity were derived as follows:

Upper Narrows:

Allocation by contractual obligation

FPLE (14%)	105,000 lbs (0.14) = 14,700 lbs
Fraser (10%)	105,000 lbs (0.10) = 10,500 lbs
RPC (38%)	105,000 lbs (0.38) = 39,900 lbs
IP (38%)	105,000 lbs (0.38) = 39,900 lbs

6. GULF ISLAND POND (GIP) OXYGEN INJECTION SYSTEM (cont'd)

Upper Narrows:

Allocation by percent pollutant loading to GIP
FPLE fixed at 14,700 lbs ⇒105,000 lbs – 14,700 lbs = 90,300 lbs to be split between mills.
Fraser (20.17%) 90,300 lbs (0.2017) = 18,177 lbs
RPC (32.64%) 90,300 lbs (0.3264) = 29,474 lbs
IP (47.23%) 90,300 lbs (0.4723) = 42,648 lbs

Difference between contractual and percent pollutant loading
FPLE fixed at 14,700 lbs
Fraser 10,500 lbs – 18,177 lbs = (7,677 lbs)
RPC 39,900 lbs – 29,474 lbs = 10,426 lbs
IP 39,900 lbs – 42,648 lbs = (2,748 lbs)

Lower Narrows

Being that FPLE would be responsible for 105,000 lbs of oxygen injection at Upper Narrows with the mills at zero discharge and was contractually only contributing 14% to the Upper Narrows, the Department assigned the remaining portion of that obligation at Lower Narrows. It is noted that only 0.619 lbs of oxygen is required at Lower Narrows for every 1.0 lb of oxygen at Upper Narrows.

FPLE's responsibility at Lower Narrows: (105,000 lbs – 14,700 lbs)(0.619) = 55,900 lbs.
105,000 lbs – 55,900 lbs = 49,100 lbs was allocated between the mills.

Allocation for the three mills based on pollutant loading to GIP
FPLE fixed at 55,900 lbs
Fraser 49,100 lbs (0.2017) = 9,884 lbs
RPC 49,100 lbs (0.3264) = 16,026 lbs
IP 49,100 lbs (0.4723) = 23,190 lbs

Re-allocation for the three mills considering over or under compensation at Upper Narrows
FPLE fixed at 55,900 lbs
Fraser 9,884 lbs + 7,677(0.619) lbs = 14,636 lbs
RPC 16,026 lbs – 10,426(0.619) lbs = 9,570 lbs
IP 23,190 lbs + 2,748(0.619) lbs = 24,891 lbs

Re-allocation expressed as a percentage of the total of 105,000 lbs
FPLE 55,900 lbs/105,000 lbs = 53.2%
Fraser 14,636 lbs/105,000 lbs = 13.9%
RPC 9,570 lbs/105,000 lbs = 9.1%
IP 24,891 lbs/105,000 lbs = 23.8%

6. GULF ISLAND POND (GIP) OXYGEN INJECTION SYSTEM (cont'd)

Summary of Oxygen Injection for 9/21/05 permit

A summary of oxygen injection requirements (assuming the TMDL default allocation of 105,000 lbs/day at Upper Narrows and 105,000 lbs/day at Lower Narrows) based on pollutant loading to GIP, compensation for existing oxygen injection at Upper Narrows to offset pollutant loading to GIP and the existing contractual obligation of the partnership for the existing system at Upper Narrows was established as follows:

Upper Narrows		Lower Narrows	
FPLE	14,700 lbs	FPLE	55,900 lbs
Fraser	10,500 lbs	Fraser	14,636 lbs
RPC	39,900 lbs	RPC	9,570 lbs
IP	39,900 lbs	IP	24,891 lbs

In its February 7, 2008 appeal orders, the Board included a condition that, by June 1, 2008, the permittee, Verso Paper LLC (successor in interest to IP), or FPL Energy Maine Hydro LLC (successor in interest in FPL Energy), independently or in cooperation with each other and Gorham Paper and Tissue LLC (successor in interest to Fraser Paper), submit a plan and schedule for upgrading the existing oxygen injection system, located at Upper Narrows in Gulf Island Pond, to increase the oxygen transfer efficiency of the system, thereby increasing dissolved oxygen levels in Gulf Island Pond, and that the upgraded oxygen injection system be operational no later than June 1, 2009.

On May 30, 2008, on behalf of the GIPOP Partnership, FPL Energy Maine Hydro LLC submitted a plan and schedule to replace the existing in-stream oxygenation diffuser system with a new line diffuser system designed to improve the oxygen transfer efficiency of the oxygen injection system from 33% to 54%. On June 23, 2008, the Department issued an order approving the plan with a condition requiring that the upgraded oxygen injection system continue to be operated in accordance with the approved June 1999 operational plan.

The upgraded system was installed and began operation in June of 2009.

In its February 7, 2008 appeal orders, the Board included a condition that, by June 1, 2009, Verso Paper, Rumford Paper or FPL Energy, independently or in cooperation with each other and Fraser Paper, submit a plan and schedule for injecting sufficient oxygen into Gulf Island Pond to mitigate the impact of Gulf Island Dam and the Verso and Rumford wastewater discharges on dissolved oxygen levels in the pond, based on the Department's 2005 TMDL, and that the required oxygen injection be provided no later than June 1, 2010. A similar condition was included in EPA's September 30, 2008 wastewater discharge permit for Fraser Paper's Gorham, New Hampshire paper mill.

On May 26, 2009, on behalf of the GIPOP Partnership, FPL Energy submitted a conceptual plan to inject sufficient oxygen to meet standards in Gulf Island Pond using the existing oxygen injection supply infrastructure and an additional oxygen storage tank and/or vaporizer and additional diffusers, as required.

6. GULF ISLAND POND (GIP) OXYGEN INJECTION SYSTEM (cont'd)

In a letter dated May 27, 2009, the Department accepted the GIPOP conceptual plan as fulfilling the filing requirements of the Board's appeal orders and EPA permit, pending further discussions with the GIPOP Partnership regarding options for meeting water quality standards without additional oxygen injection.

The Department asked its contract modeler, HydroAnalysis, Inc., to run the recalibrated water quality model to determine oxygen injection requirements with diffusers at Upper Narrows and Lower Narrows, as proposed by the GIPOP Partnership, and the reduced BOD limit proposed by Verso.

In a December 1, 2009 report to the Department, HydroAnalysis, Inc. submitted the results of the requested model run. The results were that, with an oxygen injection rate of 24,279 lbs/day at Upper Narrows, at an oxygen transfer efficiency of 54%, and an oxygen injection rate of 34,490 lbs/day at Lower Narrows at an oxygen transfer efficiency of 75%, Class C dissolved oxygen standards will be met in Gulf Island Pond to a depth of 60 feet under critical conditions (i.e., high temperature and low flow) and with all upstream point source discharges at their permit limits. The total oxygen injection rate of 56,100 lbs/day is well within the 73,000 lbs/day design capacity of the oxygen injection system.

On June 7, 2010, the Department issued a modification of the 9/21/05 permit to incorporate the numeric oxygen injection requirements cited above. The numeric limitations have been carried forward in this permitting action. In addition, Special Condition I, *Gulf Island Pond Oxygen Injection Operation*, of this permit has been established for the operational conditions of the oxygenation system.

7. AMBIENT WATER QUALITY MONITORING

The Department has made the determination that additional ambient water quality monitoring is necessary to continue to assess compliance with Class C water quality standards. Therefore, this permit carries forward the annual water quality monitoring via Special Condition J, *Ambient Water Quality Monitoring*. See section 4 of this Fact Sheet (pages 18 & 19) for a more in-depth discussion.

8. BEST MANAGEMENT PRACTICES PLAN

Best Management Practices (BMPs) are specified at 40 CFR 430.03(d). The primary objective of the Best Management Practices is to prevent leaks and spills of spent pulping liquors, soap, and turpentine. The secondary objective is to contain, collect, and recover at the immediate process area, or otherwise control, those leaks, spills, and intentional diversions of spent pulping liquor, soap and turpentine that do occur. Toward those objectives, the permittee must implement the Best Management Practices (BMPs) specified in 40 CFR 430.03 (c). The conditions established in Special Condition N of the permit are recommended by EPA Headquarters via a May 2000 Permit Guidance Document for the Pulp, Paper and Paperboard Manufacturing Point Source Category.

8. BEST MANAGEMENT PRACTICES PLAN (cont'd)

During the course of production and the maintenance of mill process equipment, minimal quantities of production liquors (liquids) may enter the mill process sewer system. It is not standard practice to indiscriminately sewer production liquors and steps are taken to minimize losses in production and maintenance practices in accordance with the mill's Best Management Practices (BMP) Plan for spent pulping liquor, soap, and turpentine. The focus of the BMP Plan is management of spent pulping liquor (the Rumford Mill does not currently process soap or turpentine) through the establishment of work practices and engineered controls necessary to satisfy regulatory requirements and BMP objectives. The BMP program uses a pollution prevention approach to achieve the following objectives:

- Prevent leaks and spills of spent pulping liquor.
- Contain, collect, and/or recover spills, leaks, and diversions at the immediate process area.
- Manage spills, leaks, and diversions to ensure adequate wastewater management.

MeadWestvaco implemented the Rumford Mill's BMP Plan in 1999 after completing a detailed engineering review of pulping and chemical recovery operations. The purpose of the engineering review was to determine the magnitude and potential routing of possible leaks, spills, and intentional diversions of spent pulping liquor that may occur due to startups, shutdowns, maintenance outages, production grade changes, normal operations, and power failures. MeadWestvaco used the process hazard analysis technique to evaluate the black liquor systems at the Rumford Mill. Process material releases that could occur, as well as safeguards for their prevention, detection, and containment were identified. The results of the hazard analyses served as the basis to identify needed improvements to work practices or engineered systems such as process monitoring or containment. A multi-disciplinary team was used for process review to involve operations personnel as early as possible in BMP Plan development. These staff members have the day-to-day responsibility and complete understanding of operation and maintenance work practices, and are the most suited to identify, implement, and sustain needed improvement to current practices.

Methods to monitor, measure, and report performance were also developed in accordance with Cluster Rule requirements. For compliance monitoring and documentation of performance, 24-hour composite samples of Primary Clarifier Effluent are analyzed daily for Chemical Oxygen Demand (COD) levels. Lower and Upper Action Levels were established to detect and properly respond to leaks, spills, or diversions of black liquor. The permittee has adopted and maintained implementation of the BMP Plan.

9. BIOLOGICAL MONITORING PROGRAM

Special Condition M, *Biological Monitoring Program*, of the 9/21/05 permit required the permittee to monitor bald eagles within 25 miles of the RPC mill. Other fish eating birds including, but not limited to, ospreys, great blue herons and common loons could be sampled as surrogates for dead young, sub-adult or adult eagles or non-viable bald eagle eggs. State and federal agencies with jurisdiction over fish and wildlife submitted comments to the Department pursuant to Department Rule Chapter 523, Waste Discharge License Conditions, requesting additional information regarding eagles and other fish-eating birds in the vicinity of pulp and paper mills.

RPC funded the monitoring in each of the five years of the term of the 9/21/05 permit in accordance with monitoring plans reviewed and approved by the State and federal agencies with jurisdiction over fish and wildlife. Based on the results submitted to date, the Maine Department of Inland Fisheries and Wildlife and the U.S. Fish and Wildlife Services determined that continuation of the monitoring program is not warranted by the finding of the study. Therefore, the Special Condition requiring said monitoring is not being carried forward in this permitting action.

10. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

With implementation of the May 2005 final TMDL and compliance with the terms and conditions of this permit, the Department has determined the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the Androscoggin River to meet standards of its assigned Class C classification. In addition, the Department has made the determination that water quality standards established in State law are protective of all cold water fish populations and that effluent monitoring of the discharge and ambient water quality monitoring of the receiving waters required by this permit serve as an interim Habitat Conservation Plan (HCP).

11. PUBLIC COMMENTS

Public notice of this application was made in the Lewiston Sun Journal newspaper on June 30, 2010. The Department receives public comments on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

12. DEPARTMENT CONTACTS

Additional information concerning this permitting action may be obtained from and written comments should be sent to:

Gregg Wood
Division of Water Quality Management
Bureau of Land and Water Quality
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone: (207) 287-7693
E-mail: gregg.wood@maine.gov

13. RESPONSE TO COMMENTS

During the period of September 28, 2012, through the issuance date of the permit/license, the Department solicited comments on the proposed draft permit/license to be issued for the discharge(s) from the Rumford Paper facility. The Department received written comments from the permittee in letters dated October 29, 2012 and December 19, 2012, and from the Natural Resources Council of Maine (NRCM) in a letter dated October 29, 2012 and from the Androscoggin River Alliance (ARA) in a letter dated October 29, 2012. Therefore, the Department has prepared a Response to Comments as follows:

Attainment of Water Quality Standards

Comment # 1 – Both the NRCM and ARA state that because the river has not been brought into compliance with the dissolved oxygen standards during the term of the previous permit, the Department must reduce the level of organic and nutrient pollution entering the river to bring it into attainment with standards.

Response #1 – According to a report entitled, 2010 Gulf Island Pond Monitoring Program Report, prepared by the Department, no algal blooms have been observed on Gulf Island Pond (GIP) since the summer of 2004 due to significantly lower discharges of total phosphorus and ortho-phosphorus by Verso Paper and Rumford Paper Company. Mean chlorophyll *a* levels in 2010 were well below 2004 levels and corroborate the declining trend seen from 2004 through 2008. In 2010, Secchi disk transparency readings at all sampling stations were greater than the Department's 2 meter threshold used for determining phytoplanktonic algae blooms. As a result, the Department has made the determination that the designated use of recreation in and on the water is being attained.

As for dissolved oxygen (DO), the 2010 report states that levels have steadily improved and were at the highest levels observed since monitoring GIP was initiated in 2004. There were documented depressed DO concentrations below the minimum criteria (5.0 ppm) and the monthly average criteria (6.5 ppm when and where temperatures were 22°C or lower) below the new Lower Narrows oxygen injection diffuser during 2010. The depressed DO levels were virtually always restricted vertically to 1-3 meters in or near the thermocline and in the deeper parts of the impoundment where mixing is inhibited and the generally higher DO levels were observed above the thermocline. The Department has concluded the depressed

13. RESPONSE TO COMMENTS (cont'd)

Attainment of Water Quality Standards (cont'd)

DO levels are related to sediment oxygen demand (SOD) resulting primarily from past inputs of total suspended solid (TSS) and settled algae due to past inputs of nutrients. SOD is a primary factor influencing the observed DO levels which occur during periods of water column stratification. SOD decay rates in the cooler water temperatures near the bottom of the deepest parts of GIP are slower than the rate in the warmer water temperatures. As a result, full improvement in SOD in the deepest parts of GIP has not likely been fully realized to date.

With the reductions in point-source and non-point source phosphorus and TSS loadings upstream of GIP compared to historical levels, the Department expects a decrease of SOD in GIP. In addition, the 2010 start-up of the new oxygenation system, the continued local and state efforts to reduce nonpoint-source loadings, and the new state law taking effect on January 1, 2013 requiring certified individuals on-site during activities in the shoreland zone, all also support the Department's reasonable expectation that these SOD related improvements will result in the elimination of DO issues in GIP within the 5-year term of this permit without the need for additional reductions in point source limitations for organic and or nutrient parameters. Therefore, the final permit remains unchanged.

Metals – Schedule of Compliance

Comment #2 – RPC has requested a five-year schedule of compliance to meet water quality based mass limitations for total aluminum, total cadmium, total copper, and a three-year schedule of compliance for total zinc. Consultants for RPC with 20 – 35 years of experience assisting pulp and paper mills worldwide state that to their knowledge, no mill is treating for metals removal at their discharge and contend there are no demonstrated technological improvements that can be implemented upon issuance of the permit to achieve compliance with the water quality based limitations. If engineering controls are ultimately required, it's research indicates the controls are not commercially available and it will take five to ten years to design, build and start up such hypothetical controls such that impacts on the mill's papermaking and waste water treatment processes are known. The economic and environmental considerations are critical to the continued operation of the facility. The effluent treatment process is highly integrated with the mill operations (i.e changes in one area impacts the total balance of the system) and RPC must be certain that equipment, process or sources changes must be compatible with the effluent treatment process and thus continue to achieve all limits specified in the permit and continue to comply with the TMDL for the Androscoggin River.

RPC states it has already begun to assess the steps necessary to identify source reduction opportunities, evaluate product substitution and research alternative industry practices and treatment options. Because the mill uses many raw materials and hundreds of chemical products that contain trace amounts for metals of concern, RPC will need to identify the source metals, create mass balances to determine the fate of each metal in the process and determine which sources are significant contributors to effluent discharge. Product substitution, new technology and/or process changes must be evaluated as part of a systematic, step by step process to determine if these are compatible with the mill's

13. RESPONSE TO COMMENTS (cont'd)

Metals – Schedule of Compliance (cont'd)

manufacturing and waste water treatment processes so that the facility can achieve all permit limits and still produce products that meet customers' expectations and specifications. Once the sources of the significant contributors of metals are identified, RPC intends to evaluate production substitution, changes in process technologies and reduce usage of specific raw materials and/or chemical products. This evaluation will require time to perform in-mill sampling and analysis in order to determine sources of metals in various process streams and their variability.

Methods for metals treatment include chemical precipitation, ion exchange, adsorption, reverse osmosis and nano-filtration. In order to properly apply effective removal technology, RPC will need ample time to perform-in-mill sampling and analysis, conduct bench testing, evaluate available removal options based on results, develop an initial design, perform pilot plant testing, obtain applicable permits to construct the treatment system, construct the facility and conduct follow-up testing to determine effectiveness and efficiency of the treatment system. RPC notes experience at several pulp and paper manufacturing facilities has shown that some chelants, polymers, settling aids and other additives that may be useful for control of metals may have detrimental impact to viability of the microbiology in an activated sludge waste water treatment plant and jeopardize performance.

The permittee has indicated that by not establishing any schedule of compliance for total zinc and a one-year schedule of compliance for total cadmium, the Department has nor recognized the uncertainties inherent in the mill's comprehensive metals reduction efforts proposed for all four metals of concern. In addition, the permittee states the Department's position on the schedules violates the requirements of Maine law 38 M.R.S.A., §414-A(2) as the schedule (or lack thereof) does not adequately consider the technological, economic and environmental impacts of the steps necessary to comply with the new water quality based limitations and compliance for both total cadmium and total zinc and are no less challenging than for total aluminum and total copper, perhaps even more so.

Response #2- . Maine law 38 M.R.S.A. §414(2) *Schedules of Compliance*, authorizes the Department to establish schedules of compliance for water quality based limitations within the terms and conditions of a license. The law states that the schedule(s) may include interim and final dates for attainment of specific standards necessary to carry out the purposes of the law and must be as short as possible based on consideration of the technological, economic and environmental impact of the steps necessary to attain those standards.

Department rule Chapter 523, *Waste Discharge License Conditions*, Section 7(a), *Schedules of Compliance*, states "*...a permit may, when appropriate, specify a schedule of compliance leading to compliance with CWA and regulations.*"

Section 7(a)(3) of said rule states in part, "*if a permit establishes a schedule of compliance which exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.*

13. RESPONSE TO COMMENTS (cont'd)

Metals – Schedule of Compliance (cont'd)

(i) The time between interim dates shall not exceed 1 year, except that in the case of a schedule for compliance with standards for sewage sludge use and disposal, the time between interim dates shall not exceed six months.

(ii) If the time necessary for completion of any interim requirement (such as the construction of a control facility) is more than 1 year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date."

The September 27, 2012, draft permit proposed establishing a five-year schedule of compliance to meet water quality based mass limitations for total aluminum and total copper (consistent with the schedule requested by the permittee) and a one-year schedule of compliance for total cadmium. No schedule was proposed for zinc. Therefore, the response will be limited to total cadmium and total zinc.

Total Cadmium

The July 24, 2012, statistical evaluation (Report #458) conducted by the Department on the most current 60 months of chemical specific data indicates there is one data point of 1.4 ug/L (7/14/08) for total cadmium resulting in a mass discharge of 0.34 lbs/day that exceeded the proposed monthly average mass limit of 0.24 lbs/day for total cadmium. The seven other data results were less than the Department's reporting limit (RL) of 1.0 ug/L. The one-year schedule of compliance proposed by the Department was established to provide the permittee with the opportunity to reduce testing to a routine surveillance level of monitoring (2/Year) for a Level II facility pursuant to 06-096 CMR Chapter 530. Surveillance level testing would continue until such time the test result of concern would fall outside the 60-month evaluation window specified by Chapter 530. In this case, the 60-month window would close on July 14, 2013. If no more total cadmium results were reported at or above the RL of 1.0 ug/L, the permittee could request a modification of the permit to remove the limitations for total cadmium as there would not be any results remaining in the most current 60-month period that exceeded or had a reasonable potential to exceed AWQC.

The permittee points out that the proposed limit of 0.24 lbs/day equates to a concentration threshold of 1.0 ug/L at a permitted flow of 34 MGD. As a result, anytime it reports a result at or above the Department's RL of 1.0 ug/L it would result in an exceedence or a RP to exceed the chronic AWQC. A one-year schedule of compliance is not sufficient time to complete the type of source identification and reduction efforts as described on pages 66 and 67 of this Fact Sheet.

13. RESPONSE TO COMMENTS (cont'd)

Metals – Schedule of Compliance (cont'd)

Given the complexity and time associated with the source identification, source reduction and possible treatment technologies evaluations to reduce the mass of total cadmium discharged, the Department has reconsidered its position on the one-year schedule of compliance. The Department has made the determination that a three-year schedule of compliance is as short as possible based on consideration of the technological, economic and environmental impact of the steps necessary to conduct the aforementioned evaluations and attain compliance with the water quality based limitations. Therefore, the final permit has been modified to increase the schedule of compliance for total cadmium from one year to three years.

Total Zinc

Department rule Chapter 523, *Waste Discharge License Conditions*, Section 7(a), *Schedules of Compliance*, states "*...a permit may, when appropriate, specify a schedule of compliance leading to compliance with CWA and regulations.*"

The July 24, 2012, statistical evaluation did not identify any test results for total zinc in the previous 60-month period that exceeded or had a reasonable potential to exceed applicable AWQC. Therefore, the permittee is in compliance with the CWA and regulations and a three schedule of compliance for total zinc requested by the permittee cannot be supported by the statistical evaluation of said data. Therefore, the final permit remains unchanged.

ATTACHMENT A

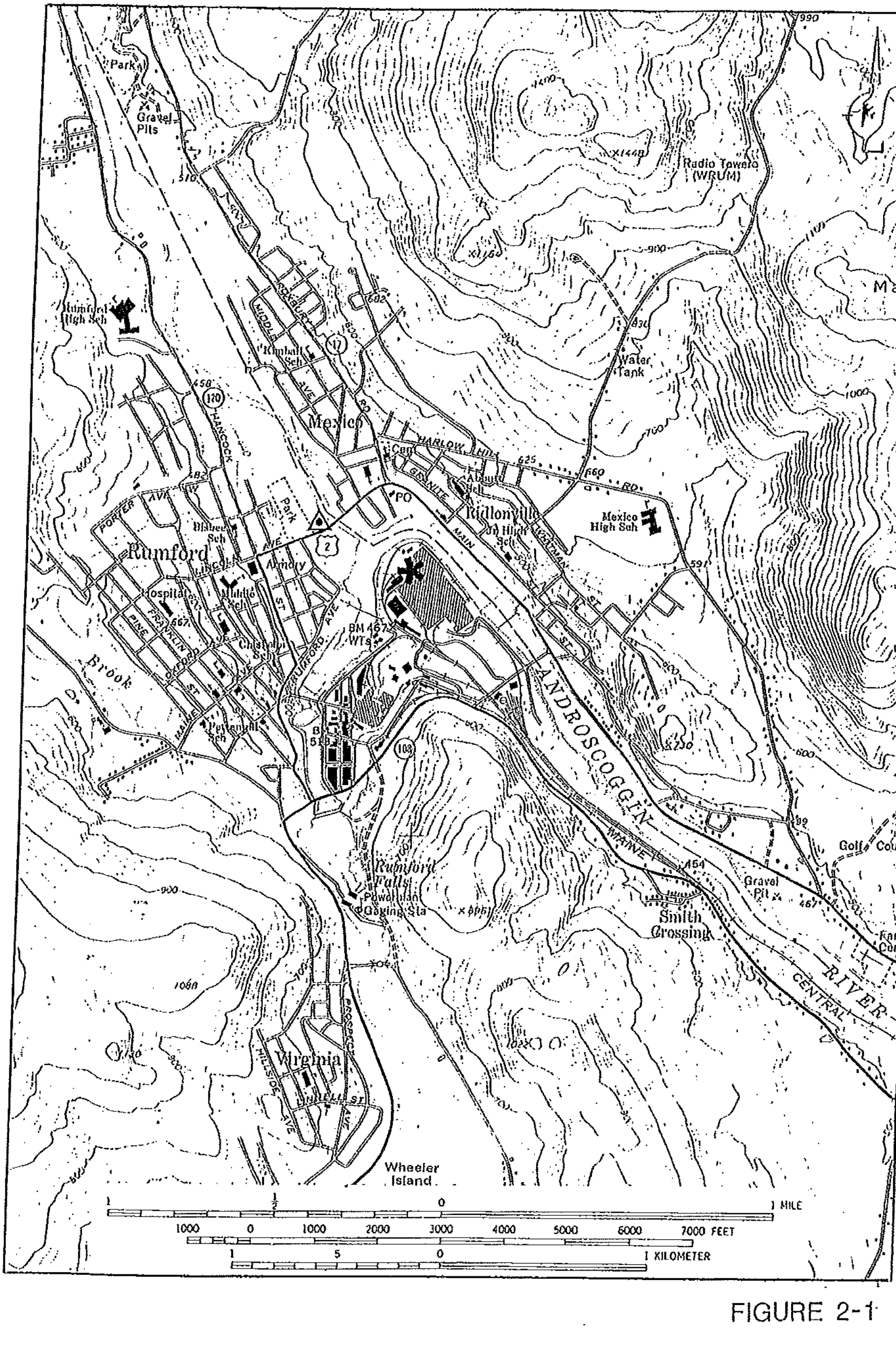
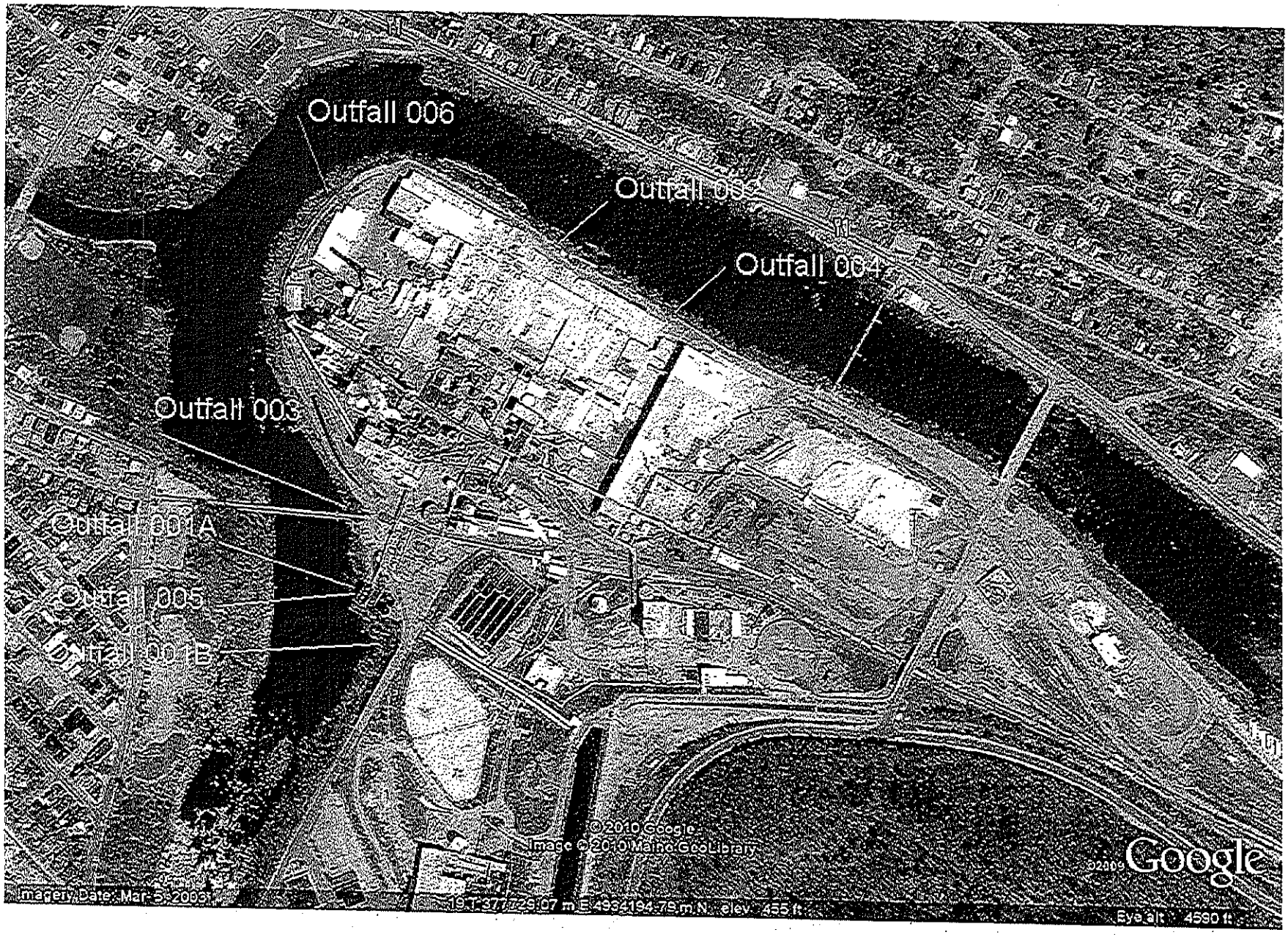
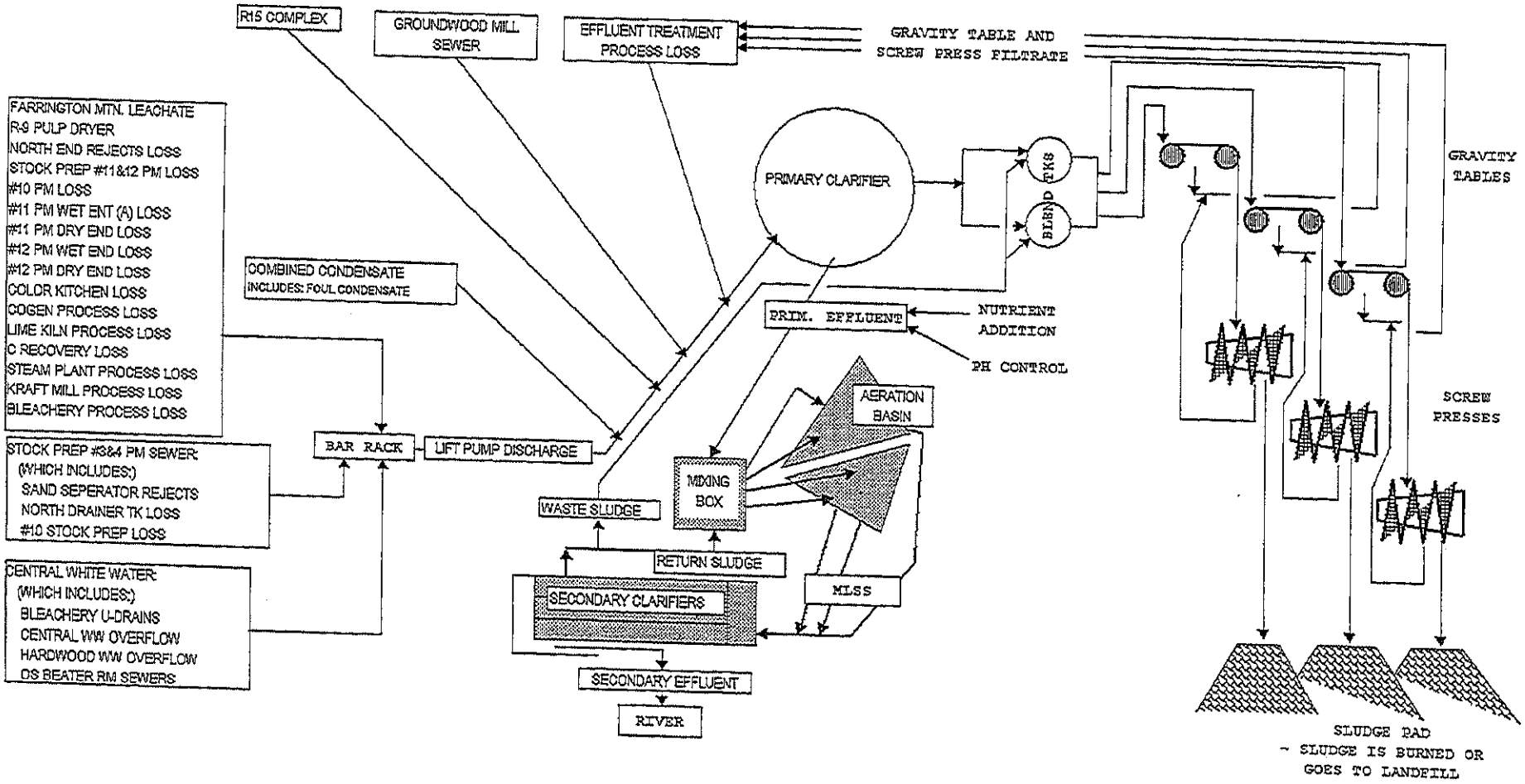

Rumford
Mexico
Ridlonville
Virginia
Rumford Falls
Smith Crossing
Wheeler Island
ANDROSCOGGIN RIVER
Mexico High Sch
Rumford High Sch
Radio Towers (WRUM)
Water Tank
Gravel Pits
Hospital
Armory
Power plant
Gaging Sta
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER

FIGURE 2-1


Outfall 006
Outfall 005
Outfall 004
Outfall 003
Outfall 001A
Outfall 005
Outfall 001B
©2010 Google
Image © 2010 MaineGeoLibrary
Google
Imagery Date: Mar 5, 2009
19 T 377 2907 m E 4934194.79 m N elev 455 ft
Eye alt 4580 ft

ATTACHMENT B

Effluent Treatment Plant – Rumford Paper Company



ATTACHMENT C

WET TEST REPORT

Data for tests conducted for the period

19/Dec/2007 -19/Dec/2012

NEWPAGE

NPDES= ME000205 Effluent Limit: Acute (%) = 3.163 Chronic (%) = 3.163

Species	Test	Percent	Sample date	Critical %	Exception	RP
TROUT	A_NOEL	100	07/23/2008	3.163		
TROUT	A_NOEL	100	12/01/2009	3.163		
TROUT	A_NOEL	100	02/16/2010	3.163		
TROUT	A_NOEL	100	06/13/2010	3.163		
TROUT	C_NOEL	100	12/01/2009	3.163		
TROUT	C_NOEL	100	02/16/2010	3.163		
TROUT	C_NOEL	100	06/13/2010	3.163		
WATER FLEA	A_NOEL	100	07/14/2008	3.163		
WATER FLEA	A_NOEL	100	03/09/2009	3.163		
WATER FLEA	A_NOEL	100	09/08/2009	3.163		
WATER FLEA	A_NOEL	100	04/29/2010	3.163		
WATER FLEA	A_NOEL	100	06/13/2010	3.163		
WATER FLEA	A_NOEL	100	08/28/2012	3.163		
WATER FLEA	C_NOEL	25	03/09/2009	3.163		
WATER FLEA	C_NOEL	100	09/08/2009	3.163		
WATER FLEA	C_NOEL	100	04/29/2010	3.163		
WATER FLEA	C_NOEL	100	06/13/2010	3.163		
WATER FLEA	C_NOEL	100	08/28/2012	3.163		

ATTACHMENT D

PRIORITY POLLUTANT DATA SUMMARY

Date Range: 19/Dec/2007 - 19/Dec/2012

Facility Name: **NEWPAGE** NPDES: **ME0002054**

Test Date	Monthly (Flow MGD)	Daily (Flow MGD)	Total Test Number	Test # By Group M	V	BN	P	O	A	Clean	Hg
03/13/2008	NR	NR	1	0	0	0	0	1	0	F	0
07/14/2008	30.40	29.50	23	10	0	0	0	13	0	F	0
03/09/2009	20.40	25.60	21	10	0	0	0	11	0	F	0
09/08/2009	24.80	26.20	135	14	28	46	25	11	11	F	0
12/01/2009	20.60	21.10	21	10	0	0	0	11	0	F	0
02/16/2010	25.90	25.80	22	10	0	0	0	12	0	F	0
04/29/2010	28.20	28.46	21	10	0	0	0	11	0	F	0
06/13/2010	29.80	29.60	134	14	28	45	25	11	11	F	0
08/28/2012	32.80	32.70	21	10	0	0	0	11	0	F	0

Key:

A = Acid O = Others P = Pesticides

BN = Base Neutral M = Metals V = Volatiles

12/19/2012

FACILITY CHEMICAL DATA REPORT

Data Date Range: 19/Dec/2007 - 19/Dec/2012

Facility name: - **NEWPAGE** Permit Number: **ME0002054**

Parameter: ALUMINUM

Test date	Result (ug/l)	Lsthan
07/14/2008	410.000	N
03/09/2009	396.000	N
09/08/2009	185.000	N
12/01/2009	234.000	N
02/16/2010	303.000	N
04/29/2010	306.000	N
06/13/2010	404.000	N
08/28/2012	300.000	Y

Parameter: CADMIUM

Test date	Result (ug/l)	Lsthan
07/14/2008	1.400	N
03/09/2009	1.000	Y
09/08/2009	1.000	Y
12/01/2009	1.000	Y
02/16/2010	1.000	Y
04/29/2010	1.000	Y
06/13/2010	1.000	Y
08/28/2012	1.000	Y

Parameter: COPPER

Test date	Result (ug/l)	Lsthan
07/14/2008	7.000	N
03/09/2009	3.000	Y
09/08/2009	15.000	N
12/01/2009	20.000	N
02/16/2010	19.000	N
04/29/2010	22.000	N
06/13/2010	20.000	N
08/28/2012	3.000	Y

Parameter: ZINC

Test date	Result (ug/l)	Lsthan
07/14/2008	51.000	N
03/09/2009	18.000	N
09/08/2009	13.000	N
12/01/2009	22.000	N
02/16/2010	36.000	N
04/29/2010	44.000	N
06/13/2010	23.000	N
08/28/2012	33.100	N

ATTACHMENT E

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

MEMORANDUM

DATE: October 2008

TO: Interested Parties

FROM: Dennis Merrill, DEP

SUBJECT: DEP's system for evaluating toxicity from multiple discharges

****

Following the requirements of DEP's rules, Chapter 530, section 4(F), the Department is evaluating discharges of toxic pollutants into a freshwater river system in order to prevent cumulative impacts from multiple discharges. This is being through the use of a computer program known internally as "DeTox". The enclosed package of information is intended to introduce you to this system.

Briefly, the DeTox program evaluates each wastewater facility within a watershed in three different ways in order to characterize its effluent: 1) the facility's past history of discharges, 2) its potential toxicity at the point of discharge on an individual basis, and 3) the facility's contribution to cumulative toxicity within a river segment in conjunction with other facilities. The value that is most protective of water quality becomes the value that is held in the DeTox system as an allocation for the specific facility and pollutant.

The system is not static and uses a five-year "rolling" data window. This means that, over time, old test results drop off and newer ones are added. The intent of this process is to maintain current, uniform facility data to estimate contributions to a river's total allowable pollutant loading prior to each permit renewal.

Many facilities are required to do only a relatively small amount of pollutant testing on their effluent. This means, statistically, the fewer tests done, the greater the possibility of effluent limits being necessary based on the facility's small amount of data. To avoid this situation, most facilities, especially those with low dilution factors, should consider conducting more than the minimum number of tests required by the rules.

Attached you will find three documents with additional information on the DeTox system:

- Methods for evaluating the effects of multiple discharges of toxic pollutants
- Working definitions of terms used in the DeTox system
- Reviewing DeTox Reports
- Prototype facility and pollutant reports

If you have questions as you review these, please do not hesitate to contact me at Dennis.L.Merrill@maine.gov or 287-7788.

Maine Department of Environmental Protection

Methods for evaluating the effects of multiple discharges of toxic pollutants.

Reference: DEP Rules, Chapter 530, section 4(F)

To evaluate discharges of toxic pollutants into a freshwater river system and prevent cumulative impacts from multiple discharges, DEP uses a computer program called "DeTox that functions as a mathematical evaluation tool.

It uses physical information about discharge sources and river conditions on file with the Department, established water quality criteria and reported effluent test information to perform these evaluations. Each toxic pollutant and associated water quality criterion for acute, chronic and/or human health effects is evaluated separately.

Each facility in a river drainage area has an assigned position code. This "address" is used to locate the facility on the river segment and in relation to other facilities and tributary streams. All calculations are performed in pounds per day to allow analysis on a mass balance. Pollutants are considered to be conservative in that once in the receiving water they will not easily degrade and have the potential to accumulate.

The process begins with establishing an assimilative capacity for each pollutant and water quality criterion at the most downstream point in the river segment. This calculation includes set-aside amounts for background and reserve quantities and assumed values for receiving water pH, temperature and hardness. The resulting amount of assimilative capacity is available for allocation among facilities on the river.

Each facility is evaluated to characterize its past discharge quantities. The historical discharge, in pounds per day, is figured using the average reported concentration and the facility's permitted flow. As has been past practice, a reasonable potential (RP) factor is used as a tool to estimate the largest discharge that may occur with a certain degree of statistical certainty. The RP factor is multiplied by the historical average to determine an allocation based on past discharges. The RP factor is also multiplied by the single highest test to obtain a maximum day estimate. Finally, the direct average without RP adjustment is used to determine the facility's percent contribution to the river segment in comparison to the sum of all discharges of the pollutant. This percent multiplied by the total assimilative capacity becomes the facility's discharge allocation used in evaluations of the segment loadings.

Additionally, individual facility discharges are evaluated as single sources, as they have been in the past to determine if local conditions are more limiting than a segment evaluation.

With all of this information, facilities are evaluated in three ways. The methods are:

1. The facility's past history. This is the average quantity discharged during the past five years multiplied by the applicable RP factor. This method is often the basis for an allocation when the discharge quantity is relatively small in comparison to the water quality based allocation.
2. An individual evaluation. This assumes no other discharge sources are present and the allowable quantity is the total available assimilative capacity. This method may be used when a local condition such as river flow at the point of discharge is the limiting factor.
3. A segment wide evaluation. This involves allocating the available assimilative capacity within a river segment based on a facility's percent of total past discharges. This method would be used when multiple discharges of the same pollutant to the same segment and the available assimilative capacity is relatively limited.

The value that is most protective of water quality becomes the facility's allocation that is held in the system for the specific facility and pollutant. It is important to note that the method used for allocation is facility and pollutant specific and different facilities on the same segment for the same pollutant can have different methods used depending on their individual situations.

Discharge amounts are always allocated to all facilities having a history of discharging a particular pollutant. This does not mean that effluent limits will be established in a permit. Limits are only needed when past discharge amounts suggest a reasonable potential to exceed a water quality based allocation, either on an individual or segment basis. Similar to past practices for single discharge evaluations, the single highest test value is multiplied by a RP factor and if product is greater than the water quality allowance, an effluent limit is established. It is important to remember an allocation is "banking" some assimilative capacity for a facility even if effluent limits are not needed.

Evaluations are also done for each tributary segment with the sum of discharge quantities in tributaries becoming a "point source" to the next most significant segment. In cases where a facility does not use all of its assimilative capacity, usually due to a more limiting individual water quality criterion, the unused quantity is rolled downstream and made available to other facilities.

The system is not static and uses a five-year rolling data window. Over time, old tests drop off and newer ones are added on. These changes cause the allocations and the need for effluent limits to shift over time to remain current with present conditions. The intent is to update a facility's data and relative contribution to a river's total assimilative capacity prior to each permit renewal. Many facilities are required to do only minimal testing to characterize their effluents. This creates a greater degree of statistical uncertainty about the true long-term quantities. Accordingly, with fewer tests the RP factor will be larger and result in a greater possibility of effluent limits being necessary. To avoid this situation, most facilities, especially those with relatively low dilution factors, are encouraged to conduct more that a minimum number of tests. It is generally to a facility's long-term benefit to have more tests on file since their RP factor will be reduced.

Maine Department of Environmental Protection

Working Definitions of Terms Used in the DeTox System.

Allocation. The amount of pollutant loading set aside for a facility. Separate amounts are set for each *water quality criterion.* Each pollutant having a history of being discharged will receive an allocation, but not all allocations become *effluent limits.* Allocation may be made in three ways: *historical allocation, individual allocation* or *segment allocation.*

Assimilative capacity. The amount of a pollutant that river segment can safely accept from point source discharges. It is determined for the most downstream point in a river segment using the *water quality criterion* and river flow. Separate capacities are set for acute, chronic and human health criteria as applicable for each pollutant. Calculation of this capacity includes factors for *reserve* and *background* amounts.

Background. A concentration of a pollutant that is assumed to be present in a receiving water but not attributable to discharges. By rule, this is set as a rebuttable presumption at 10% of the applicable *water quality criterion.*

Effluent limit. A numeric limit in a discharge permit specifically restricting the amount of a pollutant that may be discharged. An effluent limit is set only when the highest discharge, including an adjustment for *reasonable potential,* is greater than a facility's water quality based *allocation* for a pollutant.

Historical allocation (or *RP history*). One of three ways of developing an *allocation.* The facility's average history of discharges, in pounds at design flow, is multiplied by the appropriate *reasonable potential* factor. An allocation using this method does not become an *effluent limit.*

Historical discharge percentage. For each pollutant, the average discharge concentration for each facility in a segment is multiplied by the permitted flow (without including a *reasonable potential* factor). The amounts for all facilities are added together and a percent of the total is figured for each facility. When a facility has no detectable concentrations, that pollutant is assumed to be not present and it receives no percentage.

Individual allocation. One of three ways of developing an *allocation.* The facility's single highest discharge on record multiplied by the appropriate *reasonable potential* factor is compared to a water quality based quantity with an assumption that the facility is the only point source to that receiving water. If the RP-adjusted amount is larger, the water quality amount may become an *effluent limit.*

Less than. A qualification on a laboratory report indicating the concentration of a pollutant was below a certain concentration. Such a result is evaluated as being one half of the Department's reporting limit in most calculations.

Reasonable potential (RP). A statistical method to determine the highest amount of a pollutant likely to be present at any time based on the available test results. The method produces a value or RP factor that is multiplied by test results. The method relies on an EPA guidance document, and considers the coefficient of variation and the number of tests. Generally, the fewer number of tests, the higher the RP factor.

Reserve. An assumed concentration of a pollutant that set aside to account for non-point source of a pollutant and to allow new discharges of a pollutant. By rule this is set at 15% of the applicable *water quality criterion.*

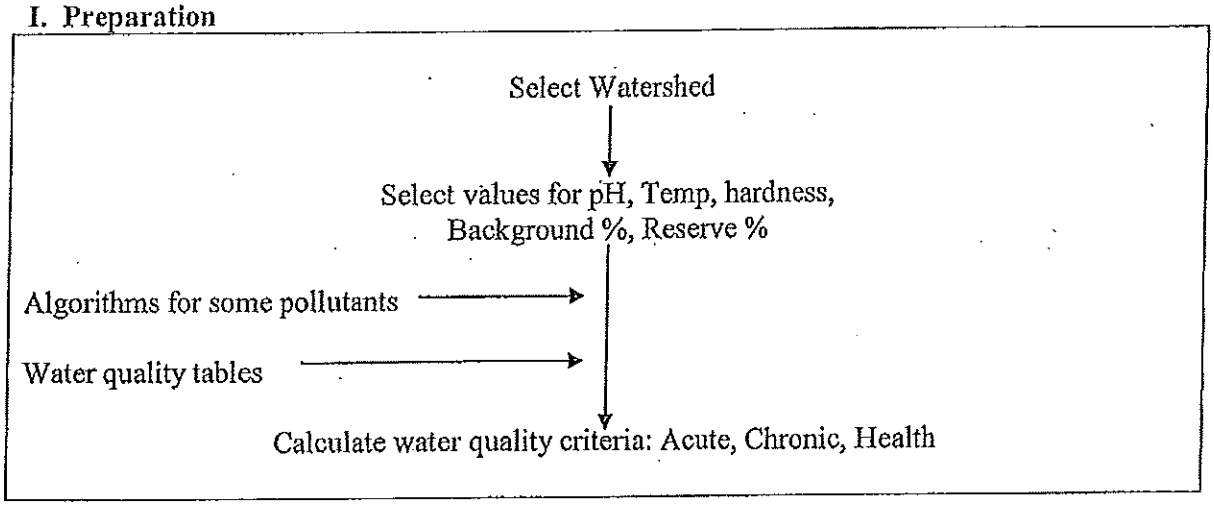
Segment allocation. One of three ways of developing an *allocation.* The amount is set by multiplying a facility's *historical discharge percentage* for a specific pollutant by the *assimilative capacity* for that pollutant and criterion. A facility will have different allocation percentages for each pollutant. This amount may become an *effluent limit.*

Tributary. A stream flowing into a larger one. A total pollutant load is set by adding the all facilities *allocations* on the tributary and treating this totaled amount as a "point source" to the next larger segment.

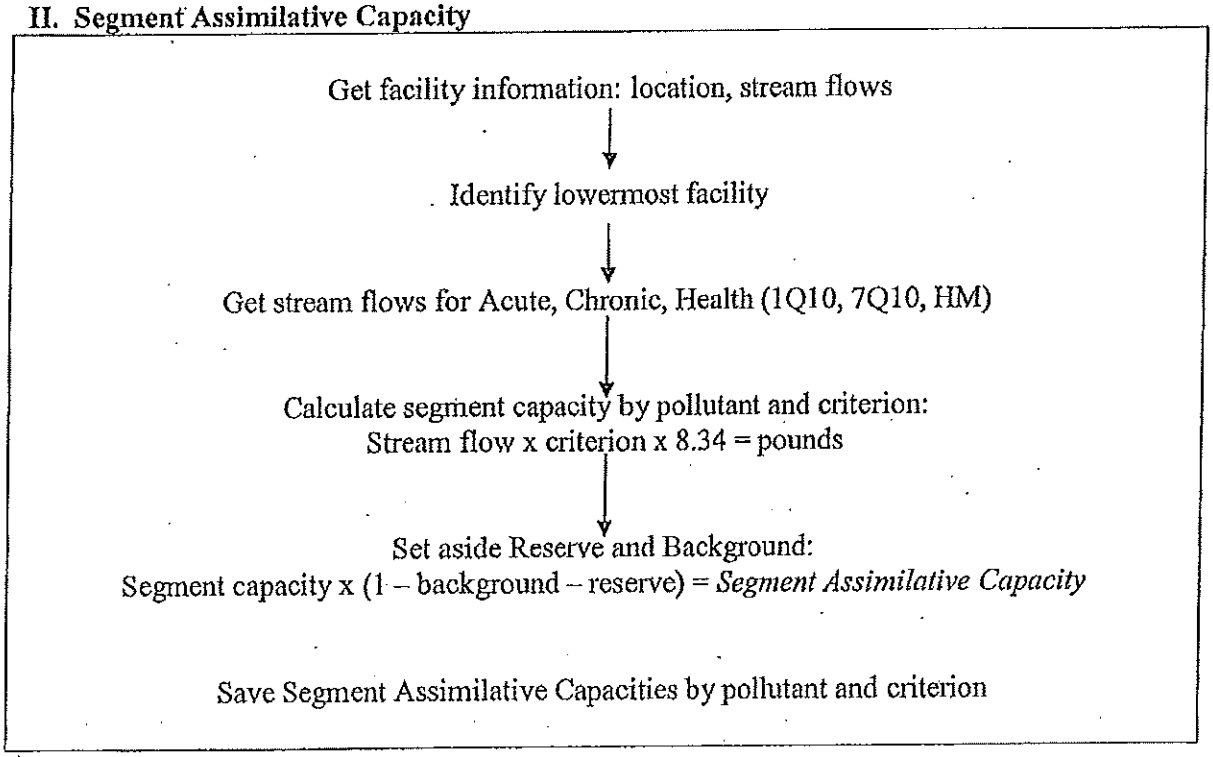
Water quality criteria. Standards for acceptable in-stream or ambient levels of pollutants. These are established in the Department's Chapter 584 and are expressed as concentrations in ug/L. There may be separate standards for acute and chronic protection aquatic life and/or human health. Each criterion becomes a separate standard. Different stream flows are used in the calculation of each.

Maine Department of Environmental Protection
General Processing Steps in "DeTox"

I. Preparation



II. Segment Assimilative Capacity



Maine Department of Environmental Protection
General Processing Steps in "DeTox"

III. Evaluate History by Pollutant

Select each facility effluent data for each facility

Data input and edits →

Identify "less than" results and assign at ½ of reporting limit

Bypass pollutants if all results are "less than"

Average concentrations and calculate pounds:
Ave concentration x license flow x 8.34 = *Historical Average*

Determine reasonable potential (RP) using algorithm

Calculate RP adjusted pounds:
Historical Average x RP factor = *RP Historical Allocation*

Save for comparative evaluation

Calculate adjusted maximum pounds:
Highest concentration x RP factor x license flow x 8.34 = *RP Maximum Value*

IV. Determine Facility History Percentage

By pollutant, identify facilities with *Historical Average*

Sum all Historical Averages within segment

By facility, calculate percent of total:
Facility pounds / Total pounds = *Facility History %*

Maine Department of Environmental Protection
General Processing Steps in "DeTox"

V. Segment Allocation

By pollutant and criterion, select *Segment Assimilative Capacity*

↓

Select individual *Facility History %*

↓

Determine facility allocation:
Assimilative Capacity x Facility History % = *Segment Allocation*

↓

Save for comparative evaluation

VI. Individual Allocation

Select individual facility and dilution factor (DF)

↓

Select pollutant and water quality criterion

↓

By pollutant and criterion, calculate individual allocations:
[DF x 0.75 x criterion] + [0.25 x criterion] = Individual Concentration

↓

Determine individual allocation:
Individual Concentration x license flow x 8.34 = *Individual Allocation*

↓

Save for comparative evaluation

VII. Make Initial Allocation

By facility, pollutant and criterion, get:
Individual Allocation, Segment Allocation, RP Historical Allocation

↓

Compare allocation and select the smallest

↓

Save as *Facility Allocation*

VIII. Evaluate Need for Effluent Limits

By facility, pollutant and criterion select
Segment Allocation, *Individual Allocation* and *RP Maximum value*

↓

If *RP Maximum value* is greater than either *Segment Allocation* or *Individual Allocation*, use lesser value as *Effluent Limit*

↓

Save *Effluent Limit* for comparison

IX. Reallocation of Assimilative Capacity

Starting at top of segment, get *Segment Allocation*, *Facility Allocation* and *Effluent Limit*

↓

If *Segment Allocation* equals *Effluent Limit*, move to next facility downstream

↓

If not, subtract *Facility Allocation* from *Segment Allocation*

↓

Save difference

↓

Select next facility downstream

↓

Figure remaining *Segment Assimilative Capacity* at and below facility, less tributaries

↓

Add saved difference to get an adjusted *Segment Assimilative Capacity*

↓

Reallocate *Segment Assimilative Capacity* among downstream facilities per step V

↓

Repeat process for each facility downstream in turn

ATTACHMENT F

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHAPTER 530.2(D)(4) CERTIFICATION

PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
Commissioner

MEPDES#_____Facility Name_____

Since the effective date of your permit, have there been;		NO	YES Describe in comments section
1	Increases in the number, types, and flows of industrial, commercial, or domestic discharges to the facility that in the judgment of the Department may cause the receiving water to become toxic?	☐	☐
2	Changes in the condition or operations of the facility that may increase the toxicity of the discharge?	☐	☐
3	Changes in storm water collection or inflow/infiltration affecting the facility that may increase the toxicity of the discharge?	☐	☐
4	Increases in the type or volume of hauled wastes accepted by the facility?	☐	☐

COMMENTS:

Name (printed): _____

Signature: _____ Date: _____

This document must be signed by the permittee or their legal representative.

This form may be used to meet the requirements of Chapter 530.2(D)(4). This Chapter requires all dischargers having waived or reduced toxic testing to file a statement with the Department describing changes to the waste being contributed to their system as outlined above. As an alternative, the discharger may submit a signed letter containing the same information.

Scheduled Toxicity Testing for the next calendar year

Test Conducted	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
WET Testing	☐	☐	☐	☐
Priority Pollutant Testing	☐	☐	☐	☐
Analytical Chemistry	☐	☐	☐	☐
Other toxic parameters [1]	☐	☐	☐	☐

Please place an "X" in each of the boxes that apply to when you will be conducting any one of the three test types during the next calendar year.

[1] This only applies to parameters where testing is required at a rate less frequently than quarterly.

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207)760-3143

web site: www.maine.gov/dep

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

STANDARD CONDITIONS APPLICABLE TO ALL PERMITS

CONTENTS

A. GENERAL PROVISIONS

1. **General compliance.** All discharges shall be consistent with the terms and conditions of this permit; any changes in production capacity or process modifications which result in changes in the quantity or the characteristics of the discharge must be authorized by an additional license or by modifications of this permit; it shall be a violation of the terms and conditions of this permit to discharge any pollutant not identified and authorized herein or to discharge in excess of the rates or quantities authorized herein or to violate any other conditions of this permit.

2. **Other materials.** Other materials ordinarily produced or used in the operation of this facility, which have been specifically identified in the application, may be discharged at the maximum frequency and maximum level identified in the application, provided:

(a) They are not

(i) Designated as toxic or hazardous under the provisions of Sections 307 and 311, respectively, of the Federal Water Pollution Control Act; Title 38, Section 420, Maine Revised Statutes; or other applicable State Law; or
(ii) Known to be hazardous or toxic by the licensee.

(b) The discharge of such materials will not violate applicable water quality standards.

3. **Duty to comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of State law and the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

(a) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act, and 38 MRSA, §420 or Chapter 530.5 for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
(b) Any person who violates any provision of the laws administered by the Department, including without limitation, a violation of the terms of any order, rule license, permit, approval or decision of the Board or Commissioner is subject to the penalties set forth in 38 MRSA, §349.

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

5. **Permit actions.** This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

6. **Reopener clause.** The Department reserves the right to make appropriate revisions to this permit in order to establish any appropriate effluent limitations, schedule of compliance or other provisions which may be authorized under 38 MRSA, §414-A(5).

7. Oil and hazardous substances. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under section 311 of the Federal Clean Water Act; section 106 of the Federal Comprehensive Environmental Response, Compensation and Liability Act of 1980; or 38 MRSA §§ 1301, et. seq.

8. Property rights. This permit does not convey any property rights of any sort, or any exclusive privilege.

9. Confidentiality of records. 38 MRSA §414(6) reads as follows. "Any records, reports or information obtained under this subchapter is available to the public, except that upon a showing satisfactory to the department by any person that any records, reports or information, or particular part or any record, report or information, other than the names and addresses of applicants, license applications, licenses, and effluent data, to which the department has access under this subchapter would, if made public, divulge methods or processes that are entitled to protection as trade secrets, these records, reports or information must be confidential and not available for public inspection or examination. Any records, reports or information may be disclosed to employees or authorized representatives of the State or the United States concerned with carrying out this subchapter or any applicable federal law, and to any party to a hearing held under this section on terms the commissioner may prescribe in order to protect these confidential records, reports and information, as long as this disclosure is material and relevant to any issue under consideration by the department."

10. Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

11. Other laws. The issuance of this permit does not authorize any injury to persons or property or invasion of other property rights, nor does it relieve the permittee if its obligation to comply with other applicable Federal, State or local laws and regulations.

12. Inspection and entry. The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the EPA Administrator), upon presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
(d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

B. OPERATION AND MAINTENACE OF FACILITIES

1. General facility requirements.

(a) The permittee shall collect all waste flows designated by the Department as requiring treatment and discharge them into an approved waste treatment facility in such a manner as to

maximize removal of pollutants unless authorization to the contrary is obtained from the Department.

(b) The permittee shall at all times maintain in good working order and operate at maximum efficiency all waste water collection, treatment and/or control facilities.

(c) All necessary waste treatment facilities will be installed and operational prior to the discharge of any wastewaters.

(d) Final plans and specifications must be submitted to the Department for review prior to the construction or modification of any treatment facilities.

(e) The permittee shall install flow measuring facilities of a design approved by the Department.

(f) The permittee must provide an outfall of a design approved by the Department which is placed in the receiving waters in such a manner that the maximum mixing and dispersion of the wastewaters will be achieved as rapidly as possible.

2. Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

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

4. Duty to mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. Bypasses.

(a) Definitions.

(i) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

(ii) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(b) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this section.

(c) Notice.

(i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

(ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph D(1)(f), below. (24-hour notice).

(d) Prohibition of bypass.

(i) Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
(C) The permittee submitted notices as required under paragraph (c) of this section.

(ii) The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three conditions listed above in paragraph (d)(i) of this section.

6. Upsets.

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

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

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

(i) An upset occurred and that the permittee can identify the cause(s) of the upset;
(ii) The permitted facility was at the time being properly operated; and
(iii) The permittee submitted notice of the upset as required in paragraph D(1)(f) , below. (24 hour notice).
(iv) The permittee complied with any remedial measures required under paragraph B(4).

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

C. MONITORING AND RECORDS

1. General Requirements. This permit shall be subject to such monitoring requirements as may be reasonably required by the Department including the installation, use and maintenance of monitoring equipment or methods (including, where appropriate, biological monitoring methods). The permittee shall provide the Department with periodic reports on the proper Department reporting form of monitoring results obtained pursuant to the monitoring requirements contained herein.

2. Representative sampling. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. If effluent limitations are based wholly or partially on quantities of a product processed, the permittee shall ensure samples are representative of times when production is taking place. Where discharge monitoring is required when production is less than 50%, the resulting data shall be reported as a daily measurement but not included in computation of averages, unless specifically authorized by the Department.

3. Monitoring and records.

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(b) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

(c) Records of monitoring information shall include:

(i) The date, exact place, and time of sampling or measurements;
(ii) The individual(s) who performed the sampling or measurements;
(iii) The date(s) analyses were performed;
(iv) The individual(s) who performed the analyses;
(v) The analytical techniques or methods used; and
(vi) The results of such analyses.

(d) Monitoring results must be conducted according to test procedures approved under 40 CFR part 136, unless other test procedures have been specified in the permit.

(e) State law provides that any person who tampers with or renders inaccurate any monitoring devices or method required by any provision of law, or any order, rule license, permit approval or decision is subject to the penalties set forth in 38 MRSA, §349.

D. REPORTING REQUIREMENTS

1. Reporting requirements.

(a) Planned changes. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

(ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under Section D(4).

(iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;

(b) Anticipated noncompliance. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) Transfers. This permit is not transferable to any person except upon application to and approval of the Department pursuant to 38 MRSA, § 344 and Chapters 2 and 522.

(d) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(i) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Department for reporting results of monitoring of sludge use or disposal practices.

(ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Department.

(iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Department in the permit.

(e) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(f) Twenty-four hour reporting.

(i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance

has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(ii) The following shall be included as information which must be reported within 24 hours under this paragraph.

(A) Any unanticipated bypass which exceeds any effluent limitation in the permit.
(B) Any upset which exceeds any effluent limitation in the permit.
(C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit to be reported within 24 hours.

(iii) The Department may waive the written report on a case-by-case basis for reports under paragraph (f)(ii) of this section if the oral report has been received within 24 hours.

(g) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (d), (e), and (f) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (f) of this section.

(h) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

2. Signatory requirement. All applications, reports, or information submitted to the Department shall be signed and certified as required by Chapter 521, Section 5 of the Department's rules. State law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan or other document filed or required to be maintained by any order, rule, permit, approval or decision of the Board or Commissioner is subject to the penalties set forth in 38 MRSA, §349.

3. Availability of reports. Except for data determined to be confidential under A(9), above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by State law, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal sanctions as provided by law.

4. Existing manufacturing, commercial, mining, and silvicultural dischargers. In addition to the reporting requirements under this Section, all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Department 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 or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(i) One hundred micrograms per liter (100 ug/l);
(ii) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
(iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with Chapter 521 Section 4(g)(7); or
(iv) The level established by the Department in accordance with Chapter 523 Section 5(f).

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

(i) Five hundred micrograms per liter (500 ug/l);
(ii) One milligram per liter (1 mg/l) for antimony;
(iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with Chapter 521 Section 4(g)(7); or
(iv) The level established by the Department in accordance with Chapter 523 Section 5(f).

5. Publicly owned treatment works.

(a) All POTWs must provide adequate notice to the Department of the following:

(i) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA or Chapter 528 if it were directly discharging those pollutants.
(ii) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
(iii) For purposes of this paragraph, adequate notice shall include information on (A) the quality and quantity of effluent introduced into the POTW, and (B) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

(b) When the effluent discharged by a POTW for a period of three consecutive months exceeds 80 percent of the permitted flow, the permittee shall submit to the Department a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.

E. OTHER REQUIREMENTS

1. Emergency action - power failure. Within thirty days after the effective date of this permit, the permittee shall notify the Department of facilities and plans to be used in the event the primary source of power to its wastewater pumping and treatment facilities fails as follows.

(a) For municipal sources. During power failure, all wastewaters which are normally treated shall receive a minimum of primary treatment and disinfection. Unless otherwise approved, alternate power supplies shall be provided for pumping stations and treatment facilities. Alternate power supplies shall be on-site generating units or an outside power source which is separate and independent from sources used for normal operation of the wastewater facilities.

(b) For industrial and commercial sources. The permittee shall either maintain an alternative power source sufficient to operate the wastewater pumping and treatment facilities or halt, reduce or otherwise control production and or all discharges upon reduction or loss of power to the wastewater pumping or treatment facilities.

2. Spill prevention. (applicable only to industrial sources) Within six months of the effective date of this permit, the permittee shall submit to the Department for review and approval, with or without conditions, a spill prevention plan. The plan shall delineate methods and measures to be taken to prevent and or contain any spills of pulp, chemicals, oils or other contaminates and shall specify means of disposal and or treatment to be used.

3. **Removed substances.** Solids, sludges trash rack cleanings, filter backwash, or other pollutants removed from or resulting from the treatment or control of waste waters shall be disposed of in a manner approved by the Department.

4. **Connection to municipal sewer.** (applicable only to industrial and commercial sources) All wastewaters designated by the Department as treatable in a municipal treatment system will be cosigned to that system when it is available. This permit will expire 90 days after the municipal treatment facility becomes available, unless this time is extended by the Department in writing.

F. DEFINITIONS. For the purposes of this permit, the following definitions shall apply. Other definitions applicable to this permit may be found in Chapters 520 through 529 of the Department's rules

Average means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For bacteria, the average shall be the geometric mean.

Average monthly discharge limitation means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. Except, however, bacteriological tests may be calculated as a geometric mean.

Average weekly discharge limitation means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best management practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Composite sample means a sample consisting of a minimum of eight grab samples collected at equal intervals during a 24 hour period (or a lesser period as specified in the section on monitoring and reporting) and combined proportional to the flow over that same time period.

Continuous discharge means a discharge which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

Daily discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.

Discharge Monitoring Report ("DMR") means the EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by approved States as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

Flow weighted composite sample means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.

Grab sample means an individual sample collected in a period of less than 15 minutes.

Interference means a Discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

(1) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
(2) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Maximum daily discharge limitation means the highest allowable daily discharge.

New source means any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:

(a) After promulgation of standards of performance under section 306 of CWA which are applicable to such source, or
(b) After proposal of standards of performance in accordance with section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal.

Pass through means a discharge which exits the POTW into waters of the State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

Permit means an authorization, license, or equivalent control document issued by EPA or an approved State to implement the requirements of 40 CFR parts 122, 123 and 124. Permit includes an NPDES general permit (Chapter 529). Permit does not include any permit which has not yet been the subject of final agency action, such as a draft permit or a proposed permit.

Person means an individual, firm, corporation, municipality, quasi-municipal corporation, state agency, federal agency or other legal entity.

Point source means any discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft, from which pollutants are or may be discharged.

Pollutant means dredged spoil, solid waste, junk, incinerator residue, sewage, refuse, effluent, garbage, sewage sludge, munitions, chemicals, biological or radiological materials, oil, petroleum products or byproducts, heat, wrecked or discarded equipment, rock, sand, dirt and industrial, municipal, domestic, commercial or agricultural wastes of any kind.

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Publicly owned treatment works ("POTW") means any facility for the treatment of pollutants owned by the State or any political subdivision thereof, any municipality, district, quasi-municipal corporation or other public entity.

Septage means, for the purposes of this permit, any waste, refuse, effluent sludge or other material removed from a septic tank, cesspool, vault privy or similar source which concentrates wastes or to which chemicals have been added. Septage does not include wastes from a holding tank.

Time weighted composite means a composite sample consisting of a mixture of equal volume aliquots collected over a constant time interval.

Toxic pollutant includes any pollutant listed as toxic under section 307(a)(1) or, in the case of sludge use or disposal practices, any pollutant identified in regulations implementing section 405(d) of the CWA. Toxic pollutant also includes those substances or combination of substances, including disease causing agents, which after discharge or upon exposure, ingestion, inhalation or assimilation into any organism, including humans either directly through the environment or indirectly through ingestion through food chains, will, on the basis of information available to the board either alone or in combination with other substances already in the receiving waters or the discharge, cause death, disease, abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformations in such organism or their offspring.

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Whole effluent toxicity means the aggregate toxic effect of an effluent measured directly by a toxicity test.

DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: March 2012 **Contact: (207) 287-2811**

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's ("DEP") Commissioner: (1) in an administrative process before the Board of Environmental Protection ("Board"); or (2) in a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S.A. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S.A. § 480-HH(1) or a general permit for a tidal energy demonstration project (38 M.R.S.A. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

This INFORMATION SHEET, in conjunction with a review of the statutory and regulatory provisions referred to herein, can help a person to understand his or her rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

The laws concerning the DEP's *Organization and Powers*, 38 M.R.S.A. §§ 341-D(4) & 346, the *Maine Administrative Procedure Act*, 5 M.R.S.A. § 11001, and the DEP's *Rules Concerning the Processing of Applications and Other Administrative Matters* ("Chapter 2"), 06-096 CMR 2 (April 1, 2003).

HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written appeal within 30 days of the date on which the Commissioner's decision was filed with the Board. Appeals filed after 30 calendar days of the date on which the Commissioner's decision was filed with the Board will be rejected.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, c/o Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017; faxes are acceptable for purposes of meeting the deadline when followed by the Board's receipt of mailed original documents within five (5) working days. Receipt on a particular day must be by 5:00 PM at DEP's offices in Augusta; materials received after 5:00 PM are not considered received until the following day. The person appealing a licensing decision must also send the DEP's Commissioner a copy of the appeal documents and if the person appealing is not the applicant in the license proceeding at issue the applicant must also be sent a copy of the appeal documents. All of the information listed in the next section must be submitted at the time the appeal is filed. Only the extraordinary circumstances described at the end of that section will justify evidence not in the DEP's record at the time of decision being added to the record for consideration by the Board as part of an appeal.

WHAT YOUR APPEAL PAPERWORK MUST CONTAIN

Appeal materials must contain the following information at the time submitted:

1. *Aggrieved Status.* The appeal must explain how the person filing the appeal has standing to maintain an appeal. This requires an explanation of how the person filing the appeal may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions or conditions objected to or believed to be in error.* Specific references and facts regarding the appellant's issues with the decision must be provided in the notice of appeal.
3. *The basis of the objections or challenge.* If possible, specific regulations, statutes or other facts should be referenced. This may include citing omissions of relevant requirements, and errors believed to have been made in interpretations, conclusions, and relevant requirements.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.
5. *All the matters to be contested.* The Board will limit its consideration to those arguments specifically raised in the written notice of appeal.
6. *Request for hearing.* The Board will hear presentations on appeals at its regularly scheduled meetings, unless a public hearing on the appeal is requested and granted. A request for public hearing on an appeal must be filed as part of the notice of appeal.
7. *New or additional evidence to be offered.* The Board may allow new or additional evidence, referred to as supplemental evidence, to be considered by the Board in an appeal only when the evidence is relevant and material and that the person seeking to add information to the record can show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process or that the evidence itself is newly discovered and could not have been presented earlier in the process. Specific requirements for additional evidence are found in Chapter 2.

Other Considerations in Appealing a Decision to the Board

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, made easily accessible by DEP. Upon request, the DEP will make the material available during normal working hours, provide space to review the file, and provide opportunity for photocopying materials. There is a charge for copies or copying services.
2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer questions regarding applicable requirements.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed the license normally remains in effect pending the processing of the appeal. A license holder may proceed with a project pending the outcome of an appeal but the license holder runs the risk of the decision being reversed or modified as a result of the appeal.

What to Expect Once You File a Timely Appeal with the Board

The Board will formally acknowledge receipt of an appeal, including the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials accepted by the Board Chair as supplementary evidence, and any materials submitted in response to the appeal will be sent to Board members with a recommendation from DEP staff. Persons filing appeals and interested persons are notified in advance of the date set for Board consideration of an appeal or request for public hearing. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, a license holder, and interested persons of its decision.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court, see 38 M.R.S.A. § 346(1); 06-096 CMR 2; 5 M.R.S.A. § 11001; & M.R. Civ. P 80C. A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. Failure to file a timely appeal will result in the Board's or the Commissioner's decision becoming final.

An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S.A. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board's Executive Analyst at (207) 287-2452 or for judicial appeals contact the court clerk's office in which your appeal will be filed.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.