STATE OF MAINE

Department of Environmental Protection

Paul R. LePage
GOVERNOR

James Brooks
ACTING COMMISSIONER

May 26, 2011

Mr. John Civiello
Katahdin Paper Company LLC
50 Main Street
East Millinocket, Maine 04430-1128

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0000167
Maine Waste Discharge License (WDL) Application #W002227-5N-G-R
West Operation
Final Permit

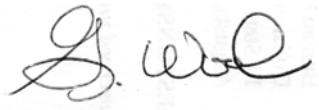
Dear Mr. Civiello:

Enclosed please find a copy of your **final** MEPDES permit and Maine WDL which was approved by the Department of Environmental Protection. Please read the permit/license and its attached conditions carefully. You must follow the conditions in the permit/license to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State Law and is subject to enforcement action.

Any interested person aggrieved by a Department determination made pursuant to applicable regulations, may appeal the decision following the procedures described in the attached DEP FACT SHEET entitled "*Appealing a Commissioner's Licensing Decision*."

If you have any questions regarding the matter, please feel free to call me at 287-7693.

Sincerely,



Gregg Wood
Division of Water Quality Management
Bureau of Land and Water Quality

Enc.
cc: Stakeholder Service List
Sandy Mojica, USEPA

Distribution List Name: Penobscot River Stakeholders

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

DEPARTMENT ORDER

IN THE MATTER OF

KATAHDIN PAPER COMPANY LLC	)	MAINE POLLUTANT DISCHARGE
MILLINOCKET, PENOBSCOT COUNTY, ME.	)	ELIMINATION SYSTEM PERMIT
PAPER MANUFACTURING FACILITY	)	AND
WEST OPERATION		
ME0000167	)	WASTE DISCHARGE LICENSE
W002227-5N-G-R **APPROVAL**	)	**RENEWAL**

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, Section 1251, *et. seq*. and *Conditions of Licenses*, 38 M.R.S.A., Section 414-A *et seq*., and applicable regulations, the Department of Environmental Protection (Department hereinafter) has considered the application of the KATAHDIN PAPER COMPANY LLC (Katahdin/permittee hereinafter) with its supportive data, agency review comments, and other related material on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

Katahdin has filed a complete application with the Department to renew Waste Discharge License (WDL) #W002227-44-E-R which was issued by the Department on August 1, 1994, and expired on August 1, 1999. It is noted the 8/1/99 WDL was subsequently modified on August 26, 1996, via Department WDL Modification #W002227-44-F-M. The modification eliminated limitations and monitoring frequencies for pH, biochemical oxygen demand (BOD5) and total suspended solids (TSS) for Outfall #003.

Katahdin's Millinocket mill, commonly referred to as the West Operation, has the capacity to produce 650 tons per day of heavy weight paper or 520 tons per day of light weight paper The fiber furnishes include kraft pulp (≅25% of total furnish) and mechanical pulp (11% of total furnish) both purchased on the open market and groundwood pulp (64% of total furnish) supplied by its sister mill in East Millinocket, Maine. It is noted the West Operation was temporarily shutdown on September 3, 2008, due to market conditions and high energy costs.

PERMIT SUMMARY

On January 12, 2001, the Department received authorization from the U.S. Environmental Protection Agency (EPA) to administer the National Pollutant Discharge Elimination System (NPDES) program in Maine excluding areas of special interest to Maine Indian Tribes. On October 30, 2003, after consultation with the U.S. Department of Justice, USEPA extended Maine's NPDES program delegation to all but tribally owned lands. From that point forward, the program has been referred to as the MEPDES program and will utilize a permit number of #ME0000167 (same as the NPDES permit) as a reference number for Katahdin's MEPDES permit. Issuance of this MEPDES permit will supersede the NPDES permit issued by the USEPA on September 30, 1997. Once superseded, all terms and conditions of the NPDES permit are null and void.

This permit is significantly different than the WDL #W002227-44-E-R dated August 1, 1994 and subsequent 8/26/96 WDL modification in that it is:

1. Eliminating the monthly average and or daily maximum technology based mass and concentration limits for chromium and zinc for Outfall #001.

2. Establishing a year-round monthly average water quality based mass limitation for total phosphorus for Outfall #001.

3. Establishing a year-round temperature limit of 100°F for Outfall #001.

4. Establishing more stringent year-round monthly average and daily maximum best practicable treatment (BPT) mass limitations for biochemical oxygen demand (BOD) and total suspended solids (TSS) for Outfall #001.

5. Modifying the whole effluent toxicity (WET) and chemical specific testing requirements based on revised Department rules promulgated on October 12, 2005.

6. Establishes monthly average water quality based mass and concentration limits for bis(2-ethylhexyl)phthalate, total copper, total lead and total silver.

7. Establishing a requirement to maintain an up-to-date Operations & Maintenance (O&M) plan for the waste water treatment facility.

8. Eliminating the following outfalls:

   002B-M1S2 – Uncontaminated turbine condenser cooling water.
   003A-Boiler house waste water.
   007A – E&R/Admin building air conditioning
   010A – Grinder turbine packing cooling water.

PERMIT SUMMARY (cont'd)

9. Eliminating the limitations and monitoring requirements for Outfall #009.

10. Eliminating the thermal mixing zone originally established in the 5/4/88 WDL.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet dated March 29, 2011, and subject to the Conditions listed below, 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 national 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 KATAHDIN PAPER COMPANY LLC, to discharge up to a monthly average of 43 million gallons per day (MGD) of treated process and other miscellaneous waste waters associated with the papermaking process and up to a daily maximum of 60 MGD of cooling waters and storm water from various areas of the mill complex to the Millinocket Stream, Class C, 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 the this permit, the terms and conditions of the 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 SHEET FOR GUIDANCE ON APPEAL PROCEDURES

This permit is digitally signed by Teco Brown on behalf of Acting Commmissioner James P. Brooks. It is digitally signed pursuant to 10 M.R.S.A. § 9418. It has been filed with the Board of Environmental Protection as of the signature date.
2011.05.26 16:00:29 -04'00'

Date of initial receipt of application December 18, 2000.
Date of application acceptance December 26, 2000.

This order prepared by GREGG WOOD, BUREAU OF LAND AND WATER QUALITY
ME0000167 2011 5/22/11

SPECIAL CONDITION

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. **Beginning the effective date of this permit and lasting through the commencement of operations**, (See Special Condition M, *Commencement of Operations* of this permit), the permittee is authorized to discharge secondary treated waste waters from **OUTFALL #001** to Millinocket Stream. Such discharges shall be limited and monitored by the permittee when discharging from **May 1st to November 30th** of each year (unless otherwise specified) as follows. 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).

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
Flow (MGD) *[50050]*	---	43 MGD*[03]*	---	---	---	1/Week *[01/07]*	Recorder*[RC]*
BOD_5 *[00310]*	7,865 lbs/day	15,130 lbs/day	---	---	---	1/Week *[01/07]*	Grab *[GR]*
TSS *[00530]*	11,780 lbs/day *[26]*	21,950 lbs/day *[26]*	---	---	---	1/Week *[01/07]*	Grab *[GR]*
Total Phosphorus(1) *[00665]*	36 lbs/day *[26]*	Report lbs/day*[26]*	Report mg/L *[19]*	---	Report mg/L *[19]*	---	---
pH (Std. Unit) *[00400]*	---	--	---	---	5.0 – 9.0 SU *[12]*	1/Week *[01/01]*	Grab *[GR)*

SPECIAL CONDITION

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. **Beginning upon the commencement of operations** (See Special Condition M, *Commencement of Operations* of this permit), the permittee is authorized to discharge secondary treated waste waters from **OUTFALL #001** to Millinocket Stream. 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 (DMRs).

Effluent Characteristic	Discharge Limitations					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
Flow *[50050]*	Report MGD*[03]*	43 MGD*[03]*	---	---	---	Continuous *[99/99]*	Recorder*[RC]*
BOD_5 *[00310]*	7,865 lbs/day *[26]*	15,130 lbs/day *[26]*	---	---	---	1/Day *[01/01]*	Composite *[24]*
TSS *[00530]*	11,780 lbs/day *[26]*	21,950 lbs/day *[26]*	---	---	---	1/Day *[01/01]*	Composite *[24]*
Temperature *[00011]*							
June 1 – September 30	---	---	---	---	100°F *[15]*	1/Day *[01/01]*	Measure *[MS]*
October 1 – May 31	---	---	---	---	100 °F *[15]*	1/Week *[01/07]*	Measure *[MS]*
Total Phosphorus**(1)** *[00665]*							
(June 1 – September 30)	36 lbs/day	Report lbs/day	Report mg/L	---	Report mg/L	1/Week *[01/07]*	Composite
(October 1 – May 31)	36 lbs/day*[26]*	Report lbs/day *[26]*	Report mg/L *[19]*	---	Report mg/L *[19]*	1/Month *[01/30]*	Composite *[24]*
pH (Std. Unit) *[00400]*	---	--	---	---	5.0 – 9.0 SU**(2)** *[12]*	Continuous *[99/99]*	Grab *[GR]*

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd) – OUTFALL #001

SURVEILLANCE LEVEL **- Beginning upon commencement of operations** and lasting until 12 months prior to permit expiration.

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity(3)						
Acute – NOEL						
Ceriodaphnia dubia (Water flea) *[TDA3B]*	---	---	---	Report % *[23]*	1/2 Years*[01/2Y]*	Composite *[24]*
Salvelinus fontinalis (Brook trout) *[TDA6F*	---	---	---	Report % *[23]*	1/2 Years*[01/2Y]*	Composite *[24]*
Chronic – NOEL						
Ceriodaphnia dubia (Water flea) *[TDA3B]*	---	---	---	Report %*[23]*	1/2 Years*[01/2Y]*	Composite *[24]*
Salvelinus fontinalis (Brook trout) *[TDA6F]*	---	---	---	Report % *[23]*	1/2 Years *[01/2Y]*	Composite *[24]*
Analytical chemistry **(4,5)** *[51168]*	---	---	---	Report ug/L *[28]*	1/2 Years *[01/2Y]*	Composite/Grab *[24]*

SCREENING LEVEL **-** Beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter.

	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Whole Effluent Toxicity(3)						
Acute – NOEL						
Ceriodaphnia dubia (Water flea) *[TDA3B]*	---	---	---	Report % *[23]*	2/Year*[02/YR]*	Composite *[24]*
Salvelinus fontinalis (Brook trout) *[TDA6F*	---	---	---	Report % *[23]*	2/Year*[02/YR]*	Composite *[24]*
Chronic – NOEL						
Ceriodaphnia dubia (Water flea) *[TDA3B]*	---	---	---	Report %*[23]*	2/Year*[02/YR]*	Composite *[24]*
Salvelinus fontinalis (Brook trout) *[TDA6F]*	---	---	---	Report % *[23]*	2/Year *[02/YR]*	Composite *[24]*
Analytical chemistry **(4,5)** *[51168]*	---	---	---	Report ug/L *[28]*	1/Quarter *[01/90]*	Composite/Grab *[24]*
Priority Pollutant **(5)** *[50008]*	---	---	---	Report ug/L *[28]*	1/Year *[01/YR]*	Composite/Grab *[24]*

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS(cont'd) – OUTFALL #001

Beginning upon the commencement of operations

Effluent Characteristic	**Discharge Limitations**						**Minimum Monitoring Requirements**	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
Bis(2-ethylhexyl)phthalate ***[39100]***	7.7 lbs./day *[26]*	---	---	43 ug/L *[28]*	---	---	2/Year *[02/YR]*	Composite *[24]*
Copper (Total) ***[01042]***	2.7 lbs./day *[26]*	---	3.2 lbs./day *[26]*	15 ug/L *[28]*	---	18 ug/L *[28]*	2/Year *[02/YR]*	Composite *[24]*
Lead (Total) ***[01051]***	2.7 lbs./day *[26]*	---	---	15 ug/L *[28]*	---	---	2/Year *[02/YR]*	Composite *[24]*
Silver (Total) ***[01077]***	---	---	1.9 lbs./day *[26]*	---	---	11 ug/L *[28]*	2/Year *[02/YR]*	Composite *[24]*

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. The permittee is authorized to discharge **turbine condenser cooling waters** via **OUTFALL #002** to Millinocket Stream. Beginning upon the commencement of operations, waste water discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow *[50050]*	---	20 MGD *[03]*	---	---	1/Quarter *[01/90]*	Measure *[MS]*
Temperature *[00011]*						
June 1 – September 30	---	---	---	106°F *[15]*	1/Day *[01/01]*	Measure *[MS]*
October 1 – May 31	---	---	---	106°F *[15]*	1/Week *[01/07]*	Measure *[MS]*
pH (Std. Unit) *[00400]*	---	---	---	6.0 – 8.5 SU *[12]*	1/Discharge Day *[01/DD]*	Grab**(6)** *[GR]*

3. The permittee is authorized to discharge **turbine condenser cooling waters** via **OUTFALL #020** to Millinocket Stream. Beginning upon the commencement of operations, waste water discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow *[50050]*	---	40 MGD *[03]*	---	---	1/Quarter *[01/90]*	Measure *[MS]*
Temperature *[00011]*						
June 1 – September 30	---	---	---	125°F *[15]*	1/Day *[01/01]*	Measure *[MS]*
October 1 – May 31	---	---	---	125°F *[15]*	1/Week *[01/07]*	Measure *[MS]*
pH (Std. Unit) *[00400]*	---	---	---	6.0 – 8.5 SU *[12]*	1/Discharge Day *[01/DD]*	Grab**(6)** *[GR]*

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

4. **OUTFALL #002C (Administrative Outfall)** designated to track the collective thermal discharge to the receiving water. Beginning upon the commencement of operations, thermal discharges (from Outfall #001, #002 and #020 collectively) shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Discharge Limitations					Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	Measurement Frequency	Sample Type
River Temperature Increase *June 1 – September 30*	---	---	---	0.5 °F **(7a)** *[15]*	---	1/Day *[01/01]*	Calculate *[CA]*
River Temperature Increase *June 1 – September 30*	---	---	---	---	0.5 °F **(7b)** *[15]*	1/Day *[01/01]*	Calculate *[CA]*

5. **OUTFALL #009 – Trash Screen Shower Water** – The permittee is authorized to discharge trash screen shower waters from this outfall. No limitations or monitoring requirements are being established for this outfall.

SPECIAL CONDITIONS

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

Outfall #001 - Secondary treated waste waters

Footnotes:

Monitoring – All effluent monitoring shall be conducted at a location following the last treatment unit in the treatment process as to be representative of end-of-pipe effluent characteristics. Any change in sampling location must be approved by the Department in writing.

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 for waste water testing. Samples that are sent to a 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) **Total phosphorus** – See **Attachment B** of this permit for a Department protocol.

(2) **pH** – The total time during which the pH values may be outside the range of 5.0 – 9.0 standard units shall not exceed 7 hours and 26 minutes in any calendar month and no individual excursion from said pH range shall exceed 60 minutes.

(3) **Whole effluent toxicity (WET) testing** – Definitive WET testing is a multi-concentration testing event [a minimum of five dilutions bracketing the critical acute and chronic dilution of 3.3% and 3.0% respectively], which provides a point 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.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Footnotes:

a. Surveillance level testing – Beginning upon the effective date of this permit, the permittee shall conduct surveillance level WET testing on the water flea and the brook trout at a frequency of once every other year (1/2 Years).

b. **Screening level testing** - Beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter, the permittee shall conduct screening level WET testing at a minimum frequency of twice per year (2/Year) on the water flea and the brook trout.

Once received by the permittee, test results must be submitted to the Department not later than the next Discharge Monitoring Report (DMR) required by the permit, provided, however, the permittee may review the toxicity reports for up to 10 business days after receiving the test results from the laboratory conducting the testing before 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 3.3% and 3.0%, respectively. See **Attachment C** of this permit for a copy of the Department's WET report form.

Toxicity tests must be conducted by an experienced laboratory approved by the Department. The laboratory must follow procedures as described in the following USEPA methods manuals.

a. 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.

b. 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.

The permittee is also required to analyze the effluent for the parameters specified in the WET chemistry section, and the parameters specified in the analytical chemistry section of the form in **Attachment A** of this permit each time a WET test is performed.

4. **Analytical Chemistry** – Refers to a suite of chemical tests in **Attachment A** of the permit.

a. **Surveillance level testing** – Beginning upon the effective date of this permit, the permittee shall conduct analytical chemistry testing at a frequency of once every other year (1/2 Years).

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Footnotes:

b. **Screening level testing** - Beginning 12 months prior to permit expiration and lasting through permit expiration and every five years thereafter, the permittee shall conduct screening level analytical chemistry testing at a frequency of 1/Quarter for four consecutive calendar quarters.

Analytical chemistry and priority pollutant testing shall be conducted on samples collected at the same time as those collected for whole effluent toxicity tests, when applicable, and shall be conducted using methods that license detection of a pollutant at existing levels in the effluent or that achieve the most current minimum reporting levels of detection as specified by the Department.

Once received by the permittee, analytical chemistry and priority pollutant 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 laboratory reports for up to 10 business days after receiving the test results from the laboratory conducting the testing before 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 Chapter 584. For the purposes of DMR reporting, enter a "1" for yes, testing done this monitoring period or "NODI-9" monitoring not required this period.

5. **Priority Pollutant Testing –** Priority pollutant testing refers to analysis for levels of priority pollutants listed in **Attachment A** of this permit. Screening level testing shall be conducted once per year (1/Year) beginning 12 months prior to permit expiration and every five years thereafter. Surveillance level priority pollutant testing is not required pursuant to Department rule 06-096 CMR Chapter 530 Section 2.D.

Outfall #002 and #020– Turbine condenser cooling waters

6. **pH -** Outfall 002 specifies pH sample type as a grab but the permittee has the option of installing and utilizing continuous monitoring if desired. If continuous monitoring is used the criteria specified in footnote #2 of this permit is applicable. The pH of the effluent shall not be more than 0.5 standard units outside the background (precipitation/ambient receiving water) pH.

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Footnotes:

Outfall #002C – Administrative outfall

7. **River Temperature Increase (RTI)**

   (a) **Temperature Increase** (Increase of the ambient receiving water temperature) – This is a weekly rolling average limitation when the weekly rolling average receiving water temperature is ≥66°F and <73°F. See Special Condition G, *River Temperature Increase (RTI)*, of this permit for the equation to calculate the RTI.

   (b) **Temperature Increase** (Increase of the ambient receiving water temperature) - This is a daily maximum limitation when the receiving water temperature is ≥73°F. See Special Condition G, *River Temperature Increase(RTI),* of this permit for the equation to calculate the RTI.

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain a visible oil sheen, foam, or floating solids at any time which would impair the usages designated by the classification of the receiving waters.

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 by the classification of the receiving waters.

3. The effluent shall not cause visible discoloration or turbidity in the receiving water which would impair the usages designated by the classification of the receiving waters.

4. Notwithstanding specific conditions of the 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.

5. The permittee shall not use chlorophenolic-containing biocides.

C. 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 December 18, 2000; 2) the terms and conditions of this permit, and 3) only from outfalls authorized by this permit. Discharges of wastewater from any other point source are not authorized under this permit, and shall be reported in accordance with Standard Condition B(5), *Bypasses*, of this permit.

SPECIAL CONDITIONS

D. 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.

E. OPERATION & MAINTENANCE (O&M) PLAN

The waste water treatment facility at the permittee's facility shall have 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 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 process changes or minor equipment upgrades, 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 O&M Plan to their Department inspector for review and comment.

F. TREATMENT PLANT OPERATOR

The person who has the management responsibility over the treatment facility must hold a minimum of 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.

SPECIAL CONDITIONS

G. RIVER TEMPERATURE INCREASE (RTI)

Between June 1st and September 30th of each year when the ambient receiving water temperature is ≥66°F and <73°F, the permittee is limited to a thermal discharge that will not increase the ambient receiving water temperature by more than 0.5°F based on a weekly (7 days) rolling average calculation. When the ambient receiving water temperature is ≥73°F, the permittee is limited to a thermal discharge that will not increase the ambient receiving water temperature by more than 0.5°F based on a daily calculation. For each operating day during the applicable period, the permittee shall calculate the River Temperature Increase (RTI) associated with the collective thermal discharge from Outfalls #001, #002 and #020 according to the following equation:

$$RTI\ (^{o}F) = \frac{Qe_{001}\,(Te_{001} - Tr) + Qe_{002}\,(Te_{002} - Tr) + Qe_{020}\,(Te_{020} - Tr)}{Qr}$$

where,

Qr = Ambient receiving water flow in gpd or MGD (must be like units as Qe)
Qe = Effluent flow in gpd or MGD (must be like units as Qr)
Te = Effluent temperature in ^{o}F
Tr = Ambient receiving water (mill intake) temperature in ^{o}F

Receiving water flow measurements (Qr) shall be obtained from a source/methodology approved by the Department. The permittee shall adhere to mathematical protocols for significant figures and rounding the calculated RTI values. All RTI values reported to the Department on the monthly Discharge Monitoring Reports (DMRs) for compliance with the weekly rolling average and daily maximum ΔT limitations of 0.5°F, shall be rounded to the nearest 0.1°F. As an attachment to the monthly DMRs for June – September of each year, the permittee shall submit the daily values for Qr, Qe, Te and Tr in the terms of the equation above.

H. MERCURY

All mercury sampling (4/Year) required by this permit or 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 1631, Determination of Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Fluorescence Spectrometry. See **Attachment D,** *Effluent Mercury Test Report*, of this permit for the Department's form for reporting mercury test results.

I. ANNUAL AMBIENT WATER QUALITY MONITORING

Between July 1 and September 30 of each year, the permittee is required to participate in the monitoring of ambient water quality on the Penobscot River pursuant to a Department prepared monitoring plan. The total cost to the permittee for the monitoring program shall not exceed a five-year (term of the permit) cap of $5,000.

SPECIAL CONDITIONS

J. 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 G** 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 hauled wastes accepted by the facility.

The Department reserves the right to reinstate annual (surveillance level) testing or other 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.

K. 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 postmarked on or before the thirteenth (13^{th}) day of the month 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 address:

Maine Department of Environmental Protection
Eastern Maine Regional Office
Bureau of Land & Water Quality
Division of Water Quality Management
106 Hogan Road
Bangor, ME. 04401

SPECIAL CONDITIONS

K. 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 postmarked on or before the thirteenth (13th) day of the month 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.

L. COMMENCEMENT OF OPERATIONS

Should the permittee or a new owner propose to resume operation of the mill, the permittee or new owner/operator must meet with the Department's permitting and compliance inspection staff **at a minimum of ninety (90) days prior to commencing production/operations** at the facility to review the applicability of the permit limitations, monitoring requirements, and reporting requirements. Should the Department determine that the proposed production/operations are significantly different from what was presented in past application materials or subsequently revised and included in permitting actions, the Department may require the applicable party to modify this permit or to file an application for a new permit. In addition, pursuant to Department Rule, Chapter 2, *Rules Concerning the Processing of Applications and Other Administrative Matters*, Section 21, *License Renewals, Amendments and Transfers,* Sub-section C, *Transfers*, a transferee must make application to the Department no later than two (2) weeks after transfer of ownership or entering into a lease agreement to conduct business on said property. Pending determination on the application for approval of transfer the transferee shall abide by all of the conditions of this permit, and is jointly or severally liable with the permittee for any violation of the terms and conditions thereof.

M. 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.

SPECIAL CONDITIONS

N. 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 remain 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 #** _____ Facility Representative Signature _____
Pipe # _____ 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
This form is for reporting laboratory data and facility information. Official compliance reviews will be done by DEP.

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.

ATTACHMENT C

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 D

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

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
AND
MAINE WASTE DISCHARGE LICENSE

FACT SHEET

Date: March 29, 2011

PERMIT NUMBER: **ME0000167**
LICENSE NUMBER: **W002227-5N-G-R**

NAME AND ADDRESS OF APPLICANT

KATAHDIN PAPER COMPANY LLC
50 Main Street
East Millinocket, Maine 04430-1128

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Millinocket Mill (West Operation)
One Katahdin Avenue
Millinocket, Maine

COUNTY: **Penobscot County**

RECEIVING WATER/CLASSIFICATION: **Millinocket Stream/Class C**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. John Civiello**
Sr. Environmental Tech.
(207) 723-2278
e-mail: civiellojt@katahdinpaper.com

1. APPLICATION SUMMARY

a. Application: Katahdin Paper Company LLC (Katahdin/permittee hereinafter) has filed a complete application with the Department to renew Waste Discharge License (WDL) #W002227-44-E-R which was issued by the Department on August 1, 1994, and expired on August 1, 1999. It is noted the 8/1/99 WDL was subsequently modified on August 26, 1996 via Department WDL Modification #W002227-44-F-M. The modification eliminated limitations and monitoring frequencies for pH, biochemical oxygen demand (BOD5) and total suspended solids (TSS) for Outfall #003. The permittee is seeking to obtain a combination Maine Pollutant Discharge Elimination System (MEPDES) permit and Waste Discharge License (WDL) to discharge up to a daily maximum of 43 million gallons per day (MGD) of treated process and other miscellaneous waste waters associated with the papermaking process and up to a daily maximum of 60 MGD of cooling waters and storm water from various areas of the mill complex to Millinocket Stream.

1. APPLICATION SUMMARY (cont'd)

b. Source description – Katahdin's Millinocket mill, commonly referred to as the West Operation, has the capacity to produce 650 tons per day of heavy weight paper or 520 tons per day of light weight paper The fiber furnishes include kraft pulp (≅25% of total furnish) and mechanical pulp (11% of total furnish) both purchased on the open market and groundwood pulp (64% of total furnish) supplied by its sister mill in East Millinocket, Maine. It is noted the West Operation was temporarily shutdown on September 3, 2008, and continues to be shutdown as of the date of this permitting action, due to market conditions and high energy costs.

See **Attachment B** of this Fact Sheet for a schematic of the mill's manufacturing process.

c. Waste Water treatment - The process waste waters from the facility receive a secondary level of treatment via bar screens, primary sedimentation, nutrient addition, a six (6) acre intermediate settling lagoon that provides for a two-day detention time, and a twenty one (21) acre aerated stabilization lagoon that provides for a ten-day detention time before being discharged to Millinocket Stream. The outfall pipe for the process waste waters (Outfall #001) extends out into the middle of the receiving waters and the end of the pipe is fitted with a diffuser. The diffuser is covered by approximately five feet of water during normal flow conditions in the receiving waters.

In addition to process waste waters discharges, the 8/1/94 WDL contained the following outfalls:

002A-M1S2 Uncontaminated turbine condenser cooling water.

002B-M1S2 Uncontaminated surface condenser cooling water from recovery.

002C-M1S3 Uncontaminated turbine condenser cooling water and uncontaminated surface condenser cooling water from recovery.

003A Boiler house wastewater.

007A E & R building/Administration building air conditioning.

008A Grinder stone pressure water.

009A Trash screen shower water.

010A Grinder turbine packing cooling water.

1. APPLICATION SUMMARY (cont'd)

Outfall #020A - Uncontaminated turbine condenser cooling water.

Outfalls #002A & 002C in the 8/1/94 WDL were combined into one outfall in the 9/30/97 NPDES permitting action and was designated as Outfall #020A. To be consistent with the NPDES permit, this permitting action is also assigning an Outfall number of #020. The 9/30/97 NPDES permit limited the discharge to a daily maximum of 40 MGD. The discharges do not receive any treatment as they are uncontaminated except for heat. The permittee has indicated Outfall #002B is no longer in service and should be removed from the permit.

Outfall #009 - Trash screen shower water

This outfall is the only other active outfall at the Millinocket mill. The flow was limited to a daily maximum of 0.5 MGD.

2. PERMIT SUMMARY

a. Regulatory - On January 12, 2001, the Department received authorization from the U.S. Environmental Protection Agency (EPA) to administer the National Pollutant Discharge Elimination System (NPDES) program in Maine excluding areas of special interest to Maine Indian Tribes. On October 30, 2003, after consultation with the U.S. Department of Justice, USEPA extended Maine's NPDES program delegation to all but tribally owned lands. From that point forward, the program has been referred to as the MEPDES program and will utilize a permit number of #ME0000167 (same as the NPDES permit) as a reference number for Katahdin's MEPDES permit. Issuance of this MEPDES permit will supersede the NPDES permit issued by the USEPA on September 30, 1997. Once superseded, all terms and conditions of the NPDES permit are null and void.

a. Terms & conditions – This permit is significantly different than the WDL #W002227-44-E-R dated August 1, 1994 and subsequent 8/26/96 WDL modification in that it is:

1. Eliminating the monthly average and or daily maximum technology based mass and concentration limits for chromium and zinc for Outfall #001.

2. Establishing a year-round monthly average water quality based mass limitation for total phosphorus for Outfall #001.

3. Establishing a year-round temperature limit of 100°F for Outfall #001.

4. Establishing more stringent year-round monthly average and daily maximum best practicable treatment (BPT) mass limitations for biochemical oxygen demand (BOD) and total suspended solids (TSS) for Outfall #001.

2. PERMIT SUMMARY (cont'd)

5. Modifying the whole effluent toxicity (WET) and chemical specific testing requirements based on revised Department rules promulgated on October 12, 2005.

6. Establishes monthly average water quality based mass and concentration limits for bis(2-ethylhexyl)phthalate, total copper, total lead and total silver.

7. Establishing a requirement to maintain an up-to-date Operations & Maintenance (O&M) plan for the waste water treatment facility.

8. Eliminating the following outfalls:

   002B-M1S2 – Uncontaminated turbine condenser cooling water.
   003A-Boiler house waste water.
   007A – E&R/Admin building air conditioning
   010A – Grinder turbine packing cooling water.

9. Eliminating the limitations and monitoring requirements for Outfall #009.

10. Eliminating the thermal mixing zone originally established in the 5/4/88 WDL.

c. History: The most current relevant regulatory actions include the following:

May 4, 1988 – The Department issued WDL #W002227-44-B-R to Great Northern Paper Inc. for a five-year term. It is noted this licensing action established a mixing zone for the discharge of heat.

July 10, 1992 – The EPA issued NPDES permit #ME0000167 to Great Northern Paper Inc. for a five-year term.

August 1, 1994 – The Department issued WDL #W002227-44-E-R to Bowater/Great Northern Paper Inc. for a five-year term.

February 8, 1995 – The Department modified the 8/1/94 WDL to incorporate the terms and conditions of Department rule Chapter 530.5 pertaining to chemical specific and whole effluent toxicity (WET) testing.

August 26, 1996 – The Department issued WDL modification #W002227-44-F-M. The modification reduced the monitoring frequency for BOD, TSS and pH for Outfall #003.

September 12, 1997 – The Department issued a CWA Section 401 Water Quality Certification for a 8/6/97 draft NPDES permit for the Millinocket mill.

September 30, 1997 - The EPA issued NPDES permit #ME0002003 to Great Northern Paper Inc. for a five-year term.

2. PERMIT SUMMARY (cont'd)

December 18, 2000 – Great Northern Paper Inc. submitted a complete application to the Department to renew the WDL.

May 23, 2000 – The Department administratively modified the 8/1/94 WDL by establishing interim mean and maximum technology based concentration limitations of 12.4 ng/L and 18.6 ng/L, respectively for mercury.

April 28, 2003 – The Department issued a License Transfer document that transferred all permits and licenses held by Great Northern Paper Inc. to Katahdin Paper Company LLC.

May 2004 – The Millinocket mill resumed production.

October 12, 2005 - The Department promulgated rules, Chapter 530, *Surface Water Toxics Control Program* and Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants.*

April 10, 2006 – The Department modified the 8/1/94 WDL to incorporate the terms and conditions of Department rules Chapter 530 and Chapter 584 pertaining to chemical specific and whole effluent toxicity (WET) testing.

September 3, 2008 - The Millinocket mill ceased production due to market conditions and high energy costs

December 29, 2008 – The Department issued a minor revision to the licensee that reduced the monitoring frequencies for a number of parameters in the WDL due to the shutdown of the mill.

3. RECEIVING WATER QUALITY STANDARDS

Maine law, 38 M.R.S.A. §467(7)(C)(2)(d) states that Millinocket Stream from the confluence of the West Branch Canal to its confluence with the West Branch of the Penobscot River is classified as a Class C waterway. Maine law, 38 M.R.S.A., §465(4) describes the classification standards for Class C waters.

Maine law 38 M.R.S.A. §465(4)(B) (as amended via P.L. 2005, Chapter 409) 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:

3. RECEIVING WATER QUALITY STANDARDS (cont'd)

(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.

Maine law 38 M.R.S.A. §465(4) (as amended via P.L. 2005, Chapter 409) 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:

(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.

3. RECEIVING WATER QUALITY STANDARDS (cont'd)

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.

4. RECEIVING WATER QUALITY CONDITIONS

The 8/1/94 WDL for the Millinocket mill contained a Special Condition C, *Dolby Impoundment,* with the following text;

The licensee shall investigate the extent to which dissolved oxygen deficits in the Dolby impoundment are due to discharges from the Millinocket mill. On or before December 31, 1994, the licensee shall submit to the Department for review and approval, a scope of work for the investigation. The results of the investigation and a discussion of possible corrective actions shall be submitted to the Department with the next renewal of the waste discharge license for the Millinocket mill.

On December 29, 1994, Great Northern Paper Inc. submitted the results of the Dolby Pond impoundment study. Finding #1 of the study states in part " *DO deficiencies continue to exist in the old stream channel at depths greater than 20-25 feet from June through August when the water column is thermally stratified. Refer to locations A, B, and C, The profiles appear to deteriorate in September as the water column temperatures drop."* Finding #2 states *"DO stratification at other locations in the pond, including the channel, either do not exist or are much less pronounced, and DO levels measured are above Class C standard. Refer to locations D, E, F."* See Attachment C of this Fact Sheet for a copy of a diagram showing the location of stations A-F cited in the 12/29/94 report.

The Department has determined that the areas of the Dolby Impoundment that have historically not met Class C dissolved oxygen standards (Stations A, B, and C) are both topographically isolated (deep hole) and thermally stratify during the summer months. In accordance with Maine law 38 MRSA 464(13), measurements are not to be taken in these areas to determine compliance with Class C dissolved oxygen standards.

4. RECEIVING WATER QUALITY CONDITIONS (cont'd)

In the summers of 1997, 2001 and 2007, the Department conducted ambient water quality sampling on a 103-mile segment of the Penobscot River from Millinocket to Bucksport. Reports entitled, *Penobscot River Modeling Report, Final, June 2000*, *Penobscot River Data Report May 2002*, and *Penobscot River Modeling Report Draft, March 2003*, prepared by the Department, indicate there are sections of non-attainment of dissolved oxygen standards as a result of algal blooms in portions of the Class B sections of the rivers. These sections of river have experienced measured DO non-attainment at various locations during periods of low flow and high water temperature. Measured DO non-attainment is predominantly in the early morning hours in sections of river with significant diurnal dissolved oxygen (DO) swings. These significant diurnal DO swings are caused by nutrient enrichment and resulting plant growth. The Department has issued a report entitled, *Penobscot River Phosphorus Waste Load Allocation, May 2011* recommending year-round mass based total phosphorus limits for Katahdin's West operation in Millinocket and seasonal mass based total phosphorus limitations are necessary for the three other industrial dischargers (Katahdin East, Lincoln Paper and Tissue and Red Shield) on the river as well as monitoring for total phosphorus for five municipal waste water treatment facilities (Bangor, Brewer, Millinocket, Old Town and Orono).

The primary objective of the phosphorus waste load allocation is to prevent in-stream total phosphorus (TP) from exceeding concentration thresholds that would result in non-attainment of the water quality standards for each class of water. The results presented in the Department's waste load allocation report entitled , *Penobscot River Phosphorus Waste Load Allocation, May 2011*, were derived from a conservative mass balance based analysis of all point sources and non-point sources at 7Q10 river flow conditions. The Department has developed draft nutrient criteria for rivers and streams, which recommend thresholds of 33 ug/l and 30 ug/l TP for Class C and Class B streams respectively. These concentrations were used as the basis for the derived waste load allocation. Additionally, the waste load allocation assumes that TP is a conservative pollutant, in the same manner that the Department evaluate toxics. The Department recognizes that there are periods of time where uptake/loss of phosphorus may occur, but significant losses are not predicted under steady state modeling of non-enriched conditions.

Effluent limitations and monitoring requirements are integral components of the Department's Adaptive Management approach to addressing non-attainment of water quality standards on the Penobscot River. The Department's phosphorus waste load allocation recommends year round monthly average TP mass limits for the Katahdin West operation and seasonal (June 1 – September 30) limits for the three remaining mills. The two Katahdin mills limits will be based on the full permitted flow and a concentration of 100 ug/l and the Lincoln Paper & Tissue mill and the Red Shield mill in Old Town will be based on the full permitted flow and a concentration of 500 ug/L. The limits for the Katahdin mills are more stringent than the other mills as they are located in the stretch of river that is particularly prone to algae (phytoplankton) blooms and the biological response to enrichment in Dolby Pond and the Mattaseunk impoundment is more similar to a lake-like system.

4. RECEIVING WATER QUALITY CONDITIONS (cont'd)

Lakes have a significantly lower threshold response to phosphorus. For the non-summer season (October 1 – May 31), the Katahdin East will not be subject to a limitation for TP but will be required to monitor TP on a 1/Month basis to track annual loadings of phosphorus to the Mattseunk impoundment. Additionally, the Town of Millinocket's waste water treatment facility (upstream from Dolby Pond) will be required to monitor for total phosphorus 2/Month during the period of June 1 – September 30 of each year and 1/Month during the non-summer season (October 1 – May 31).

Ambient water quality monitoring is also an integral component of an Adaptive Management approach to addressing non-attainment of water quality standards. The Department is requiring ambient monitoring of the river pursuant to Special Condition I, *Ambient Water Quality Monitoring*, of this permit during of periods of low flow. Periods of low flow will be considered to be times when the West Enfield Gage registers a flow less than 4,400 cfs. Additionally, the Department is requiring that a network of remote multi-probe sensors be deployed in the river during summer months to more accurately assess the true diurnal dissolved oxygen response to the phosphorus waste load allocation. The location of deployment for the remote sensors is intended to be somewhat flexible such that they can be moved around in a systematic approach to improve our understanding of the specific river response.

The Department is pursuing the waste load allocation because it is reasonably expected to address the dissolved oxygen non-attainment presently being experienced on the Penobscot River. The Department has a high level of confidence that implementation of a phosphorus waste load allocation will dramatically curtail phytoplankton growth, to the point where it will be a negligible influence on dissolved oxygen. The specific eutrophication related responses that are targeted by the waste load allocation are not expected to persist into the tidally influenced portion of the Penobscot River. However, water quality improvements associated with the waste load allocation are expected to extend into the tidally influenced section of the river.

Should future ambient water quality monitoring indicate water quality standards are not being achieved and the permittee is causing or contributing to the non-attainment, this permit may be reopened pursuant to Special Condition N, *Reopening of Permit For Modifications*, to establish additional limitations and or monitoring requirements to achieve applicable water quality standards.

A report entitled 2008 *Integrated Water Quality Monitoring and Assessment Report* prepared by the Department pursuant to Section 305b of the Clean Water Act lists all freshwaters in Maine in "*Category 4-A: Rivers and Streams With Impaired Use, TMDL Completed.* 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. The Report states that a

4. RECEIVING WATER QUALITY CONDITIONS (cont'd)

regional scale TMDL has been approved. In addition, pursuant to Maine law, 38 M.R.S.A. §420(1-B)(B), *"a facility is not in violation of the ambient criteria for mercury if the facility is in compliance with an interim discharge limit established by the Department pursuant to section 413 subsection 11."* The Department has established interim monthly average and daily maximum mercury concentration limits for this facility. See the discussion on compliance in section 5(i) of this Fact Sheet.

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

Outfall #001 – Secondary treated process waters

a. Regulatory Basis: The discharge from the permittee's facility 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 permittee's facility are limited to Subpart K, *Fine and Lightweight Papers From Purchased Pulp 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 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.

Maine law, 38 M.R.S.A. Section 414-A, requires that the effluent limitations prescribed for discharges require application of best practicable treatment, be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, Maine law, 38 M.R.S.A., Section 420 and Department rules Chapter 530, *Surface Water Toxics Control Program*, and Chapter 584, *Surface Water Quality Criteria For Toxic Pollutants,* requires the regulation of toxic substances at the levels set forth in said rules.

b. Production: Correspondence with the permittee in March of calendar year 2011 indicates production levels at the Millinocket mill were 480 air-dried tons/day (ADTPD) in 2005. The permittee has indicated a new business plan for the Millinocket mill will result in the facility having the capacity to produce up to 650 tons/day of heavy weight paper or 520 tons per day of light weight paper. The permittee has indicated that for the term of this permit (taking into consideration potential future production increases) an appropriate production for calculating limitations based on the applicable NEG's is 650 ADTPD.

5. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

Outfall #001 – Secondary treated process waters

c. Flow: The 8/1/94 WDL established a daily maximum flow limitation for process waste waters of 43 MGD that is being carried forward in this permitting action. The 9/30/97 NPDES permit issued by the USEPA established a daily maximum limit of 35.0 MGD. The 12/18/00 application (most current) submitted to the Department indicates the daily maximum flow discharged for the years 1998-2000 was 28.0 MGD, the highest 30-day average was 22.4 MGD and the long term average for said period was 20.1 MGD.

A review of the monthly Discharge Monitoring Report (DMR) data for the period January 2007 – August 2008 (shutdown thereafter) indicates flows have been reported as follows

Flow

Value	Limit (MGD)	Range (MGD)	Mean (MGD)
Monthly Average	43.0	10.6 – 15.8	12.8
Daily Maximum	Report	13.8 – 19.0	16.2

d. Dilution Factors - The Department has made the determination that the dilution factors associated with the discharge shall be calculated in accordance with freshwater protocols established in Department Regulation Chapter 530, *Surface Water Toxics Control Program*, October 2005. With a monthly average permitted flow limit of 43.0 MGD, and the critical low flow values below, the dilution factors can be calculated as follows:

Acute: 1Q10 = 2,020 cfs[(1)] $\Rightarrow \frac{(2{,}020 \text{ cfs})(0.6464)}{(43.0 \text{ MGD})} = 30{:}1$

Chronic: 7Q10 = 2,216 cfs[(2)] $\Rightarrow \frac{(2{,}216 \text{ cfs})(0.6464)}{(43.0 \text{ MGD})} = 33{:}1$

Harmonic Mean: = 2,364 cfs[(3)] $\Rightarrow \frac{(2{,}364 \text{ cfs})(0.6464)}{(43.0 \text{ MGD})} = 35.5{:}1$

Footnotes:

(1) Based on two Department Water Quality Certifications. One, #L-17166-33-A-N, (issued on 4/22/94) for the Penobscot Mills Hydrodevelopment Project as part of the Federal Energy Regulation Commission (FERC) relicensing program. The certification contains a condition that states in part *"…except as temporarily modified by operating emergencies beyond the applicant's control, as described in the condition, the Millinocket, Dolby and East Millinocket dams shall be operated as run-of-river facilities while providing an instantaneous minimum flow of 2,000 cfs (1,293 MGD) to the West Branch of the Penobscot River at Millinocket."* The second,

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

Outfall #001 – Secondary treated process waters

#L-17166-32-A-N (issued on 4/22/93), for the Penobscot Mills Millinocket Lake Storage Dam contains a condition that states in part *"…except as temporarily modified by operating emergencies beyond the applicant's control, (as defined in the certification) a minimum flow of 60 cfs shall be maintained from Millinocket Lake Storage Dam to Millinocket Stream from May 1 – October 15 annually and a minimum flow of 20 cfs shall be maintained during the remainder of the year*. Therefore, the collective minimum low flow of Millinocket Stream at the point of discharge is 2,020 cfs.

(2) Calculated by the Department in March of 2003 as part of the Penobscot River Modeling Report prepared by the Department.

(3) The harmonic mean flow of the West Branch of the Penobscot River is based on a 1/9/91 statistical evaluation developed by Walter M. Grayman, a consulting engineer for the US EPA 1990 Risk Assessment for Dioxin.

e. Biochemical oxygen demand (BOD) and total suspended solids (TSS) – The Fact Sheet of the 8/1/94 WDL contains the following italicized text;

The Code of Federal Regulations, 40 CFR, §430, contains effluent guidelines for the pulp and paper industry. The applicable subparts for the West Operation facility include; Subpart O (Groundwood-Fine papers), Subpart R (Non-Integrated Fine Papers) and Subpart U (Paper grade Sulfite-Drum wash). The biochemical oxygen demand (BOD) and total suspended solids (TSS) limitations for Outfall #001 are seasonal and are being carried forward from the previous license. The limitations were originally derived from a past demonstrated performance (PDP) evaluation conducted by the Department in 1988. The limitations are more stringent than best conventional treatment (BCT) guidelines and more stringent than new source performance standards (NSPS) published in 40 CFR, §430.

The limits for lead, chromium and zinc are also being carried forward from the previous license. The monitoring frequency for chromium and zinc have been reduced from once per quarter to once per year as the licensee has demonstrated compliance for four consecutive quarters.

The *Outfall #001 limitation for pH is based on national effluent guidelines. The pH limitations for the remaining outfalls is based on best professional judgment (BPJ) of best practicable treatment (BPT).*

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

Outfall #001 – Secondary treated process waters

The 8/1/94 WDL contained the following seasonal limitations for BOD and TSS:

Season	BOD Avg lbs/day	BOD Max lbs/day	TSS Avg lbs/day	TSS Max lbs/day
June 1– Sept 30	12,000	18,000	21,200	40,000
Oct. 1 – May 31	19,000	28,500	21,200	40,000

The Fact Sheet of the 8/1/94 WDL indicates the final license limits for BOD and TSS for Outfall #001 were seasonal and were carried forward from the previous license. The limitations were originally derived from a past demonstrated performance (PDP) evaluation conducted by the Department in 1988.

The 9/30/97 NPDES permit contained the following seasonal limits for BOD & TSS.

Season	BOD Avg lbs/day	BOD Max lbs/day	TSS Avg lbs/day	TSS Max lbs/day
June 1– Sept 30	12,000	18,000	21,200	40,000
Oct. 1 – May 31	15,000	28,500	21,200	40,000

It is noted the only difference in BOD and TSS limits between the 8/1/94 WDL and the 9/30/97 NPDES permit is the non-summer monthly average limit for BOD is more stringent in the NPDES permit.

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

Outfall #001 – Secondary treated process waters

A production level of 650 ADTPD is representative of future production levels and is therefore utilized in the calculating BPT effluent limitations based on federal regulation 40 CFR, Subpart K, *Fine and Lightweight Papers From Purchased Pulp Subcategory,* Part 430.111, promulgated on 4/18/98. As noted in the MEPDES permit for the East Millinocket mill (ME0000175), 300 ADT of groundwoood pulp used at the Millinocket mill (West Operation) is produced at the East Millinocket mill. The permittee has indicated all waste water associated with pulping of the 300 ADT is used to convey the pulp via a pipeline to the Millinocket mill. Therefore, the BOD and TSS generated by the pulping of 300 ADT is treated in the Millinocket mill's waste water treatment facility and should be included in the NEG calculations for the Millinocket mill and should not be included in the NEG calculations for the East Millinocket mill. As a result corresponding mass effluent limits associated with the mechanical pulping are based on BPT standards found in federal regulation 40 CFR, Part 430, promulgated on 4/18/98, Subpart G, *Mechanical Pulp Subcategory* can be calculated as follows;

NEG Subpart BPT limits	BOD Avg		BOD Max		TSS Avg		TSS Max	
	lbs/ton	lbs/day	lbs/ton	lbs/day	lbs/ton	lbs/day	lbs/ton	lbs/day
Subpart G 300 ADTPD	7.8 ---	--- 2,340	14.9 ---	--- 4,470	13.7 ---	--- 4,110	25.5 ---	--- 7,650
Subpart K 650 ADTPD	8.5 ---	--- 5,525	16.4 ---	--- 10,660	11.8 ---	--- 7,670	22 ---	--- 14,300
Totals	---	7,865	---	15,130	---	11,780	---	21,950

The limitations calculated above are more stringent than any of the BOD and TSS limitations established in the State's 8/1/94 WDL or federal 9/30/97 NPDES permit. As a result, the Department must establish the technology based limitations in this permitting action.

A review of the DMR data for the period January 2007 – August 2008 (shutdown) indicates the facility has discharged as follows:

	BOD Mass (lbs/day)	
	Month Avg.	Daily Max.
Range		
Year-round	837 – 5,124 lbs/day	1,254 – 6,681 lbs/day

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

Outfall #001 – Secondary treated process waters

Arithmetic mean		
Year-round	2,255 lbs/day	3,449 lbs/day

	TSS Mass (lbs/day)	
	Month Avg.	Daily Max.
Range		
Year-round	722 – 2,470 lbs/day	1,344 – 3,453 lbs/day
Arithmetic mean		
Year-round	1,488 lbs/day	2,510 lbs/day

f. Temperature: The 8/1/94 WDL did not establish any temperature limitations or monitoring requirements for Outfall #001. However, the 9/30/97 NPDES permit established seasonal (June 1 – September 30) monthly average, weekly average and daily maximum reporting requirements for the effluent from Outfall 001 as well as the intake water for the mill. In addition, the NPDES permit established a condition that stated *"… the combined thermal load shall be considered to be exceeded only when the weekly average thermal load discharged exceeds 2.16 x 10^{10} Btu/day and or when an individual daily thermal load discharged exceeds 2.48 x 10^{10} Btu/day. The permittee must calculate and report all such exceedences*."

Department Rule Chapter 582, *Regulations Relating To Temperature*, limits thermal discharges to an in-stream temperature increase (ΔT) of 0.5° F above the ambient receiving water temperature 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 Millinocket Stream and the West Branch of the Penobscot River). The weekly average temperature of 66° F 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. 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 ≥66° F and <73° F.

The assimilative capacity of Millinocket Stream (thermal load that would cause the stream to increase by 0.5°F) at the critical 7Q10 low flow can be calculated as follows:

$$(2{,}216 \text{ cfs})(0.6464)(0.5°\text{F})(8.34 \text{ lbs/day})(10^6 \text{ gallons}) = 5.97 \times 10^9 \text{ Btu/day}$$

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

Outfall #001 – Secondary treated process waters

A review of the Discharge Monitoring Report (DMR) seasonal temperature data for the period June 2007 through September 2008 indicates the discharge from Outfall #001 has been as follows:

Temperature (June 1 - September 30)

	Month Avg.	Weekly Avg.	Daily Max.
Range	61.9 – 82.8ºF	64.8 – 86.5ºF	67.0 – 90.0ºF
Mean	72ºF	75ºF	77ºF

Based on the DMR data cited above, the Department is establishing a daily maximum temperature limit of 100ºF based on a best professional judgment taking into consideration the historical temperature data. With a monthly average flow limit of 43 MGD and a daily maximum temperature limit of 100ºF, the discharge from Outfall #001 by itself will not comply with the weekly rolling average limit of 0.5 °F (when the receiving water is ≤66°F and <73°F) in Department regulation Chapter 582. The calculations are as follows:

$$(43 \text{ MGD})(100ºF - 66ºF)(8.34 \text{ lbs/gal}) = 12.2 \times 10^9 \text{ Btu/day}$$

When the receiving water is >73°F, the temperature difference of 0.5°F is a daily maximum limit thus, the thermal heat load based on a daily maximum flow of 43 MGD at 100°F can be calculated as follows:

$$(43 \text{ MGD})(100ºF - 73ºF)(8.34 \text{ lbs/gal}) = 9.68 \times 10^9 \text{ Btu/day}$$

Therefore, at full permitted flow and temperature the discharge from Outfall #001 by itself will not comply with the daily criteria established in Department rule Chapter 582. See a more in-depth discussion on collective thermal impacts in section 5(q) of this Fact Sheet.

Therefore, at full permitted flow and temperature the discharge from Outfall #001 by itself does not comply with the criteria established in Department rule Chapter 582. The calculations above are examples of thermal loading based on worst case scenarios for both the ambient receiving water and discharge from Outfall #001. It is noted the Department determines compliance based on actual ambient receiving water flows and temperatures and actual discharge flows and temperatures. See Special Condition G, *River Temperature Increase*, of this permit.

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

Outfall #001 – Secondary treated process waters

A more realistic calculation would be to assume the historic discharge flow daily maximum mean of 16.2 MGD), the historic discharge temperature (daily maximum of 77ºF). The heat load to the river would be as follows:

$$(16.2 \text{ MGD})(77^{\circ}\text{F} - 66^{\circ}\text{F})(8.34 \text{ lbs/gal}) = 1.49 \times 10^{9} \text{ Btu/day}$$

The 7/22/99 NPDES permit issued by EPA established thermal load limits of 21.66×10^{9} as a weekly average and 24.8×10^{9} (Outfall #001, Outfall #002 and Outfall #020 combined) as a daily maximum. A review of the DMR data for the period June 2007 – August 2008 indicates the combined thermal load discharged is as follows:

Thermal Load (Outfall #001, Outfall #002 and Outfall #020 combined)

Value	Limit (BTUs 10^9)	Range (BTUs 10^9)	Mean (BTUs 10^9)
Weekly Average	21.6×10^{9}	$1.04 – 2.2 \times 10^{9}$	1.48×10^{9}
Daily Maximum	24.8×10^{9}	$1.43 – 2.6 \times 10^{9}$	1.81×10^{9}

Though the calculation for heat load expressed in BTUs gives a relative measure of heat load it does easily aide in determining compliance with the criteria of Δ0.5 °F in Department rule Chapter 582. The calculation in Special Condition G of this permit takes into consideration the receiving water flow at the time the heat load is introduced into the river. Therefore, this permitting action is requiring the permittee to calculate and report the predicted ΔT in the receiving water.

The permittee needs to be aware that in order to maintain compliance with the Chapter 582 criteria, a balancing of discharge flows and temperatures from Outfall #001, Outfall #002 and Outfall #020 are necessary. See a more in-depth discussion on collective thermal impacts in section 5(q) of this Fact Sheet. The permittee will need to balance flows and temperatures to meet the ΔT of 0.5°F.

g. Total phosphorus – The previous licensing action did not establish limitations or monitoring requirements for either total phosphorus or orthophosphate. However, due to historic episodic algal blooms and measured excursions of Class B dissolved oxygen standards on the Penobscot River, the Department is establishing a year-round monthly average water quality based mass limit of 36 lbs/day along with a monitoring frequency of 1/Week during the summer months (June 1 – September 30) and 1/Month during the non-summer months (October 1 – May 31). The limitation was derived as follows:

$$(43 \text{ MGD})(8.34 \text{ lbs/gal.})(0.1 \text{ mg/L}) = 36 \text{ lbs/day}$$

Annual ambient water quality monitoring required by Special Condition I of this permit will assist the Department in future water quality assessment efforts to determine if Class B water quality standards are being achieved and maintained.

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

Outfall #001 – Secondary treated process waters

h. pH Range: The previous licensing 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. This permitting action is also incorporating pH excursion provisions found in Department rule , Chapter 525, Section(4)§VIII 1 & 2. The rule states that for persons that monitor pH on a continuous basis, the total time during which the pH values may be outside the range of 5.0 – 9.0 standard units shall not exceed 7 hours and 26 minutes in any calendar month and no individual excursion from said pH range shall exceed 60 minutes.

i. 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 on May 23, 2000, thereby administratively modifying WDL # W002227-44-E-R by establishing interim monthly average and daily maximum effluent concentration limits of 12.4 parts per trillion (ppt) and 18.6 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. It is noted that the mercury effluent limitations have not been incorporated into Special Condition A, *Effluent Limitations And Monitoring Requirements*, of this permit as the limits and monitoring frequencies are regulated separately through Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519. The interim mercury limits remain in effect and enforceable and modifications to the limits and/or monitoring frequencies will be formalized outside of this permitting document pursuant to Maine law, 38 M.R.S.A. §413 and Department rule Chapter 519.

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 March 2006 through the present indicates the permittee has been in compliance with the interim limits for mercury as the results have ranged from 1.0 ppt to 2.9 ppt with an arithmetic mean of 1.4 ppt.

j. 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

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

Outfall #001 – Secondary treated process waters

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

06-096 CMR 530(2)(B) categorizes dischargers subject to the toxics rule into one of four levels (Levels I through IV). Level II dischargers are *"Those dischargers having a chronic dilution factor of at least 20 but less than 100 to 1."* The chronic dilution factor associated with the discharge from West Operation is 33.3:1; therefore, this facility is considered a Level II facility for purposes of toxics testing.

06-096 CMR 530(2)(D) specifies routine WET, priority pollutant, and analytical chemistry test schedules for Level II dischargers as follows:

Screening level testing – Beginning 12 months prior to expiration of the current permit and in every fifth year since the last screening test, which ever is sooner.

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 until 12 months prior to permit expiration.

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

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

Outfall #001 – Secondary treated process waters

A review of the data on file with the Department indicates that to date, the permittee has fulfilled the WET and chemical-specific testing requirements of Chapter 530. 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)(c) 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.*"

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 2/9/11, 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 the acute and chronic critical ambient water quality criteria (AWQC) thresholds (3.3 and 3.0 mathematical inverse of the acute dilution factor 30:1 and the chronic dilution factor 33:1).

Given the absence of exceedences or reasonable potential to exceed critical WET thresholds, the permittee meets the reduced surveillance level monitoring frequency criteria found at Department rule Chapter 530(D)(3)(b). Therefore, this permit is establishing a requirement for the permittee to conduct surveillance level WET testing at a frequency of once every other year (1/2 Years) and screening level testing shall be conducted in the 12-month period prior to the expiration date of this permit and every five years thereafter.

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

Outfall #001 – Secondary treated process waters

In accordance with Department rule Chapter 530(2)(D)(4) and Special Condition J, *06-096 CMR 530(2)(D)(4), Statement For Reduced/Waived Toxics Testing* of this permit, the licensee 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 Penobscot River in the vicinity of the licensee's outfall. Therefore, a default background concentration of 10% of the applicable water quality criteria is being used in the calculations of this licensing action.

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."* Therefore, the Department is reserving 15% of the applicable water quality criteria in the calculations of this licensing action.

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.*

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

Outfall #001 – Secondary treated process waters

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.

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.

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 2/9/11 statistical evaluation (Report ID #342), all pollutants of concern bis(2-ethylhexyl)phthalate, and total silver) are to be limited based on the individual allocation method and total copper and total lead are to be limited based on the segment allocation method.

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."*

As not to penalize the permittee for operating at flows less than the permitted flow, the Department is establishing concentration limits based on a back calculation from the mass limit utilizing a multiplier of 2.0.

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

Outfall #001 – Secondary treated process waters

It is noted the Penobscot Indian Nation (PIN) has informally notified the Department of its intent to formally petition the Department to adopt a site specific fish consumption rate for a segment(s) of the Penobscot River for use in calculating human health based ambient water quality criteria (AWQC) specified by 06-096 CMR Department rule, Chapter 584, *Surface Water Quality Criteria For Toxic Pollutants*. Once petitioned, a formal public process as outlined in **Attachment F** of this Fact Sheet, will be invoked and adhered to. Should an alternate fish consumption rate be adopted, this permit may be reopened pursuant to Special Condition M, *Reopening of Permit For Modifications,* of this permit to establish new or revised water quality based limits for pollutants that exceed or have a reasonable potential to exceed human health AWQC.

Individual allocation methodology

In the individual allocation, the Department continues to utilize the formula it has used in permitting actions since October 2005 taking into consideration background (10% of AWQC) and a reserve (15% of AWQC). The formula is as follows:

EOP concentration = [Dilution factor x 0.75 x AWQC] + [0.25 x AWQC]

Mass limit = (EOP concentration in mg/L)(8.34 lbs/gal)(Permit flow limit in MGD)

Bis(2-ethylhexyl)phthalate

Human health (w&o) AWQC = 0.80 ug/L
Harmonic mean dilution factor = 35.5:1
EOP concentration = [Dilution factor x 0.75 x AWQC] + [0.25 x AWQC]

EOP = [35.5 x 0.75 x 0.80 ug/L] + [0.25 x 0.80 ug/L] = 21.5 ug/L

Based on a permitted flow of 43 MGD, EOP mass limits are as follows:

$$\frac{(21.5 \text{ ug/L})(8.34)(43 \text{ MGD})}{1{,}000 \text{ ug/mg}} = 7.7 \text{ lbs/day}$$

As not to penalize the permittee for operating at flows less than the permitted flow, the Department is establishing concentration limits based on a back calculation from the mass limit utilizing a multiplier of 2.0.

$$\frac{7.7 \text{ lbs/day}}{(43 \text{ MGD})(8.34 \text{ lbs/gal.})} = 0.021 \text{ mg/L}$$

(0.021 mg/L)(1,000 ug/mg)(2) = 43 ug/L

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

Outfall #001 – Secondary treated process waters

Silver (Total)

Acute AWQC = 0.238 ug/L
Harmonic mean dilution factor = 35.5:1
EOP concentration = [Dilution factor x 0.75 x AWQC] + [0.25 x AWQC]

EOP = [30.1 x 0.75 x 0.238 ug/L] + [0.25 x 0.238 ug/L] = 5.43 ug/L

Based on a permitted flow of 43 MGD, EOP mass limits are as follows:

$$\frac{(5.43 \text{ ug/L})(8.34)(43 \text{ MGD})}{1{,}000 \text{ ug/mg}} = 1.9 \text{ lbs/day}$$

As not to penalize the permittee for operating at flows less than the permitted flow, the Department is establishing concentration limits based on a back calculation from the mass limit utilizing a multiplier of 2.0.

$$\frac{1.9 \text{ lbs/day}}{(43 \text{ MGD})(8.34 \text{ lbs/gal.})} = 0.0054 \text{ mg/L}$$

(0.0054 mg/L)(1,000 ug/mg)(2) = 10.8 ug/L or 11 ug/L

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 license 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 the permittee's facility, historical averages for total copper and total lead were calculated as follows:

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

Outfall #001 – Secondary treated process waters

Copper

Mass limits

Mean concentration (n=4) = 3.5 ug/L or 0.0035 mg/L
Permit flow limit = 43 MGD
Historical average mass = (0.0035 mg/L)(8.34)(43 MGD) = 1.26 lbs/day

The 2/9/11 statistical evaluation indicates the historical average mass of copper discharged by the permittee's facility is 8.83% of the copper discharged by the facilities on the Penobscot River and its tributaries. Therefore, the permittee's acute and chronic segment allocations for copper are calculated as 8.83% of the copper discharged on the Penobscot River and its tributaries. The Department has calculated an acute assimilative capacity of 35.94 lbs/day of copper at Bangor and a chronic assimilative capacity 30.51 lbs/day of copper at Bangor. Therefore, the mass segment allocations for copper for the permittee can be calculated as follows:

Daily maximum: (Acute assimilative capacity mass)(% of total copper discharged)
(35.94 lbs/day)(0.0883) = 3.2 lbs/day

Monthly average: (Chronic assimilative capacity mass)(% of total copper discharged)
(30.51 lbs/day)(0.0883) = 2.7 lbs/day

Since the adoption of Chapter 530, the Department has a developed a policy for establishing equitable concentration limits in permits that are greater than calculated end-of-pipe concentrations. In general, most dischargers subject to the Chapter 530 testing requirements are discharging at or about 50% of the flow limitations established in their permits. This provides the Department with the flexibility to establish higher concentration limits in the permit while still maintaining compliance with the water quality based mass limitations. With an actual discharge flow at ½ (0.5) of permitted flow rate, a concentration limit of two times (mathematical inverse of 0.5) the calculated end-of-pipe concentration, will maintain compliance with water quality based mass limits.

Therefore, this permitting action is establishing concentration limitations that are two (2) times higher than the calculated end-of-pipe concentrations. The permittee must keep in mind, if flows greater than 50% of the permitted flow are realized, the concentration in the effluent must be reduced proportionally to maintain compliance with the mass limitations.

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

Outfall #001 – Secondary treated process waters

Concentration limits:

Daily maximum mass limit = 3.2

$$\frac{(3.2 \text{ lbs/day})}{(8.34 \text{ lbs/gal})(43 \text{ MGD})} = 0.00892 \text{ mg/L}$$

(0.00892 mg/L)(1,000 ug/mg)(2) = 17.8 ug/L or 18 ug/L

Monthly average mass limit = 2.9 lbs/day

$$\frac{(2.7 \text{ lbs/day})}{(8.34 \text{ lbs/gal})(43 \text{ MGD})} = 0.00753 \text{ mg/L}$$

(0.00753 mg/L)(1,000 ug/mg)(2) = 15.0 ug/L or 15 ug/L

Lead

Mass limits

Mean concentration (n=4) = 5.38 ug/L or 0.00538 mg/L
Permit flow limit = 43 MGD
Historical average mass = (0.00538 mg/L)(8.34)(43 MGD) = 1.93 lbs/day

The 2/9/11 statistical evaluation indicates the historical average mass of lead discharged by the permittee's facility is 51.6% of the lead discharged by the facilities on the Penobscot River and its tributaries. Therefore, permittee's segment allocation for lead is calculated as 51.6% of the chronic assimilative capacity of the river at Bangor, the most downstream facility minus the assimilative capacities assigned to the tributaries on the Penobscot River that have permitted discharges. The Department has calculated a chronic assimilative capacity of 5.33 lbs/day of lead at Bangor. Therefore, the mass segment allocation for lead for the permittee can be calculated as follows:

Monthly average mass for lead
(Chronic assimilative capacity mass)(% of total lead discharged)
(5.33 lbs/day)(0.516)= 2.7 lbs/day

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

Outfall #001 – Secondary treated process waters

Concentration limits

Monthly average concentration for lead;

$$\frac{2.7 \text{ lbs/day}}{(43 \text{ MGD})(8.34 \text{ lbs/gal.})} = 0.00753 \text{ mg/L}$$

(0.00753 mg/L)(1,000 ug/mg)(2) = 15.1 or 15 ug/L

As for the remaining chemical specific 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 of once every other year (1/2 Years) for analytical chemistry and priority pollutant testing. As with reduced WET testing, the permittee must file an annual certification with the Department pursuant to Chapter 530 §2(D)(4) and Special Condition J, *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.

Beginning 12 months prior to the expiration date of the permit, the permittee shall conduct default screening level analytical chemistry testing at 1/Quarter and priority pollutant testing of 1/Year.

Outfall #002A – Turbine condenser cooling water

The 8/1/94 WDL and the 9/30/97 NPDES permit contained limitations and monitoring requirements as follows:

k. Flow – The WDL established a daily maximum flow limitation of 20 MGD with a 1/Quarter monitoring requirement and the NPDES permit established daily maximum and monthly average flow limitations of 20 MGD. A review of the DMR data for the period 1/02 – 6/06 indicates no discharges have occurred for this time period. The permittee has indicated this outfall has not been active since 1988. The permittee has requested the Department maintain this as a permitted outfall as it may be necessary to discharge cooling water from this outfall during the term of this permit.

Based on the permittee's request, the Department is carrying forward the daily maximum flow limit of 20 MGD in this permitting action. The monthly average flow limit of 20 MGD in the NPDES permit is being eliminated as it is not necessary with a daily maximum limit established at the same numeric value.

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

Outfall #002A – Turbine condenser cooling water

l. Temperature – The WDL established a year-round daily maximum limit 106ºF with a monitoring frequency of 1/Day. The NPDES permit established seasonal (June 1 – September 30) monthly average, weekly average and daily maximum reporting requirements for temperature. The permittee has requested the Department maintain this as a permitted outfall as it may be necessary to discharge cooling water from this outfall during the term of this permit. Therefore, the Department is carrying forward a daily maximum temperature limit of 106ºF in this permitting action.

With a daily maximum flow of 20 MGD and a daily maximum temperature limit of 106ºF, the discharge from Outfall #002 by itself does not comply with the weekly rolling average limit of 0.5 °F (when the receiving water $\leq$66°F and <73°F) in Department regulation Chapter 582. The calculations are as follows:

$$(20\ \text{MGD})(106^{\circ}\text{F} - 66^{\circ}\text{F})(8.34\ \text{lbs/gal}) = 6.67 \times 10^{9}\ \text{Btu/day}$$

When the receiving water is >73°F, the temperature difference of 0.5°F is a daily maximum limit thus, the thermal heat load based on a daily maximum flow of 20 MGD at 106 °F can be calculated as follows:

$$(20\ \text{MGD})(106^{\circ}\text{F} - 73^{\circ}\text{F})(8.34\ \text{lbs/gal}) = 5.50 \times 10^{9}\ \text{Btu/day}$$

As calculated in section 5(f) of this Fact Sheet, the assimilative capacity for heat at the critical 7Q10 low is 5.97×10^{9} Btu/day. Therefore, at full permitted flow and temperature the discharge from Outfall #002 by itself complies with the daily maximum criteria established in Department rule Chapter 582. See a more in-depth discussion on the collective (Outfall #001, #002 and #020) thermal impacts in section 5(q) of this Fact Sheet.

The calculations above are examples of thermal loading based on worst case scenarios for both the ambient receiving water and discharge from Outfall #002. It is noted the Department determines compliance based on actual ambient receiving water flows and temperatures and actual discharge flows and temperatures.

m. pH – Both the WDL and NPDES permit established a pH range limitation of 6.0 – 8.5 standard units. The Fact Sheet of the NPDES permit indicates the more limited ranged is based on the State's Section 401 certification requirements. The limit is considered by the Department to be BPT and is being carried forward in this permitting action.

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

Outfall #020 – Turbine condenser cooling water

The 8/1/94 WDL and the 9/30/97 NPDES permit contained limitations and monitoring requirements as follows:

n. Flow – The WDL established a daily maximum flow limitation of 55 MGD with a 1/Year monitoring requirement and the NPDES permit established daily maximum and monthly average flow limitations of 40 MGD. As with Outfall #002, the permittee has indicated this outfall has not been active since 1988. The permittee has requested the Department maintain this as a permitted outfall as it may be necessary to discharge cooling water from this outfall during the term of this permit.

Based on the permittee's request, the Department is carrying forward the daily maximum flow limit of 40 MGD in this permitting action. The monthly average flow limit of 40 MGD in the NPDES permit is being eliminated as it is not necessary with a daily maximum limit established at the same numeric value.

o. Temperature – The WDL established a year-round limit of 125ºF for flows up to 10 MGD and a limit based on a formula (125 ºF -0.42(Qe-10) for flows from 10 MGD up to 55 MGD with a monitoring frequency of 1/Day. The NPDES permit established seasonal (June 1 – September 30) monthly average, weekly average and daily maximum reporting requirements for temperature. The permittee has requested the Department maintain this as a permitted outfall as it may be necessary to discharge cooling water from this outfall during the term of this permit. Therefore, the Department is carrying forward the daily maximum temperature limit of 125ºF in this permitting action.

With a daily maximum flow of 40 MGD and a daily maximum temperature limit of 125ºF, the discharge from Outfall #020 by itself does not comply with the weekly rolling average limit of 0.5 °F (when the receiving water $\leq$66°F and <73°F) in Department regulation Chapter 582. The calculations are as follows:

$$(40\ \text{MGD})(125^{\circ}\text{F} - 66^{\circ}\text{F})(8.34\ \text{lbs/gal}) = 1.97 \times 10^{10}\ \text{Btu/day}$$

When the receiving water is >73°F, the temperature difference of 0.5°F is a daily maximum limit thus, the thermal heat load based on a daily maximum flow of 40 MGD at 125 °F can be calculated as follows:

$$(40\ \text{MGD})(125^{\circ}\text{F} - 73^{\circ}\text{F})(8.34\ \text{lbs/gal}) = 1.73 \times 10^{10}\ \text{Btu/day}$$

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

Outfall #020 – Turbine condenser cooling water

As calculated in section 5(f) of this Fact Sheet, the assimilative capacity for heat at the critical 7Q10 low is 5.97×10^9 Btu/day. Therefore, at full permitted flow and temperature the discharge from Outfall #020 by itself does not comply with the daily maximum criteria established in Department rule Chapter 582. See a more in-depth discussion on the collective (Outfall #001, #002 and #020) thermal impacts in section 5(q) of this Fact Sheet.

The calculations above are examples of thermal loading based on worst case scenarios for both the ambient receiving water and discharge from Outfall #002. It is noted the Department determines compliance based on actual ambient receiving water flows and temperatures and actual discharge flows and temperatures.

p. pH – Both the WDL and NPDES permit established a pH range limitation of 6.0 – 8.5 standard units. The Fact Sheet of the NPDES permit indicates the more limited ranged is based on the State's Section 401 certification requirements. The limit is considered by the Department to be BPT and is being carried forward in this permitting action.

Outfall 002C – Administrative outfall established in the 9/30/97 NPDES permit.

q. Thermal load - The 9/30/97 NPDES permit established an administrative outfall that limited the discharges from Outfall 001, 002A and 020 collectively to a weekly average thermal load of 2.16×10^{10} Btu/day and the daily thermal load to 2.48×10^{10} Btu/day. The weekly average and daily maximum limitations derived based on the methodology established in Maine law 38 M.R.S.A, §464, §sub-4, that was enacted on 6/26/95 and later repealed on 1/1/99. The law stated in part "*The quantity of heat discharged during a 7-day period may not exceed the maximum heat discharged in any 7-day period between January 11, 1989 and January 11, 1995. The 7-day maximum quantity of heat discharged must be used to establish the interim effluent limit that protects the existing uses. The amount of heat discharged on any single day may not exceed 1.15 times the maximum 7-day average.*"

As calculated in section 5(f) of this Fact Sheet the assimilative capacity of the West Branch of the Penobscot River at the critical 7Q10 low (2,216 cfs) is 5.97×10^9 Btu/day. Therefore, at the full permitted daily maximum flows of 43.0 MGD, 20.0 MGD and 40 MGD for Outfalls #001, #002 and #020 respectively, and daily maximum temperatures of 95°F, 106ºF and 125ºF respectively, the collective thermal load the discharge from Outfall #002 by itself does not comply with the weekly rolling average limit of 0.5 °F (when the receiving water ≤66°F and <73°F) in Department regulation Chapter 582. The calculations are as follows:

$[(43 \text{ MGD})(100ºF - 66ºF) + (20 \text{ MGD})(106°F - 66°F) + (40 \text{ MGD})(125ºF - 66ºF)](8.34 \text{ lbs/gal}) = 4.4 \times 10^{10}$ Btu/day

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

Outfall 002C – Administrative outfall

This thermal load would exceed the assimilative capacity of the West Branch of the Penobscot River at 7Q10 low flow conditions. Assuming the collective discharge temperature was 111°F (weight average of limits cited above) and the river was at a 7Q10 low flow of 2,216 cfs and the temperature was ≥66°F but <73°F , the discharge would be limited to a weekly rolling average thermal load of 5.97×10^9 Btu/day to protect for growth of coldwater fish species. This would limit the collective flow from the mill to approximately 15.9 MGD. The calculation is as follows:

$$\frac{5.97 \times 10^9 \text{ Btu/day}}{(111°F - 66°F)(8.34 \text{ lbs/gal})} = 15.9 \text{ MGD}$$

When the receiving water is >73°F, the temperature difference of 0.5°F is a daily maximum limit thus, the thermal heat load at the full permitted daily maximum flows of 43.0 MGD, 20.0 MGD and 40 MGD for Outfalls #001, #002 and #020 respectively, and daily maximum temperatures of 95°F, 106ºF and 125ºF respectively, the collective thermal load the discharge from Outfall #002 by itself does comply with daily maximum temperature difference of 0.5°F. The calculation is as follows:

$$[(43 \text{ MGD})(100ºF - 73ºF) + (20 \text{ MGD})(106°F - 73°F) + (40 \text{ MGD})(125ºF - 73ºF)](8.34 \text{ lbs/gal}) = 3.9 \times 10^9 \text{ Btu/day}$$

A temperature difference associated with all three outfalls discharging simultaneously at full permitted flows and temperatures at 7Q10 low flow conditions can be calculated as follows:

$$\frac{3.9 \times 10^9 \text{ Btu/day}}{(2{,}216 \text{ cfs})(0.6464)\ (8.34 \text{ lbs/day})(10^6 \text{ gallons})} = 0.3ºF$$

This thermal load would exceed the assimilative capacity of the West Branch of the Penobscot River at 7Q10 low flow conditions. Assuming the collective discharge temperature was 111°F (weight average of the limits cited) and the river was at a 7Q10 low flow of 2,216 cfs and the temperature was ≥73°F, the discharge would be limited to a daily maximum thermal load of 5.97×10^9 Btu/day to protect for survival of coldwater fish species. This would limit the collective flow from the mill to approximately 18.8 MGD. The calculation is as follows:

$$\frac{5.97 \times 10^9 \text{ Btu/day}}{(111°F - 73°F)(8.34 \text{ lbs/gal})} = 18.8 \text{ MGD}$$

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

Outfall 002C – Administrative outfall

Though the calculation for heat load expressed in BTUs gives a relative measure of heat load it does easily aide in determining compliance with the criteria of Δ0.5 °F in Department rule Chapter 582. The calculation in Special Condition G, of takes into consideration the receiving water flow at the time the heat load is introduced into the river. Therefore, this permitting action is requiring the permittee to calculate and report the predicted ΔT in the receiving water.

The permittee needs to be aware that in order to maintain compliance with the Chapter 582 criteria, a balancing of discharge flows and temperatures from both Outfall #001 and Outfall #002 are necessary. See a more in-depth discussion on collective thermal impacts in section 6(v) of this Fact Sheet. The permittee will need to balance flows and temperatures to meet the Δ of 0.5°F.

The previous licensing action provided for a thermal mixing zone that was originally established in a 5/4/88 WDL action. The 8/1/94 WDL contained the following text:

> *Beginning at the point of discharge from the Bowater penstocks to Millinocket Stream in Millinocket, Maine downstream to the point of confluence of Millinocket Stream in Shad Pond. The temperature at the boundary of the mixing zone shall not be greater than 0.5°F above the background of the West Branch of the Penobscot River as measured in Ferguson Pond one eighth (1/8th) of a mile above the Millinocket mill gatehouse. The temperature inside the mixing zone after complete mixing of the discharges with the receiving waters has occurred shall not exceed 2°F above the background temperature of the West Branch of the Penobscot River as measured in Ferguson Pond one eighth (1/8th) of a mile above the Millinocket mill gatehouse.*

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.

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

Outfall 002C – Administrative outfall

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.

The Department has established several mixing zones subsequent to the mixing zone for the Millinocket mill. In the more recent mixing zone orders, the Department has made a distinction between the zone of initial dilution (ZID) and the mixing zone. The ZID has been defined as the area in the receiving where "…*the reasonable opportunity for dilution, diffusion or mixture with the receiving waters or heat transfer to the atmosphere…*" The Department considers the point downstream where the discharge from the mill mixes completely with the receiving water (top to bottom, bank to bank). The mixing zone is the area beginning at the downstream end of the ZID and extends downstream to a point where the temperature difference is 0.5ºF.

For the Millinocket mill, the description of the mixing zone (*Beginning at the point of discharge from the Bowater penstocks to Millinocket Stream in Millinocket, Maine downstream to the point of confluence of Millinocket Stream in Shad Pond)* established in the May 1988 WDL actually describes the extent of the ZID where complete mixing occurs. The May 1988 WDL states "…*the temperature at the boundary of the mixing zone shall not be greater than 0.5°F above the background…*" Therefore, the discharge was in compliance with the Chapter 582 criteria at the end of the ZID and the establishment of the mixing zone was not necessary. Therefore, this permitting action is eliminating the mixing zone established in previous licensing actions.

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

Outfall 002C – Administrative outfall

Special Condition G, *River Temperature Increase (RTI)* of this permit, requires the permittee to calculate the RTI daily between June 1 and September 30 of each year. The calculation to do is as follows:

$$RTI\ (^{o}F) = \frac{Qe_{001}\,(Te_{001} - Tr) + Qe_{002}\,(Te_{002} - Tr) + Qe_{020}\,(Te_{020} - Tr)}{Qr}$$

where,

Qr = Ambient receiving water flow in gpd or MGD (must be like units as Qe)
Qe = Effluent flow in gpd or MGD (must be like units as Qr)
Te = Effluent temperature in ^{o}F
Tr = Ambient receiving water (mill intake) temperature in ^{o}F

Receiving water flow measurements (Qr) shall be obtained from a source/methodology approved by the Department. The permittee shall adhere to mathematical protocols for significant figures and rounding the calculated RTI values. All RTI values reported to the Department on the monthly Discharge Monitoring Reports (DMRs) for compliance with the weekly rolling average and daily maximum ΔT limitations of 0.5°F, shall be rounded to the nearest 0.1°F. As an attachment to the monthly DMRs for June – September of each year, the permittee shall submit the daily values for Qr, Qe, Te and Tr in the terms of the equation above.

Outfall 009 – Trash screen shower water

The 8/1/94 WDL and the 9/30/97 NPDES permit contained limitations and monitoring requirements as follows:

r. Flow – Both the WDL and NPDES permit established a daily maximum flow limitation of 0.5 MGD with a 1/Quarter monitoring requirement. A review of the DMR data for the period 10/01 – 6/06 indicates the flow discharged has ranged from 0.1 MGD to 0.34 MGD with an arithmetic mean of 0.24 MGD The permittee has requested the Department maintain this as a permitted outfall as it may be necessary to discharge cooling water from this outfall during the term of this permit.

s. pH – Both the WDL and NPDES permit established a pH range limitation of 6.0 – 8.5 standard units with no monitoring requirements. The limit is considered by the Department to be BPT and is being carried forward in this permitting action.

The Department has made the determination that monitoring of this discharge is no longer necessary. This permit acknowledges the discharge exists but all limitations and monitoring requirements are being eliminated. It is noted Special Condition D, *Notification Requirements*, of this permit requires the permittee to notify the Department

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

Outfall 009 – Trash screen shower water

if there is a substantive change in the volume or characteristics of the discharge(s) from Outfall #009. Upon notification, if the Department deems necessary, this permit will be reopened pursuant to Special Condition M, *Reopening Permit For Modifications*, to incorporate applicable limitations and or monitoring requirements.

6. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has determined that based on the information available to date, the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of Millinocket Stream, the West Branch of the Penobscot River or the main stem of the Penobscot River to meet applicable standards of their assigned 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).

7. PUBLIC COMMENTS

Public notice of this application was made in the Katahdin Times newspaper on or about December 12, 2000. 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.

8. 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) 287-3901
Electronic mail : gregg.wood@maine.gov

9. RESPONSE TO COMMENTS

During the period of March 29, 2011, 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 permittee's facility. The Department received written comments from the permittee in a letter dated March 15, 2011, and from the Penobscot Indian Nation (PIN) in an undated letter sent to the Department via electronic mail on April 29, 2011. No comments were received from state or federal agencies or interested parties that resulted in any substantive change(s) in the terms and conditions of the permit. A response to the permittee's and PIN's comments are as follows;

Comment #1 – The permittee has *"…requested that Katahdin Paper Company be relieved of all obligations under its currently proposed waste water discharge permits and the proposed ambient water monitoring plan."*

Response #1 – The Department is hereby denying the permittee's request. The permit is a contract between the permittee and the State that authorizes a permittee to discharge a specified quantity of pollutants into a river such that the discharge does not cause or contribute to non-attainment of ambient water quality standards established in State law and Department rules. The Fact Sheet of this permit indicates the Department has determined historical discharges from the West Operation did in fact cause or contribute to non-attainment of water quality standards. Therefore, this permit contains more stringent limitations and monitoring requirements to bring the Penobscot River and its major tributaries into attainment with water quality standards. Monitoring of the effluent and ambient water quality monitoring are necessary to determine if the standards are being attained. Upon signature of the permit, all terms and conditions of the permit go into effect and are enforceable.

Comment #2: The PIN states "*While we think the waste load allocation is a good approach, we do question the 33 ug/L total phosphorus threshold as the basis for the waste load allocation, particularly for Dolby Pond and the Mattaseunck impoundment. Water quality data collected by ME DEP and PIN in 2007 show significant cyanobacteria blooms occurred when ambient total phosphorus levels in Dolby were only 23 ug/L. Cyanobacteria blooms are significant in that they can produce toxins. In fact, in August 2004, measureable levels of microcystin (a cyanotoxin) were found in samples collected by PIN. Therefore, we believe that ultimately the phosphorus levels may need to be significantly lower to prevent phytoplankton blooms and potential cyanotoxin production from occurring*."

Response #2: As stated on page 8 of the Fact Sheet, the 33 ug/L is currently a draft recommended nutrient criteria for Class C rivers and streams and is not the sole criteria in which attainment/non-attainment of water quality standards is determined. The draft rule also establishes a matrix whereby a negative environmental response such as an algal bloom associated with an in-stream total phosphorus concentration above or below the threshold concentration of 33 ug/L will lead to a determination of non-attainment of water quality

9. RESPONSE TO COMMENTS (cont'd)

standards. The overall target phosphorus concentration for the P-WLA is 33 ug/l for the Class C reaches and 30 ug/l for the Class B reaches of the river. The ultimate goal of the P-WLA was to achieve this target as a conservative accumulation of all discharges at the most downstream location (head of tide in Bangor). By necessity, progressively more stringent ambient concentrations are facilitated upstream of the most downstream location. It would not have been possible to achieve the downstream target concentration without implementing significantly more stringent targets for upstream discharges. The Dolby Pond area was specifically targeted for the most stringent standards, in recognition of its particular sensitivity to phtoplankton blooms. The prescribed P-WLA actually results in a modeled ambient total phosphorus concentration of 15 ug/l in Dolby Pond during 7Q10 conditions. Relative downstream target concentrations are represented in the chart on page 7 of the P-WLA. The Department considered the target concentration for Dolby Pond to be sufficiently protective to significantly reduce the likelihood of future algae blooms from initiating in Dolby Pond.

Should the seasonal ambient water quality monitoring required by this permit indicate more stringent total phosphorus limits are necessary to meet water quality standards, this permit may be reopened pursuant to Special Condition M, Reopening of Permit for Modifications, to establish more stringent limitations for total phosphorus.

Comment #3: The PIN stated "*While pleased with the year-round effluent monitoring requirement being proposed in this license, we believe that year round discharge limits are warranted for this facility. Given Katahdin West is the major discharge into Dolby Pond where the cyanobacteria blooms originate, it is important that phosphorus loadings from this facility be restricted year round and be monitored very closely. While blooms are often thought of as a warm season occurrences, nutrient loadings which contribute to them can occur throughout the year. Phosphorus that enters the system during the cooler months may be stored within sediments and become available, especially when anoxic conditions occur. For example, in 2010 despite the mill being non-operational, chlorophyll a levels approached mild bloom conditions in June. Year round limits would ensure that increased loadings did not occur which may contribute to blooms during the warm season. Year round phosphorus loadings will be useful when evaluating the overall phosphorus budget and allocation. Likewise, recent studies presented at the Northeast Regional Cyanbacteria Workshop indicate that cyanobacteria blooms can occur in the winter time below the ice.*"

Response #3: The Department concurs that Dolby Pond plays a significant role relative to water quality in and downstream of the impoundment. The strict total phosphorus limit recommended for the Katahdin West operation in the waste load allocation is recognition of the particular sensitivity of the pond to phytoplankton blooms. The Department acknowledges that even with the strict total phosphorus, Dolby Pond may still be prone to occasional blooms due primarily to recycling of phosphorus deposited in the sediments. Therefore, the Department agrees it is reasonable to impose a year-round limitation for total phosphorus. The permit has been revised accordingly.

9. RESPONSE TO COMMENTS (cont'd)

Comment #4: The PIN questioned a statement of page 7 of 35 of the Fact Sheet that stated, *"See Attachment C of this Fact Sheet for a copy of a diagram showing the location of stations A-F cited in the 12/29/94. However, neither Attachment C nor any other sections of the fact sheet provide a diagram of these locations. We would like to see this diagram because ME DEP is using data from these locations as the basis for its determination that the areas are exempt from Class C dissolved oxygen standards."*

Response #4: The sentence referencing the Attachment C of the Fact Sheet should have been italicized like the rest of the paragraph as it was part of the direct quotation from Fact Sheet from the Waste Discharge License (WDL) issued in 1994. The intent was not to refer to the diagram as Attachment C to the proposed draft permit but to Attachment C of the 1994 WDL. At the PIN's request, the Department permit writer sent an electronic mail message to Mr. Daniel Kuznierz of the PIN on Monday, May 16th with the 1994 diagram depicting monitoring sites A-F and ambient water quality monitoring data collected by Great Northern Paper Company for Dolby Pond in 1994.

Comment #5: The PIN requests that language be added to the permit directly or by reference which specifies the methods that need to be used for measuring water temperature, including verification of the precision and accuracy of the thermometer or temperature recorder used. For example depending upon the model, temperature loggers can provide a range of accuracy that exceeds the ΔT of 0.5°F RTI (river temperature increase) license limits issued in this license. Our concern is that without accuracy verification, temperature limits could be exceeded.

Response #5: The Department does not believe it is necessary to add language to the permit that specifies the methods that need to be used for measuring water temperature. The footnotes on page 10 of the permit require the permittee to sample and analyze all parameters in accordance with methods approved in 40 Code of Federal Regulations (CFR) Part 136. For monitoring temperature, it is a Department standard practice and an expectation of permittee's to measure temperature with a measurement error of $\pm$0.1ºF. In addition, compliance with the limit of ΔT of 0.5°F RTI is not a direct temperature measurement whereby the PIN's concern is valid. Compliance with the limit is based on a conservative calculation utilizing actual flows and temperatures of the effluent and actual flows and temperature of the receiving water where errors of an order or orders of magnitude would need to be made to have a significant impact on the calculated ΔT. Therefore, the permit remains unchanged.

ATTACHMENT A

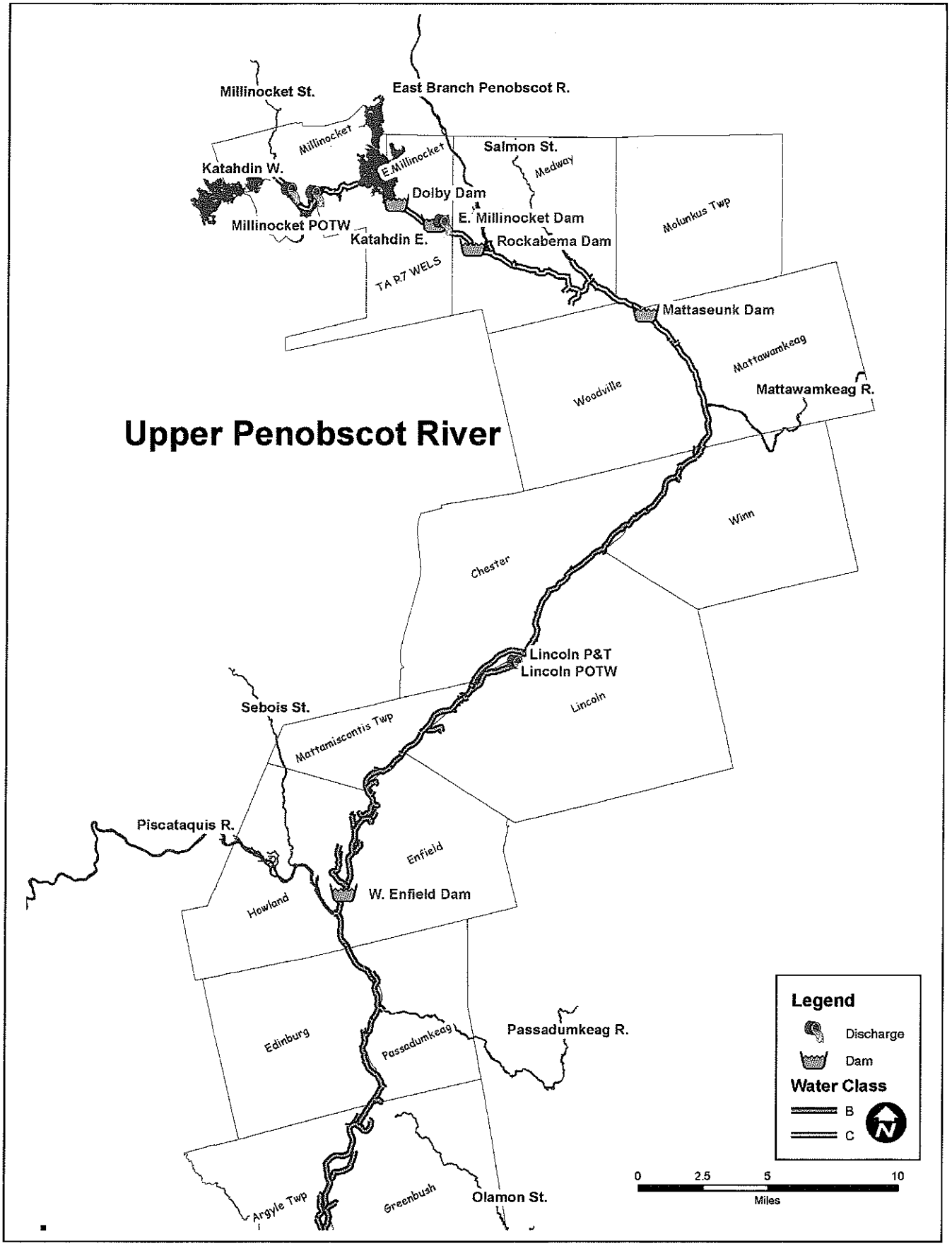
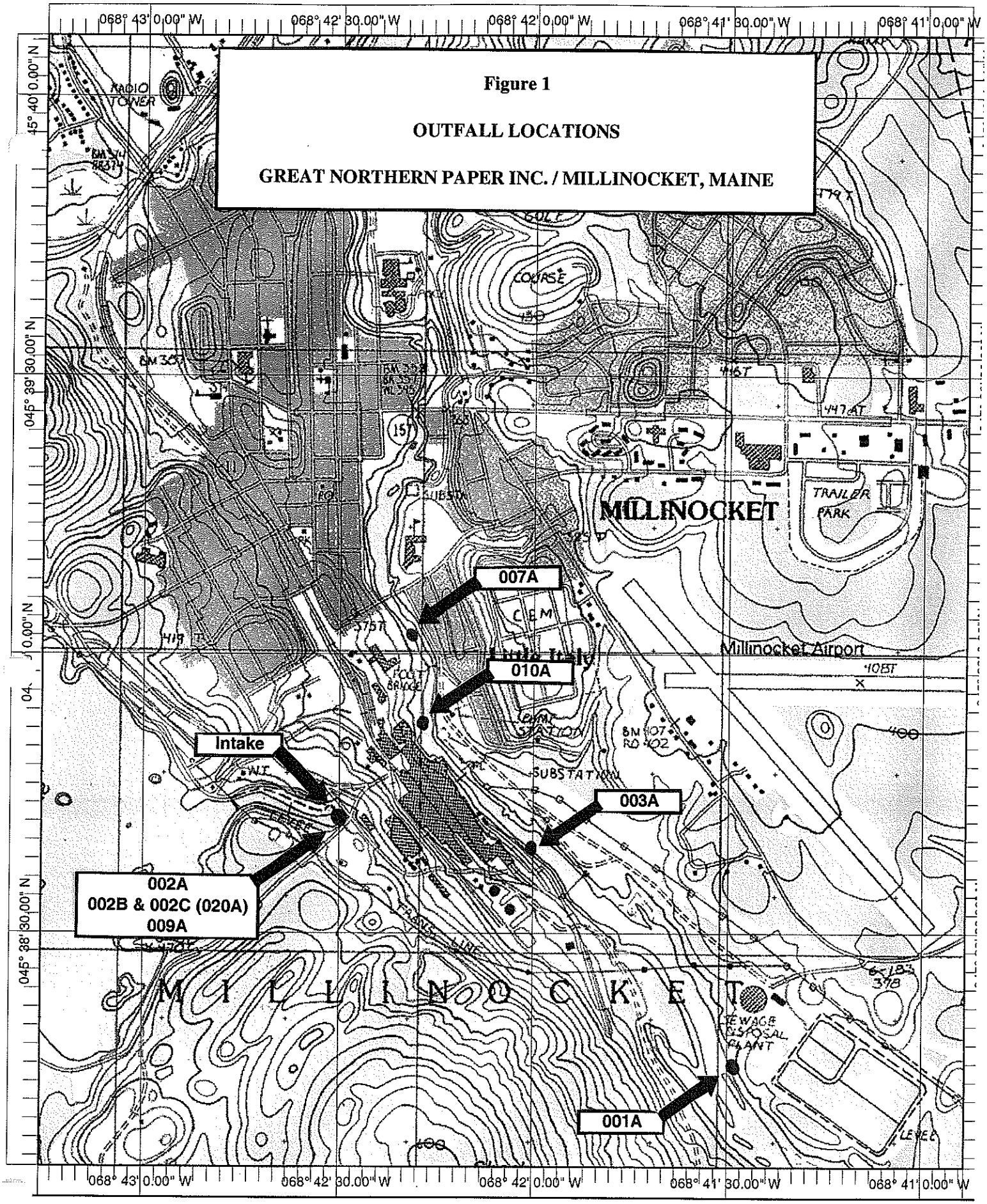

Upper Penobscot River
Millinocket St.
East Branch Penobscot R.
Millinocket
E.Millinocket
Salmon St.
Medway
Katahdin W.
Dolby Dam
E. Millinocket Dam
Rockabema Dam
Millinocket POTW
Katahdin E.
TA R7 WELS
Molunkus Twp
Mattaseunk Dam
Mattawamkeag
Mattawamkeag R.
Woodville
Winn
Chester
Lincoln P&T
Lincoln POTW
Lincoln
Sebois St.
Mattamiscontis Twp
Piscataquis R.
Enfield
W. Enfield Dam
Howland
Edinburg
Passadumkeag
Passadumkeag R.
Argyle Twp
Greenbush
Olamon St.
Legend
Discharge
Dam
Water Class
B
C
N
0
2.5
5
10
Miles

Figure 1

OUTFALL LOCATIONS

GREAT NORTHERN PAPER INC. / MILLINOCKET, MAINE



Name: MILLINOCKET
Date: 10/19/99
Scale: 1 inch equals 1333 feet

Location: 045° 39' 05.7" N 068° 42' 04.4" W

ATTACHMENT B

Questionnaire No: D-MU-3252

Millinocket Mill Flow Distribution / Water Balance Diagram

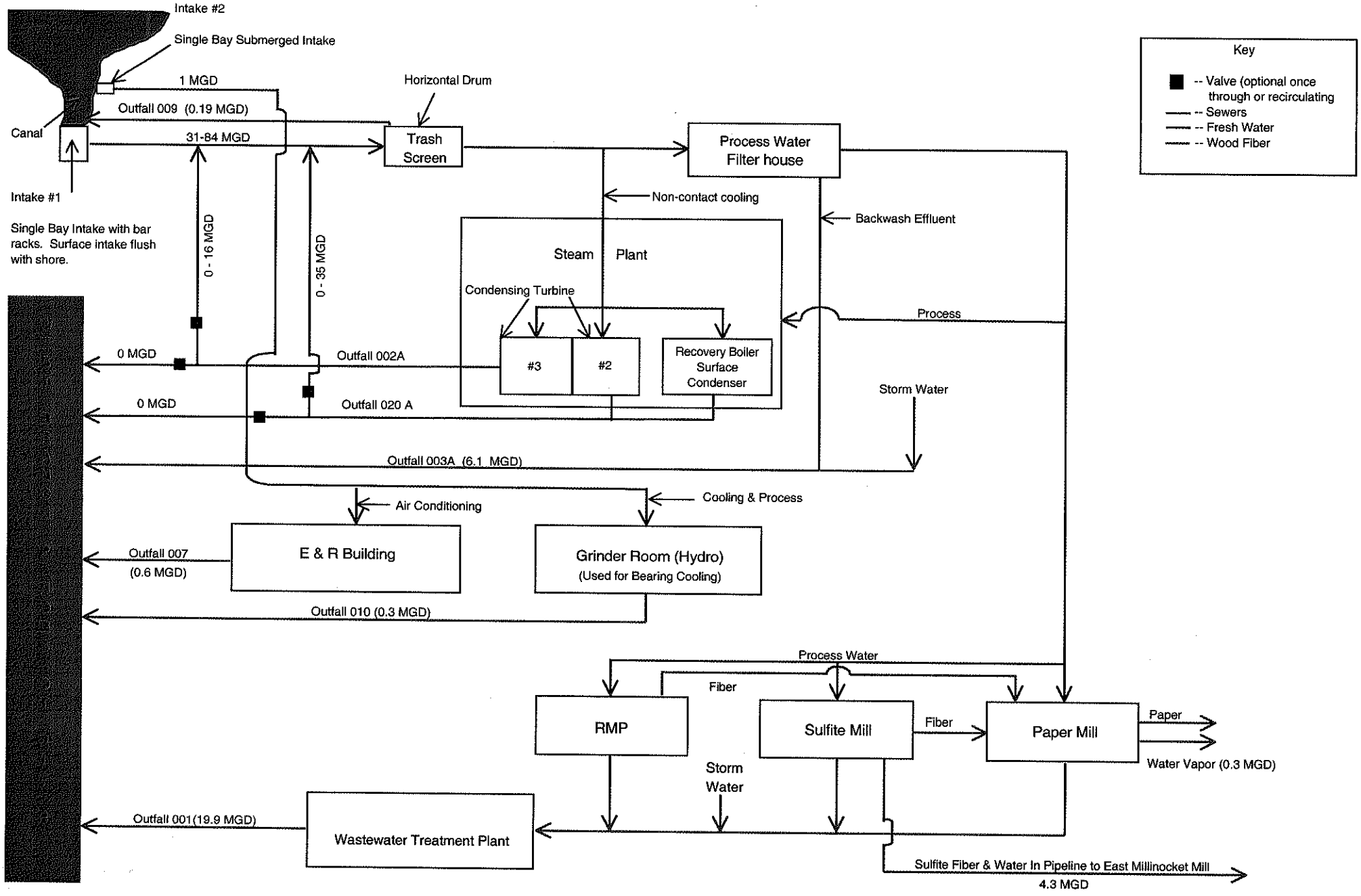
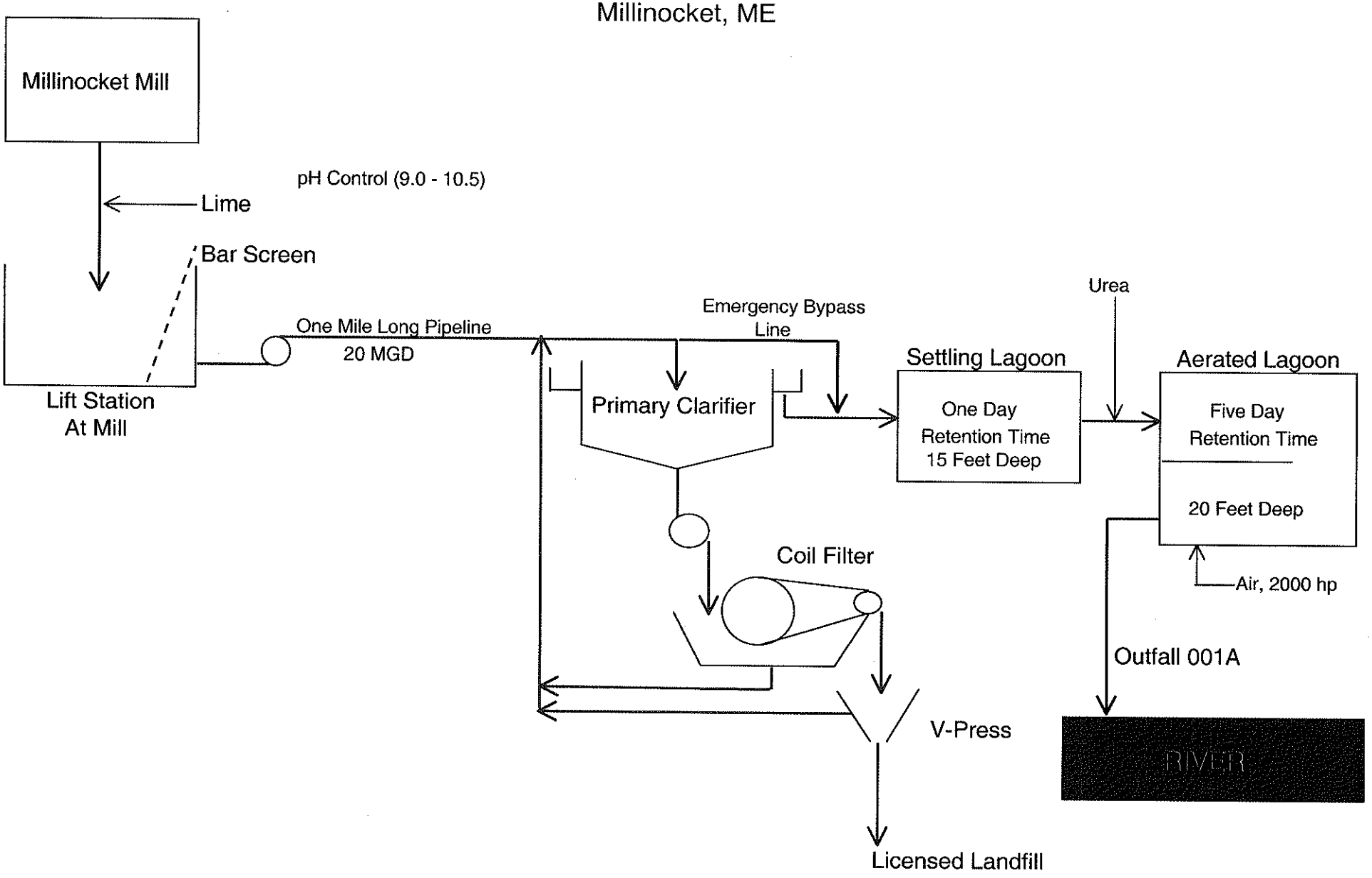


Exhibit 13

1/24/1997

Flow Diagram of Millinocket Mill Waste Water Treatment Plant Millinocket, ME



ATTACHMENT C

WET TEST REPORT

Data for tests conducted for the period

04/Feb/2006 - 04/Feb/2011 period.

KATAHDIN PAPER MILLINOCKET NPDES= ME000016 Effluent Limit: Acute (%) = 3.326 Chronic (%) = 3.002

Species	Test	Percent	Sample date	Critical %	Exception	RP
TROUT	A_NOEL	100	06/04/2006	3.326		
TROUT	A_NOEL	100	10/02/2006	3.326		
TROUT	A_NOEL	37.50	03/02/2008	3.326		
TROUT	C_NOEL	100	06/04/2006	3.002		
TROUT	C_NOEL	100	10/02/2006	3.002		
TROUT	C_NOEL	10	03/02/2008	3.002		
WATER FLEA	A_NOEL	100	06/04/2006	3.326		
WATER FLEA	A_NOEL	100	10/02/2006	3.326		
WATER FLEA	A_NOEL	25	03/02/2008	3.326		
WATER FLEA	C_NOEL	100	06/04/2006	3.002		
WATER FLEA	C_NOEL	100	10/02/2006	3.002		
WATER FLEA	C_NOEL	10	03/02/2008	3.002		

ATTACHMENT D

PRIORITY POLLUTANT DATA SUMMARY

Date Range: **04/Feb/2006 - 04/Feb/2011 period.**

Facility Name: **KATAHDIN PAPER MILLINOCKET** NPDES: **ME0000167**

Test Date	Monthly (Flow MGD)	Daily (Flow MGD)	Total Test Number	Test # By Group M	V	BN	P	O	A	Clean	Hg
06/05/2006	12.80	12.30	134	13	28	46	25	11	11	F	0
08/15/2006	13.50	14.20	15	9	0	0	0	6	0	F	0
10/02/2006	14.40	13.30	14	9	0	0	0	5	0	F	0
03/03/2008	12.60	11.60	23	9	0	0	0	14	0	F	0

y:

A = Acid O = Others P = Pesticides

BN = Base Neutral M = Metals V = Volatiles

Parameter: BIS(2-ETHYLHEXYL)PHTH.	Test date	Result (ug/l)	Lsthan
	06/05/2006	7.000	N
Parameter: BROMOFORM	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: BUTYLBENZYL PHTHALATI	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: CADMIUM	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	0.170	N
	08/15/2006	0.225	N
	10/02/2006	0.125	Y
	03/03/2008	0.170	N
Parameter: CALCIUM	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	41000.000	N
	08/15/2006	36800.000	N
	10/02/2006	42000.000	N
	03/03/2008	47000.000	N
Parameter: CARBON TETRACHLORIDE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: CHLORDANE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	0.100	Y
Parameter: CHLORINE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	20.000	Y
	08/15/2006	150.000	N
	03/03/2008	50.000	Y
Parameter: CHLOROBENZENE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: CHLORODIBROMOMETHAI	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: CHLOROETHANE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: CHLOROFORM	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: CHROMIUM	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	1.800	N
	08/15/2006	0.825	N
	10/02/2006	0.707	N
	03/03/2008	1.100	N
Parameter: CHRYSENE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	3.000	Y
Parameter: COPPER	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	2.000	N
	08/15/2006	7.480	N
	10/02/2006	0.620	N
	03/03/2008	3.900	N
Parameter: CYANIDE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y

Parameter: HEXACHLOROETHANE	Test date	Result (ug/l)	Lsthan
	06/05/2006	2.000	Y
Parameter: INDENO(1,2,3-CD)PYREN	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: ISOPHORONE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: LEAD	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	3.300	N
	08/15/2006	2.230	N
	10/02/2006	2.000	N
	03/03/2008	14.000	N
Parameter: MAGNESIUM	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	1670.000	N
	08/15/2006	1850.000	N
	10/02/2006	1770.000	N
	03/03/2008	2210.000	N
Parameter: MERCURY	**Test date**	**Result (ug/l)**	**Lsthan**
	02/09/2006	0.002	N
	05/24/2006	0.001	N
	08/15/2006	0.001	N
	11/28/2006	0.001	N
	02/13/2007	0.003	N
	06/29/2007	0.001	N
	09/04/2007	0.001	N
	11/27/2007	0.001	Y
	02/14/2008	0.001	N
	05/27/2008	0.001	N
	08/11/2008	0.001	Y
	11/11/2008	0.001	N
Parameter: METHYL BROMIDE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: METHYL CHLORIDE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: METHYLENE CHLORIDE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: NAPHTHALENE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: NICKEL	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	7.000	N
	08/15/2006	4.330	N
	10/02/2006	3.300	N
	03/03/2008	7.270	N
Parameter: NITROBENZENE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: N-NITROSODIMETHYLAMI	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	2.000	Y
Parameter: N-NITROSODI-N-PROPYL/	**Test date**	**Result (ug/l)**	**Lsthan**

	06/05/2006	5.000	Y
Parameter: N-NITROSODIPHENYLAMI	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: PCB-1016	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	0.300	Y
Parameter: PCB-1221	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	0.300	Y
Parameter: PCB-1232	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	0.300	Y
Parameter: PCB-1242	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	0.300	Y
Parameter: PCB-1248	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	0.300	Y
Parameter: PCB-1254	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	0.300	Y
Parameter: PCB-1260	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	0.200	Y
Parameter: P-CHLORO-M-CRESOL	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: PENTACHLOROPHENOL	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: PHENANTHRENE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: PHENOL	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: PYRENE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: SELENIUM	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	1.300	Y
Parameter: SILVER	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	0.700	N
	08/15/2006	0.367	Y
	10/02/2006	3.000	N
	03/03/2008	0.200	N
Parameter: TETRACHLOROETHYLENE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: THALLIUM	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	1.600	Y
Parameter: TOLUENE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	5.000	Y
Parameter: TOXAPHENE	**Test date**	**Result (ug/l)**	**Lsthan**
	06/05/2006	1.000	Y
Parameter: TRICHLOROETHYLENE	**Test date**	**Result (ug/l)**	**Lsthan**

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.*

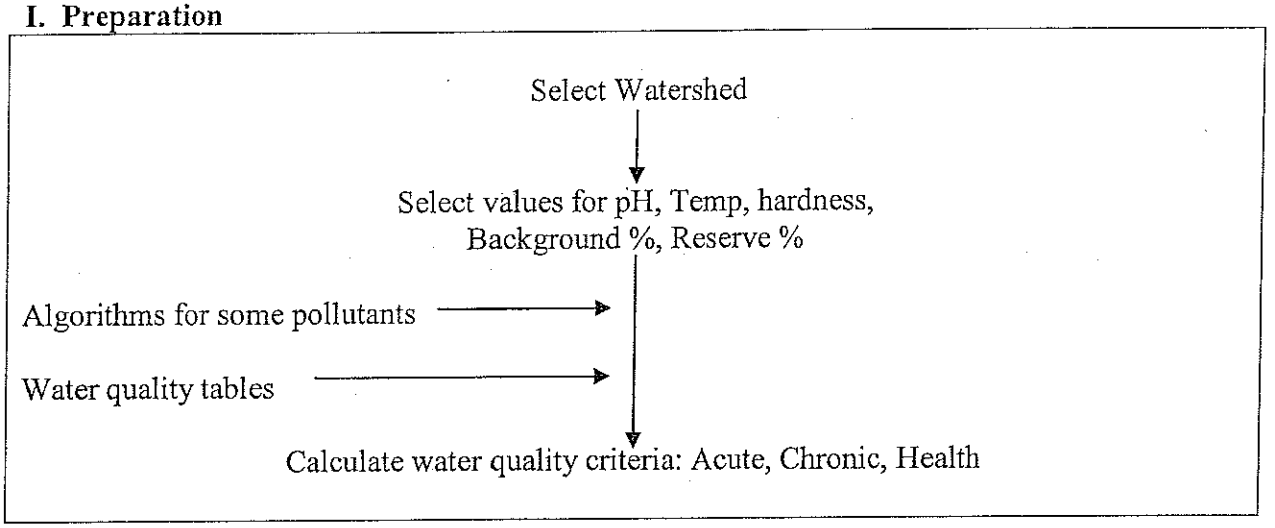
Segment allocation. One of three ways of developing an *allocation.* The amount is set by multiplying a facility's *historical discharge percentage* for a specific pollutant by the *assimilative capacity* for that pollutant and criterion. A facility will have different allocation percentages for each 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.

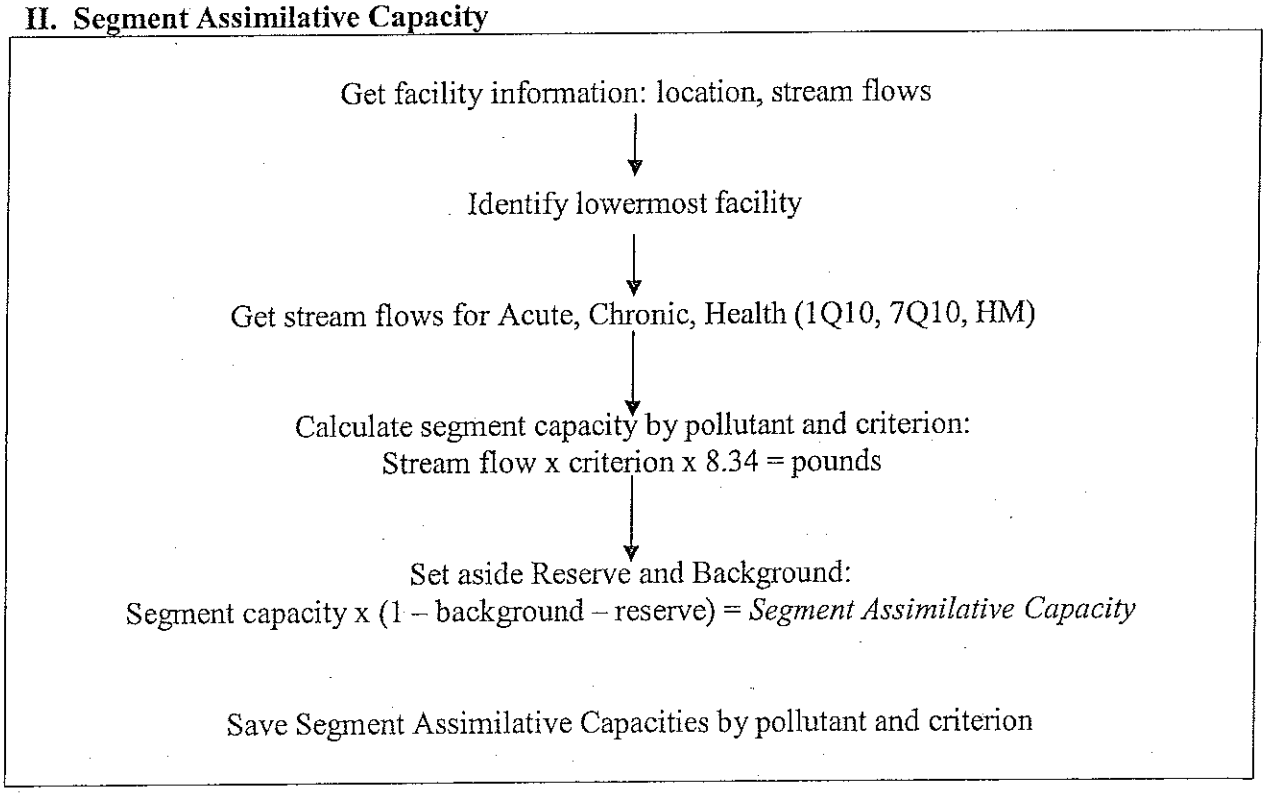
Water quality criteria. Standards for acceptable in-stream or ambient levels of pollutants. These are established in the Department's Chapter 584 and are expressed as concentrations in ug/L. There may be separate standards for acute and chronic protection aquatic life and/or human health. Each criterion becomes a separate standard. Different stream flows are used in the calculation of each.

Maine Department of Environmental Protection
General Processing Steps in "DeTox"

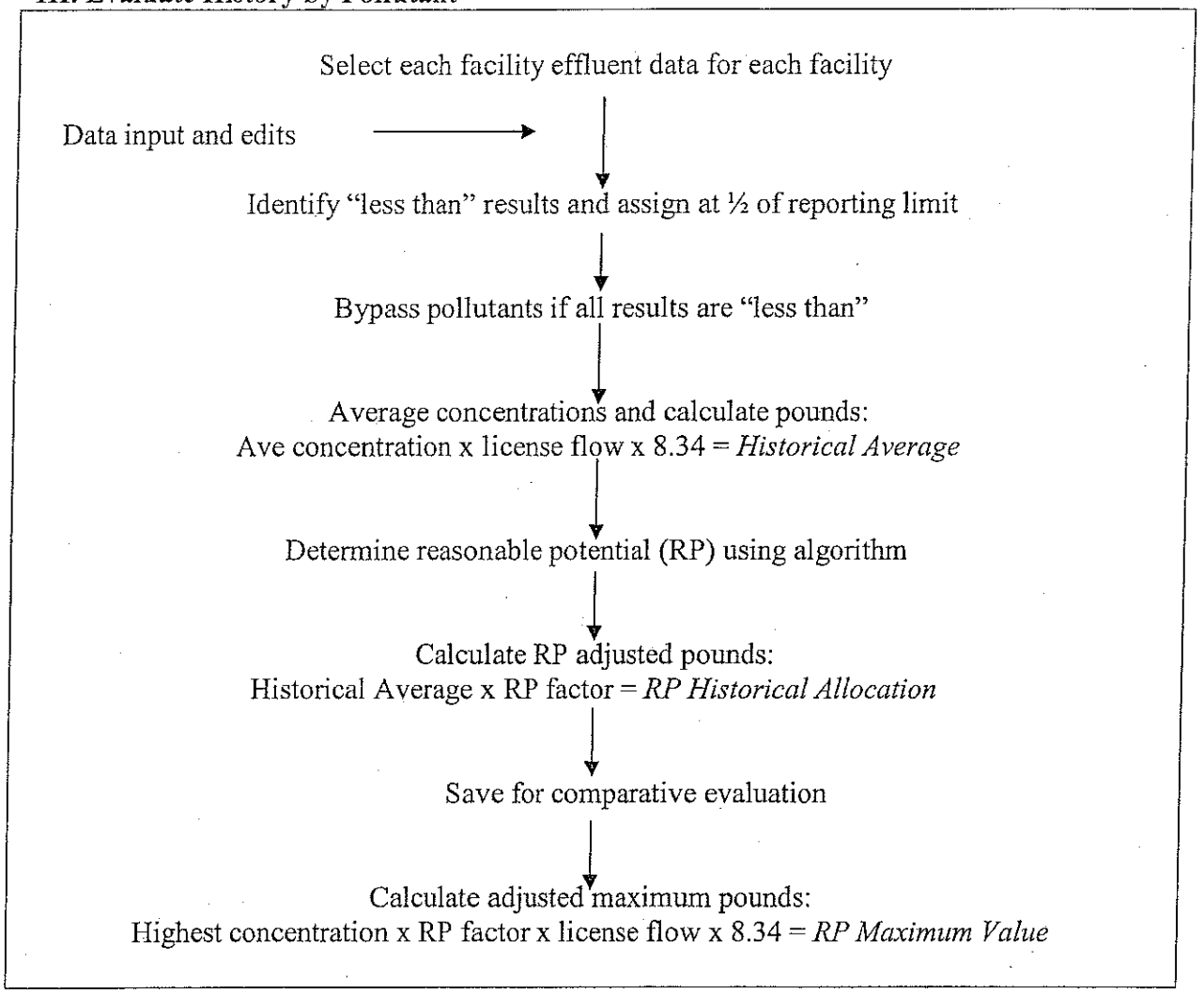
I. Preparation



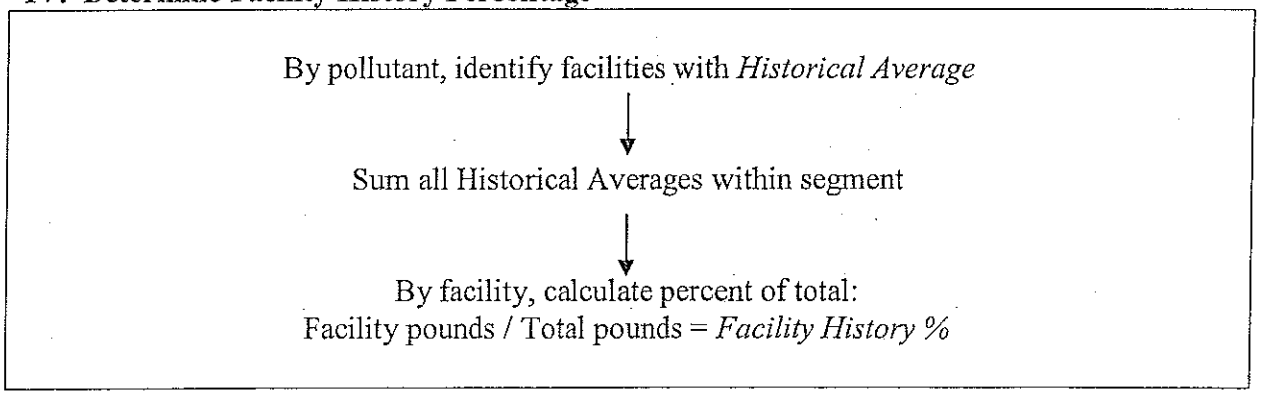
II. Segment Assimilative Capacity



III. Evaluate History by Pollutant



IV. Determine Facility History Percentage



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

Explanatory Statement of Process DEP Will Follow in the
Development of Site Specific Water Quality Criteria

References: 38 MRSA, section 420(2)(B) and DEP Rules, Chapters 2 and 584(3)(B)

The BEP has initial jurisdiction for issuance of permits that have limits based on site specific criteria ("SSC") developed pursuant to 38 MRSA, Section 420(2)(B). Typically, requests for SSC will come to the Department staff from one of two sources. A discharge source may have information from studies to indicate that statewide criteria are not appropriate for a given pollutant and location. Alternatively, third parties may have information regarding the unique or different uses of a particular water body or may have information about the relative toxicity of certain pollutants. In any event, a request for SSC must be supported by appropriate scientific studies conducted according to a plan of study approved in advance by the Department in consultation with EPA and the Bureau of Health if human health criteria are involved.

Because SSC are implemented through permit limits, they must be considered in the context of permit issuance or modification proceeding. If a permit issuance or renewal is not pending, any person can request that the Department open for modification a current permit for any cause described in 38 MRSA, Section 414-A(5). See also 38 MRSA, Section 341-D(3). Below are the steps that would likely be followed for consideration of SSC, with options for different processes depending on when and how a person intends to develop the technical information in support of the SSC request. This explanation of process is intended solely as advice to assist persons in exercising their options to request site specific criteria as part of a licensing proceeding under Chapter 584, and is not intended to be judicially enforceable.

1. Initial contact is made with DEP staff, indicating a desire to institute a Site Specific Criteria (SSC) proceeding. A petitioner must file with the Department a petition requesting that the BEP assume jurisdiction of the licensing action and making the necessary showing in support of the request for SSC, as described in 06-096 CMR Chapter 584. This will include, but is not limited to, the pollutants and/or issues of concern, and an outline of the proposed studies and process the party intends to use.

2. At the time a petition is filed with the Department, the petitioner must post a public notice in a newspaper having general circulation in the area that would be affected by the SSC. The Department will (by certified mail) notify potentially affected permitted discharge sources and interested parties of record for those permits. Any person may comment on the pending petition. A public hearing may be requested in accordance with the public notice. A service list of potentially interested parties will also be developed.

3. The DEP will prepare recommendations on whether BEP should dismiss or take up the petition. This, together with any comments received on the petition, will be forwarded to the BEP and the matter will be placed on the BEP's agenda. These materials will also be distributed to the service list.

4. The BEP will consider whether a petition includes the necessary information, as provided in Chapter 584. If the BEP grants initial approval of the petition, all permits that may be

affected by a decision to establish a SSC will be reopened for modification consideration in the same proceeding. If the petition is denied, the license that is the subject of the request, if it is being considered for renewal, will be sent back to the DEP for processing.

5. If the Board grants initial approval of the petition for SSC, the petitioner will prepare a plan of study for SSC investigations and submit it to the DEP staff. The topics to be included in the plan are described in Chapter 584(3)(B). The Department may hold pre-submission conferences with the petitioner and other interested parties. At that time, the parties will discuss issues such as the general scope of the study, the participants, existing studies, and any studies that may be proposed by other parties.

6. The DEP, EPA and, if human health criteria are involved, the Bureau of Health will review the Plan(s) of Study. The Department may approve, approve with conditions or not approve a Plan of Study. If a plan is not approved, the deficiencies and criteria for their correction will be clearly identified and opportunity provided for their correction. Department determinations on plans of study are not subject to appeal. All correspondence will be copied to the service list.

7. The approved Plan of Study will then be implemented. In order to capture seasonal variations, studies using sampling programs may continue for a year or more. Those relying on demographic surveys or literature searches may be done in less time.

8. A report of the studies will be provided to the DEP and the service list. Interested parties will be provided a time specified by the Department, but at least 30 days, in which to provide comments. DEP, EPA and, if appropriate, the Bureau of Health will review the report and comments and formulate a technical analysis.

9. The DEP will provide staff recommendations to the BEP as to whether a public hearing should be held. When requested by an affected licensee or when there is creditable conflicting technical information that a hearing will help clarify, a public hearing will be held. Copies of the study reports and all comments received will be provided to the BEP. If no hearing is recommended, the staff will provide a draft order for acceptance or denial of the SCC request.

10. The BEP will either schedule a public hearing or hear argument at a public meeting on staff recommendations.

11. If scheduled, a public hearing will be conducted pursuant to 5 MRSA, Chapter 375, Subchapter IV. Affected licensees have a right to participate in a public hearing and this constitutes their opportunity for hearing on license modifications that may result from SSC determinations. All other parties must petition to intervene in the hearing if they so desire. The Department will then prepare a summary of public comments and staff recommendations and place these on the BEP's agenda.

12. If the BEP decides to set SSC different from the state-wide criteria in Appendix A of Chapter 584, it will direct the staff to prepare permit modifications for affected discharge sources.

13. The staff will prepare draft permit modifications to each discharge source affected, and will notice EPA and other interested parties consistent with Chapter 522.

14. After receiving comments on the draft permits, the staff will prepare proposed permit modifications and place them on the BEP's agenda for consideration.

15. Once approved by the BEP, the modified permits will become valid and subject to the normal appeal provisions of law.

August 2006

ATTACHMENT G

CHAPTER 530(2)(D)(4) CERTIFICATION

MEPDES# _____ Facility Name _____

Since the effective date of your permit have there been:	NO	YES (Describe in Comments)
1. 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?		
2. changes in the operation of the treatment works that may **increase** the toxicity of the discharge?		
3. changes in industrial manufacturing processes contributing wastewater to the treatment works that may **increase** the toxicity of the discharge?		

COMMENTS:

Name(print) _____

Signature _____ Date _____

This document must be signed by the permittee or their legal representative.

This form may be used to meet the requirements of Chap 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.

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 Commissioner's Licensing Decision

Dated: May 2004 **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. This INFORMATION SHEET, in conjunction with consulting statutory and regulatory provisions referred to herein, can help aggrieved persons with understanding their rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

DEP's *General Laws*, 38 M.R.S.A. § 341-D(4), and its *Rules Concerning the Processing of Applications and Other Administrative Matters* (Chapter 2), 06-096 CMR 2.24 (April 1, 2003).

HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written notice of appeal within 30 calendar days of the date on which the Commissioner's decision was filed with the Board. Appeals filed after 30 calendar days 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 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 and the applicant a copy of the documents. All 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

The materials constituting an appeal must contain the following information at the time submitted:

1. *Aggrieved Status*. Standing to maintain an appeal requires the appellant to show they are particularly injured by 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 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 as part of an appeal only when 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 show 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, Section 24(B)(5).

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license file is public information 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.* An applicant proceeding with a project pending the outcome of an appeal 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 initiation of the appeals procedure, including the name of the DEP project manager assigned to the specific appeal, within 15 days of receiving a timely filing. The notice of appeal, all materials accepted by the Board Chair as additional evidence, and any materials submitted in response to the appeal will be sent to Board members along with a briefing and recommendation from DEP staff. Parties filing appeals and interested persons are notified in advance of the final 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. The Board will notify parties to an appeal and interested persons of its decision.

II. APPEALS TO MAINE SUPERIOR COURT

Maine law allows aggrieved persons to appeal final Commissioner licensing decisions to Maine's Superior Court, see 38 M.R.S.A. § 346(1); 06-096 CMR 2.26; 5 M.R.S.A. § 11001; & MRCivP 80C. Parties to the licensing decision must file a petition for review within 30 days after receipt of notice of the Commissioner's written decision. A petition for review by any other person aggrieved must be filed within 40-days from the date the written decision is rendered. The laws cited in this paragraph and other legal procedures govern the contents and processing of a Superior Court appeal.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, contact the DEP's Director of Procedures and Enforcement at (207) 287-2811.

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.